A Hand Book of History of Ayurveda
(Revised and Illustrated)

By
Dr. R. Vidyanath
&
Dr. K. Nishteswar

Price: Rs. 275.00
Paper II - Shortly

Also can be had from: Chowkhamba Krishnadas Academy, Varanasi.

ISBN: 978-81-7080-142-7
Price: Rs. 310.00 (P.B.), 400.00 (H.B.)

CHOWKHAMBA SANSKRIT SERIES OFFICE, VARANASI.
A Hand Book of History of Ayurveda

(Revised and Illustrated)

By

Dr. R. Vidyanath
M.D. (Ayu.)
Professor & H.O.D.
Deptt. of Basic Principles of Ayurveda
Dr. N.R.S. Govt. Ayurvedic College, Vijayawada

&

Dr. K. Nishteswar
M.D. (Ayu.), Ph.D., DAFE;
Professor & H.O.D.
Deptt. of Dravyaguna
Dr. N.R.S. Govt. Ayurvedic College, Vijayawada
Dedication

To our Revered Preceptor

Prof. M.S. Shastry,
H.P.A., Ph.D.,

Ex. Dean & Head of the Department
of Basic Principles of Ayurveda
Gujarat Ayurveda University, Jamnagar
Preface to the First Edition

“Study the past if you would define the future”
- Confucius

“In order to protect the future it is wise to understand the past”
- Mahatma Gandhi

‘Hand Book of History of Ayurveda’ published during 2004, reprinted in the year 2006 & 2007 has witnessed overwhelming response from student community. Keeping in view the changed CCIM Curriculum we felt the necessity of editing the subject material and made an attempt to enlarge several chapters.

In the chapter on ‘Vedic Period,’ list of herbs mentioned in those scriptures are added. Two lists are separately provided for medicinal plants of Bible and Islamic tradition. The chapter on ‘Nighantus’ is separated and enlarged sufficiently.

In the chapter entitled ‘Development of Ayurveda after Independence,’ the more relevant information regarding the Department of AYUSH, CCIM, RAV, CCRAS and the research activities being carried out by those departments are furnished. The guidelines for writing the scientific paper along with the profiles of research are given. The brief biography of contemporary scholars and scientists of Ayurveda are incorporated in the chapter entitled Authors of Ayurveda in the Modern Period. The information regarding the available reference books published according to CCIM curriculum are also furnished in this chapter.

A separate chapter i.e. number 19 has been allocated for incorporating important essay questions, short questions and M.C.Q.s’ for the benefit of the students. The more number of illustrations related to historical events and towering personalities in the field of Ayurveda are also furnished for bringing better awareness about the topics under discussion.

In the annexure ‘Standard Reference Works of Ayurveda’, ‘Alternative medical systems’, ‘Milestones in Medicine’, ‘Research & Conservation of Medicinal Plants’, ‘Details of Prestigious Ayurvedic Institutions of India’, ‘Popular Ayurvedic Pharmaceutical Companies of India’, ‘List of Ayurvedic Colleges, U.G. & P.G.’ etc. are incorporated. The information displayed in the net about various organizations, institutions, companies and other industries have been utilized while compiling the respective topics.

This book is edited keeping in view of the needs of Undergraduate students and Postgraduate scholars of Ayurveda and hope they fully utilize the furnished information. Our special thanks are due to M/S Chowkhamba Sanskrit Series, Varanasi for requesting us to edit and enlarge the book in view of its popularity.

Station: Vijayawada
Date: 27th March 2008

R. Vidyanath
K. Nishteswar
PREFACE

The origin of Ayurveda was attributed to Brahma, the creator of the universe by the authors of classical Samhitas. Prof. Dwarakanath commenting on the origin and development of medicine in ancient India quotes “Agnivesa Samhita refers to a period, in the history of India, when people lead a pastoral life and lived a natural life free from disease. As civic life and urban culture developed, the society is seen to have been subjected to many changes and numerous diseases, not known in the earlier ages. The earlier Vedic medicine was not equal to the challenge. The wise men of the time (the Rishis) are stated to have imported into the Indo-Gangetic plains a rational and symmetrical medicine- the Ayurveda- from a more advanced culture. Subsequent development of medicine in the Indo-Gangetic plains kept pace with the increasing urbanization and this lasted till the Sunga – Kushan period. A time bracket for the origin and development of medicine includes the 5th millennium BC (before cultural phase of Harappa civilization ranging from 2300 BC to 1750 BC) to 4th period of Hastinapura (from 2nd century BC to 3rd century AD). The period from 3rd century AD can be named as post Ayurvedic period, after which no further or significant advances are seen to have taken place in the field of Indian medicine, on the other hand the arrest of progress and gradual decline of Indian medicine marked this period. From the point of view of literary evidence and astronomical grounds, a date of 3000 BC approximately would represent the lower limit and the 3rd century AD the upper limit of the time bracket for the evolution of the rational medicine in ancient India. The period anterior to the lower limit, extending possibly beyond the 5th millennium BC may be considered to represent the period of Adikala or Pre-Ayurvedic culture.”

Most of the historians have attempted to document history of Ayurveda on the basis of various periods namely Vedic period, Samhita period, Nighantu period, Moghul period, British period and Modern period.

Acharya P.V. Sharma described the development of Ayurveda under 3 major components viz.

1. Prachina Kala – Ancient period (up to 7th AD i.e. post Gupta period)
2. Madhyama Kala – Medieval period (8th to 15th century AD)
3. Adhunika Kala – Modern period (16th century onwards)

Atridev Vidyalankar described history of Ayurveda as under.

1. Vaidika Kala – Pre-historic period (2500 BC)
2. Ramayana & Mahabharata Kala (500 BC)
3. **Bouddha Kala** (363 BC)
4. **Kushan Kala** (210 BC to 176 AD)
5. **Gupta Kala** (380 AD)
6. **Madhya Kala** (647 – 1200 AD)
7. **Mogul Kala** (12th to 18th century AD)
8. **Adhunika Kala** (after 18th century)

Dr. Achanta Lakshmipati quoted it as

1. **Puratana Yuga** - from time immemorial to 50,000 BC
2. **Arya Yuga** - from 50,000 BC to 1000 BC
3. **Bouddha Yuga** - from 1000 BC to 300 AD
4. **Pauranika Yuga** - from 300 AD to 1000 AD
5. **Bhakti Yuga** - from 1000 AD to 1857 AD
6. **Adhunika Yuga** - from 1858 up to the present time

The statement of Winston Churchill, while addressing the Royal college of Physicians in March 1944, “The longer you can look back, the further you can look forward” reemphasizes the necessity of studying the History of any subject for developing it further.

It is a known fact that various committees appointed by the Government during pre and post independent India identified the importance of study of History of Ayurveda and various courses drafted for Diploma as well as Degree students studying Ayurveda, incorporated History of Ayurveda as one of the subjects.

After consulting the above works the contents of the subject are discussed in this book as suggested by C.C.I.M. i.e. Pre-historic, Pre-Vedic, Vedic period, Upanishad period, Samhita period, Sangraha period and Modern period.

At present the books written on the subject of Ayurveda Ithihas in different languages serving as reference books, but failed to give all the details mentioned in the C.C.I.M. curriculum.

Keeping this in view an attempt is made to compile the relevant material in accordance with C.C.I.M. curriculum. This book serves as textbook to the under graduate students and also as a reference book for P.G. Scholars.

The authors are grateful to Sri V.L.N. Shastry, Retired Head of the Department of English, Satavahana College, Vijayawada for his meticulous suggestions and constructive criticism while preparing this manuscript. The authors are also thankful to M/ S Chaukambhanga Sanskrit Series, Varanasi for publishing this work.

Vijayawada
4-2-2004

- **Dr. R. Vidyannath**
- **Dr. K. Nishteswar**
About the Author

Name : R. VIDYANATH
Date of Birth : 4th February 1961
Place of Birth : Guntur, Andhra Pradesh
Parents : Dr. R. Satyanarayanacharyulu
          Smt. R. Rajyalaxmi
E mail : vnratnakaram@yahoo.co.in.

Academic Qualifications:
1. B.A.M.S. (Nagarjuna University - 1983)
2. M.D. (Gujarat Ayurved University - 1986)

Service:
Medical Officer - A.P. Govt. Service - 1986 to 1996.
Asst. Professor - Govt. Ayurvedic College, Vijayawada - March 2006 to July’08.
Professor - Govt. Ayurvedic College, Vijayawada - from August’08.

A. Books Published:

English:
1. Panchakarma
2. A Handbook of Ashtanga Sangraham
3. Ayurvediya Rasa Sastra (Co Author)
4. Drugs Useful in Panchakarma Therapy (Co Author)
5. Sahasrayogam Text with English Translation (Co Author)
6. Rajamartanda Text with English Translation (Co Author)
7. A practical guide on Panchakarma

Telugu:
1. Ayurvediya Panchakarma Vignanam
2. Ayurveda Mulika Yogamulu (Co Author)

B. Papers Published: 12
C. Seminars / Workshops / Conferences: 30

*****
About the Co-Author

Name : K. NISHTESWAR
Date of Birth : 6-6-1955
Place of Birth : Kakinada, Andhra Pradesh.
Parents : SUBRAHMANYA SARMA
          LAKSHMIKANTAM
E-mail : nishteswar@yahoo.co.in

Academic Qualifications:
1. Sanskrit Basha Kovida (Bharatiya Vidya Bhavan - 1975)
2. B.A.M.S. (Andhra University - 1976)
3. M.D. (Gujarat Ayurved University - 1980)
5. Ph.D. (University of Poona - 1997)

Merit Awards:
3. HARIOM ASHRAM GOLD MEDAL, Gujarat Ayurved University Jamnagar - 1980
5. State BEST TEACHER Award GOLD MEDAL, Govt. of A.P. - 2001
10. First Prize for the Best Thesis on Heart Diseases, Vaidya Ratna Moos Trust, Trissur - 2001 (Senior Author)
12. President’s Selection for biographical inclusion in the seventh edition of 500 Leaders of influence by American Biographical Institute, Raleigh (USA) - 1997.

Books Published:
A. Telugu:
1. Dravyaguna Moulika Siddhantamulu
2. Dravyaguna Prayoga Vignanam
3. Rasasastra Vignanam
4. Agadatantram
5. Bhaishajya Kalpana Vignanam
6. Charaka Samhita (Kalpa Sthanam)
7. Ahara Oushadha Chikitsalu
8. Andubaatulo Ayurvedam
9. Maninde Mandu
10. Ayurvedic Treatment
11. Ayurveda Siddhantamulu
12. Ayurvedamulo Arogya Jivitam (Co-Author)
13. Ayurveda Soundarya Sadhanalu
14. Chikitsa Darshini
15. Ayurveda Vanamulika Chikitsalu
16. Ayurveda Mulika Yogamulu
17. Sarangadhara Samhita Telugu translation

B. English:
1. Herbs in Basawarajeeyam
2. Arthritis & Ayurveda
3. Ayurvedic Remedies for common Skin diseases
4. Ayurvedic Treatment of Nervous diseases
5. Ayurvedic Treatment for Hypertension
6. Ayurvedic Management of Stroke (Hemiplegia)
7. Ayurvedic Management for Heart diseases (Co-Author)
8. Ashtanga Sangraham (Question Bank)
10. Question Bank for Ayurvedic P.G. Entrance Tests (Co-Author)
11. Ayurvediya Rasa Sastra
12. Drugs Useful in Panchakarma Therapy
13. Sahasrayogam Text with English Translation
14. Rajamartanda Text with English Translation
15. A Practical guide on Panchakarma
16. Selected Ayurvedic Formulations
17. Text Book of Dravyaguna
18. Agada Tantra & Vyavahara Ayurveda
19. Basic Concepts of Ayurvedic Pharmacology
20. Diabetes – Ayurvedic Herbal palliative Therapy

C. Hindi:
1. Laghuuyogaratnakara

D. Papers Published: 80

E. Seminars / Workshops / Conferences: 35

*****
Contents

1. Vedic Period
   a. Preamble
   b. Ayurveda the eternal (Saswata), the permanent (Nitya) and without a beginning (Anadi).
   c. Determination of Vedic period.
   e. Ayurveda in Vedas and its Upavedatwa

2. Ayurveda in Indian scriptures
   a. Ayurveda in Brahmana, Aranyaka and Upanishadic literature.
   b. Ayurveda in Vedangas
   c. Ayurveda in Valmiki Ramayana, Mahabharata.
   d. Ayurveda in Purana and Upa Purana
   e. Ayurveda in Vyakarana, Darshana
   f. Topics of Ayurveda in Sramana Vangmaya (Jaina – Bouddha literature).
   g. Role and contribution of Jaina Acharyas in the development of Ayurvedic literature.
   h. Ayurveda in Kouityya Arthastras
   i. Ayurveda in Rajatarangini

3. Evolution of Ayurveda
   a. Descent of Ayurveda
   b. Atreya – Dhanvantari and other Schools of Ayurveda
   c. Acharyas of Vedic Period – Brahma, Daksha Prajapati – Aswin Twins – Indra – Bhaskara – Varuna etc.
   d. Churning of Ocean, Emergence of Amruta and Dhanvantari

4. Samhita Period
   a. Samhita Period and its determination
   b. State of Ayurveda during Samhita Kala
   c. Atreya – Dhanvantari Sampradaya and their Parampara
   d. Ayurveda Upadeshta: Bharadwaja – Punarvasu Atreya –
Divodasa Dhanvantari – Kasyapa – Hiranyaksha – Gargya –
Bahlika Kankayana – Varyovida – Krishnatreya etc.

5. The authors of Samhitas. 101
   Agnivesa - Bhela - Jatukarna - Parasara - Harita - Ksharapani -
   Susruta - Karavirya - Aurabhra - Aupadhenava - Poushkalavata -
   Gopurarakshita - Bhoja - Vaitarana - Bhaluki - Jivaka -
   Nimi - Vaideha

6. Redactors 115
   Charaka - Dridhabala - Nagarjuna – Vatsya

7. Sangraha Kala 121
   a. Sangraha Kala and its determination
   b. Commentators, Brief introduction and fixation of their period –
      Bhattara Harischandra – Jejjata – Chakrapanidutta –
      Dalhana – Vijayarakshita – Nischalakara – Gayadas –
      Arunadatta – Hemadri – Gangadhar – Yogendranath Sen –
      Haranachandra Chakravarti etc.

8. Brief introduction about the Acharyas of Sangraha Grandhas: 157
    Bhavamishra – Sarangadhara – Vrinda Madhava – Vyakhyana
    Kusumavali - Chikitsakalika – Tisata - Bhaishajyaratnavali-
    Govindadas - Basawarajeeyam – Yogaratnakara – Chakradutta –
    Rajamartanda – Sahasrayogam etc.

9. Rasasastra 169
   a. Origin and development of Rasasastra
   b. Importance, Specialty and Spread of Rasasastra
   c. Brief introduction and the period of Acharyas of Rasasastra

10. Vrikshayurveda – Pasu Ayurveda 179
    a. Vrikshayurveda Vignanam
    b. Pasu Chikitsa Vignanam
    c. Aswa-Gaja Chikitsa Pravartaka – Salihotra – Palakapya –
       Varahamihira – Nakula – Sarangadhara – Aswaghosha etc.

11. The contemporary authors in the modern period 179
    Kaviraj Gananath Sen - Yaminibhusan Roy - Yadavji Trikamji
    Acharya Shri Sankardaji Shastri Pade - Capt. G. Srinivasa Murthy -
    Dr. Nori Rama Shastry - Prof. C. Dwarakanath - Pt. Shiva Sharma –
    Vaidyaratnam P.S. Varier - Dr. Achanta Lakshmiipati - Kaviraj
    Gangadhar Sen - Pt. Deevi Gopalacharyulu - Acharya P.V. Sharma –
12. Spread of Ayurveda

Spread of Ayurveda in Sumeria, Babylonia, Assyria, Mishra (Egypt), hina, Faras, Arab, Kamboja, Srilanka, Nepal, Thailand, Mauritius, Myanmar (Burma) etc. in the early days

13. Hippocrates

a. The influence of Ayurveda on Hippocrates
b. Inviting Ayurvedic physicians by Muslims and translation of important works of Ayurveda into Arabic language.
c. Visit of Indian scholars to Greece.
d. Role of Alexander in the spread of Indian heritage
e. Relationship of India and Greece in ancient times.
f. Spread of veterinary medicine related to horse in Greece.

14. The Edicts of King Ashoka

15. Nighantas

16. Development of Ayurveda during post independent period

a. Ayurvedic education
b. Different committees reports
c. C.C.I.M.
d. C.C.R.A.S.
e. Pharmacopoeia Committee
f. R.A.V. and its activities
g. Research in Ayurveda and its strategies
h. Subject wise writing of books and works of different subjects
i. Conferences, Seminars, Meetings

17. Publication of Ayurvedic Magazines & Journals and its development

18. World Health Organization

19. Important Essay and Short Questions & M.C.Q.’s
20. Annexure

Annexure – I  List of Commentaries and Commentators on
Brihat Trayee, Laghu Trayee & Nighantus along with
their period

Annexure –II  Ancient treatises on various branches of Ayurveda

Annexure -III  Table showing the divisions & number of chapters
of Important Samhitas

Annexure –IV  Standard Reference Works of Ayurveda

Annexure – V  Alternative medical systems

Annexure –VI  Milestones in Medicine

Annexure – VII Research & Conservation of Medicinal Plants

Annexure –VIII  Widening jaws of Modern Medicine

Annexure –IX  Details of Prestigious Ayurvedic Institutions
of India

Annexure –X  The Popular Ayurvedic Pharmaceutical Companies
of India

Annexure – XI State wise details of the Institutes/Units
under Central Council for Research in Ayurveda
and Siddha

Annexure – XII  Details of Hospitals with Specialized Treatment
Available Under Central Council for Research in
Ayurveda and Siddha as On 1-4-2001

Annexure – XIII List of Ayurvedic Colleges, U.G. & P.G.

Index

*****
Preamble:

"Ayuhu vedayati iti Ayurvedaha"

The science that which tells us about ‘Ayu’ (Life) is known as Ayurveda, the science of life.

"Sareerendriya satwatma samyoge ........................."

‘Ayu’ means the combination of body, sense organs, mind and soul. Dhari, Jivitam, Nityagam and Anubandha are the synonyms of Ayu.

‘Ithihas’ ......Iti + ha + aas

\begin{align*}
\text{Iti} & = \text{thus} \\
\text{Ha} & = \text{positively} \\
\text{Aas} & = \text{existed or happened}
\end{align*}

‘Ithihas’ means – it happened or took place. It tells us about the details of the past and real incidents only but not of the future. It includes the events of the present also.

Ayurveda Ithihas means the history of Ayurveda. History and development of Ayurveda has taken place from the beginning of the creation as it is the instinctive necessity of the human beings to preserve their health.

As per the words of the Acharyas also it can be understood that Ayurveda is eternal, permanent and it has no beginning.

History and development of Ayurveda depends upon recorded events in Indian history. There are no such authentic and scientific works to trace the historical events in the chronological order from the beginning of the universe.

Hence nobody knows exactly when the life existed in the universe. There are differences of opinion regarding the first existence of human race in this universe. Some opine that man existed on the earth long before one-lakh years B.C.
As there were no recorded evidences to trace the historical events chronologically, one should depend upon the following ways and means.

Vedic knowledge
Historical works
Travelers’ accounts
The implements or tools pertaining to antiquity are

1. Old records with M.SS.
2. Coins
3. Edicts
4. Excavations

Vedic literature:

The ancient Indian literature mainly consists of ritual works. In it historical incidents and matter related to the preventive and curative aspects of medicine also are available. Vedas are the oldest records of mankind. They are four in number such as Rigveda, Yajurveda, Sama Veda and Adharvana Veda. In fact the medical knowledge is lying scattered in the vast body of the Vedic literature. By studying Vedas one can understand the socio-economic, political, spiritual conditions and the status of health science also.

Brahmanas, Aranyakas and Upanishads:

Among the Brahmana Grandhas and Upanishadic literature, Aitareya Brahmana, Satapatha Brahmana, Taittareya Upanishad, Chandogyopanishad etc. are the important ones. In those works, the kings and their kingdoms like Gandhara, Kaikeya, Kuru, Kosala, Panchala, Videha etc. were described. The sages connected to Ayurveda and also the historical events can be found from Brahmanas and Upanishads. Among the Aranyakas, Brihadaranyaka is the most popular one, in which the basic principles of Ayurveda, especially Atma, Paramatma etc. have been discussed.

Sutra (Aphorism):

The Sutras are divided into 3 classes as under

Shrouta Sutras
Grihya Sutras
Dharma Sutras
1. *Shrutu Sutras* are relating to sacrificial rituals
2. The *Grihya Sutras* are related to the duties of the house holder
   i.e. ‘Shodasa Karmas’ – 16 kinds of *Samskara* that every man has to
   perform.
3. *Dharma Sutras* are relating to the laws of conduct for the regulation of
   society.

**Vedangas:**

They are six limbs of the *Vedas* viz.

1. *Siksha* (Orthography or pronunciation of the Vedas)
2. *Vyakarana* (Grammar)
3. *Chandas* (Prosody)
4. *Nirukta* (Etymology)
5. *Kalpa* (Rules of rituals)
6. *Jyotisha* (Astrology)

These will be helpful to study and understand the *Vedas* and also useful for
the practical utilization of the essence of the knowledge obtained from *Vedas*.

**Puranas:**

The popularization of the *Vedic* religion and Hindu philosophy was accelerated through the publication of *Puranas*. They are eighteen in number. We find an account of royal dynasties of Hindustan in the *Puranas* such as the line of the Purus, Ikshwakus and Magadha kings. The historical events in the development of Ayurveda also can be traced by studying these *Puranas*.

**Smritis:**

*Manu Smriti, Narada, Vishnu* and *Yagnavalkya Smriti* are the famous works. They are not mere law books. Along with the civil and criminal laws, they dealt with the rules of inheritance and the laws of marriage and also every aspect of individual life.

**Buddhist literature:**

It helps the historians a lot to know the details of the Indian history. Tripitaka, Dharma path, Buddha Charitra, Chulla Vagga etc. are the important works of Buddhist literature.

With the help of these works one can understand the political, socio-economic and ritual status of India during the period of Lord Buddha. The knowledge pertaining to the medical science also can be traced. In some of the works one can find the details of osteology, which was not found even in Charaka Samhita and Susruta Samhita.
Historical treatises:

The great epics like *Ramayana, Mahabharata, Ashtadhyayi* (Sanskrit grammar work of Panini), *Ardhasastra* of Koutilya, *Harsha Charita* by Bana, *Rajatarangini* by Kalhana, *Malavikagnimitra* by Kalidasa, *Swapnavasava Datta* by Bhasa etc. give us lots of information regarding the historical aspects. Most probably the date of Charaka has been fixed with the help of the above works only.

Travelers' accounts:

Travelers from Greece, China, Tibet, Arabia etc. used to visit this country from time to time and left accounts of their travels, which furnish valuable information about the contemporary culture along the system and practice of medicine.

Greek travelers:

Herodotus was popular among the Greek travelers who visited India. As per his accounts the trade relations between India and Iran during 5th century BC are known. ‘Indica’ a famous book written by Megastenese, the ambassador of Cellucos to Magadha gives us a lot of information.

Chinese travelers:

Fahian, Yuan Chang and Itsing were the famous travelers who visited India from China.

**Fahian** (399 – 414 A.D.) visited India during the reign of Chandragupta II Vikramaditya. In his travel account he made observations on various aspects of Indian culture.

**Yuan Chang** traveled in India for 15 years i.e. from 629 – 644 A.D. He visited India during the reign of the king Harshavardhana. He wrote a book titled ‘*Paschatya sansar*’ which gives us valuable information regarding the progress of sciences including medicine during the period.

**Itsing** traveled in India from 673 - 695 A.D. He left valuable records about the customs and traditions, arts and science of India. From his accounts the details of *Vikramasila Viswa Vidyalaya* can be known.

**Lama Taranath** was the famous Tibetan traveler who visited India and the name of his popular work was “*Kangyur & Tangyur*”

Among Muslim writers **Al-Beruni** was the most popular one. He was born in the year 973 A.D. He was the contemporary of Sultan Mohammad Ghazni (999-1030 A.D.) In the year 1030 A.D. he wrote a book titled ‘*Tahrik— E – Hindu*’. In his account of medical literature, he mentioned Charaka, whose work, later was translated into Arabic language. He also mentioned about Nagarjuna’s contribution to the field of *Rasasastra*. 
Tools of antiquity:

Old records with MSS., coins, edicts and excavations also give us valuable information regarding the history. Eg: Ashoka’s rock edict of Girnar tells about the progress of human as well as veterinary medicine of those days. Similarly Indus valley civilization can be studied from the excavations of Harappa and Mohanjodaro.

Pre-historic period:

First traces of man in India were recorded more than one-lakh years before Christ. The history of ancient Indian medicine can be divided broadly into pre-historic and historic periods. The pre-historic period ranges from Old Stone Age to the beginning of written history. It can be subdivided into pre-historic and post-historic periods. Nobody knows when exactly life started on the earth. The scientists tell that the age of the earth may be 4 Arab 50 crore years.

Basing on that it can be assumed that some lakhs of years ago man existed on the earth. Babylonians believed that the age of the earth might be 4 lakh years.

At the beginning of the universe no living beings, even plants were there on the earth. After some lakhs of years, evolution of living beings took place starting with unicellular organisms. Afterwards water animals, amphibians, animals that dwell in the burrows, flies, birds and other animals, plants, trees developed. Gradually Monkeys, chimpanzees lived on the land instead of trees. They used to walk on their back feet. Gradually man evolved from chimpanzee.

Stone age civilization:

It can be divided into 3 stages as
- Paleolithic age
- Mesolithic age
- Neolithic age

Paleolithic age:

During this period man was a wandering hunter. The conditions for existence were not favorable either for animals or man in this age. The climate was colder and stormier and the rainfall was also heavier. Man didn’t know how to cook. He used to hunt animals and eat raw flesh. For hunting animals he used stones. He didn’t know anything about shelter. He used to live in the burrows, on the trees, beneath the trees etc. He completely depended on nature for food. If the food was exhausted at that particular area, he used to go elsewhere and search for food. He didn’t know to wear clothes. To protect himself from cold he used to cover the body with leather or bark of the trees.
The Paleolithic age throws very little light on reliable and recordable evidence of any interest on medicine. People might have followed a crude system of medicine based on instinct and superstition.

Gradually by the advent Mesolithic age the implements used were made primarily of stone, though bone was also used. These tools were small and called micro-lithic.

Neolithic age (10,000 – 6,000 BC):

In Neolithic age, stone tools were polished all over the body and some times at the ends according to the purpose of utilization. To prepare the instruments, some basic equipment was required. Gradually man learned that technique also. During that period he used to tame certain animals. Later on he utilized those animals for agricultural purpose. He invented fire by rubbing the stones and used to take cooked food. During Neolithic period along with stone, wood, bone and ivory also were utilized by man for his needs. Some vessels, earthen wear also were prepared. He used to wear clothes made of leather. He also invented needle for stitching clothes. He was able to tame the animals like cows, sheep, goats, pigs, donkeys and also dogs and utilize them for various purposes. He also acquired ability in making pots and weaving garments.

In the Neolithic period people were worshipped of super natural phenomena and worshipped Mother- Goddess and various minor deities to get relief from their ailments.

During this period man realized the importance of living together. With the help of cooperation, one can achieve the goal easily and speedily. Hence they started to live jointly in a particular place where water is abundantly available. Then they started agriculture, and survived without depending much on animals, in the regions of western Asia, Iran and Northern Africa. They were able to construct houses with the help of stones and wood.

Post historic period ends from the Neolithic age to the Aryan invasion i.e. 3000BC to 1500BC. Their medicine might be magico-religious. The people of Western Asia, Northern Africa etc. recognized the metals by that time and utilized some metals like bronze, copper etc. for the preparation of utensils and other tools. Along with those metals gold and silver were also identified.

In this Chalcolithic (copper or metallic age) civilization some fine metallic rods were used for the application of collyrium to the eyes.

The people who lived on the banks of rivers seemed to be more civilized in comparison with the others. As the water was abundantly available and the environment was suitable for agriculture, without much difficulty they used to get food.
The historians identified the area extended from the northern part of Africa to the eastern region of India as the most civilized region. The total area can be divided into 3 regions such as

1. The banks of Nile River (Egypt civilization)
2. The area between Euphrates and Tigris rivers (Sumer, Babylonian civilization)
3. Sindh region (Indus valley civilization)

Pots, a model table, and a spoon dating to between 7,000 and 11,000 BCE

Mohenjodaro City Plan

Mohenjodaro - The Great Bath
Among the three, the Indus valley civilization was the oldest and the most advanced. Up to 1922AD nobody knew about Indus valley civilization. Excavations of Harappa and Mohanjodaro brought to light a pre historic city culture known as Indus valley civilization by R.D. Benarji in the year 1922-23 AD. The city of Mohanjodaro extended over a large area with an organized system of government. It showed that the efficacy of these people in the matter of public health, sanitation and town planning.

Cultivation of food crops was practiced on an extensive scale. Besides wheat, barley, rice, peas, sesame, vegetables and fruits were their food items.

Mohenjodaro - A street with drains

Cotton was also an important crop grown for internal use and also for export to Mesopotamia. In addition to the figures of human beings and gods, engravings of tigers, crocodiles, elephants etc. are found on the seals and on the pottery. There are evidences of tree worship, which indicate the great importance of trees in human life.

Pre-Vedic period:

According to the opinion of some of the historians, Aryan invasion took place in India around 2700BC, which marked the end of Indus valley civilization.

Aryans landed at ‘Satap Saindhava region’ (Punjab) and stayed there up to 500BC. The period extended from 2700 to 500BC can be called as Pre-Vedic period, but it was questioned by some others.

Because Pre-Vedic means the period before Vedas, which were compiled 5000 to 6000 years back. Hence Pre-Vedic period can be fixed as 5 to 6000BC. This has become a big task for the historians to fix the exact period.

Dr. Giles in his work ‘Cambridge History of India’ stated that the Aryans were originated at Denuv, Hungary. The following statements supported it. Description pertaining to herbs, the regions, animals and other flowers and fruits etc. of Rigveda also can be seen in the Denuv region.

So it can be accepted that the original place of Aryans was Denuv. Gradually the population increased and the struggle for existence arose. Hence they moved from that place and reached India via Jordan and Iran.
They used to live on the banks of the rivers, in small groups. They prayed to Agni, the God of fire, and used to perform spiritual rites. They obtained the knowledge of Vedas. The Aryans lived a simple life and had cattle rearing and agriculture as their chief professions. They prayed to Gods for good rains, bumper crops, pure air, good health and over all prosperity. Initially Aryans formed into various groups such as Anu, Drastu, Yadu, Turvasu, Puru etc. and also sub groups such as Bharat, Krivi, Trisu etc.

Aryans also struggled with internal as well as external wars and this fact can be ascertained from Rigveda. Sudas was the king of Aryans, who belonged to Bharat group. He conquered all most all the kings and extended his kingdom. He also fought against Anaryans. Anaryans were the tribal people of ancient India. Sudas also got victory over Anaryans.

During those day’s father acted as the head of the family. Wife looked after the house affairs. Every member of the family should obey the orders of the head of the family. They used to take non-vegetarian food also. They were not killing the cows. They used to take alcohol in limited quantities. Soma Rasa was much popular drink in those days. They used to wear three clothes such as

First one to cover from hip to the foot
Second one to cover the chest and abdomen
Third one to keep on the shoulder

For the sake of recreation they used to participate in dance, music and other games such as horse race etc. Women were given freedom in those days. The education system was in the form of teacher and disciple tradition.

The economic condition was also good. They used to cultivate lands and the surplus yielding was sent to other countries, as they had trade relation ship with other countries.

They used to treat Agni, Soma, Nadi, Samudra, Pridhvi, Parvat, Rishi etc. as Gods. Hence they used to consider the elements of nature as Gods. They used to wear amulets to ward off evil spirits. They had more faith on divine therapy. They worshiped Lord Shiva and mother Goddess also.

Ayurveda the eternal (Saswata), the permanent (Nitya) and without a beginning (Anadi)

“So ayam ayurvedah saswato nirdisyate anaditwatinabhava samsiddha lakshanatvat bhava swabhava nityatwaccha”

Ayurveda, the science of life is eternal due to the following reasons

1. It has no beginning
2. It deals with such things which are inherent in nature
3. Such natural manifestations are eternal

There is no discontinuity either in the living process or in the knowledge of things (conducive to it or otherwise). Knowledge about living beings i.e. of the various factors relating to the science of life is also eternal. The knowledge of happiness (good health) and unhappiness (ill health) along with their etiology, symptomatology and therapeutics has continuity and is without any beginning. This is what is described in Ayurveda.

Substances having properties like heaviness, lightness, cold, heat, unctuousness and Un-unctuousness etc. get increased when other substances having similar qualities are added. Substances having dissimilar qualities on the other hand decrease in their quantity. Eg. Habitual intake of heavy things increases the heavy factors and decreases the light ones in the body. So also is the case with others. This is the eternity of the natural manifestations. The inherent attributes of Pridhvi etc. are eternal. However, matters and their attributes are both eternal and ephemeral.

Some think that Ayurveda is either conceived or thought of by preceptors. Because of this some scholars ascribe a beginning to Ayurveda. In fact it is not so and it is not known if ever Ayurveda was non-existent at any time after which it was propagated. Like the heat of the fire and liquidity of water, Ayurveda is innate and it doesn’t involve any artificiality (efforts of mortals).

It is not the book containing the knowledge of science but the very utility of the science, which is eternal and is being prescribed without interruption.

Life, the various aspects of which described in this science is eternal. There is continuity of life. Its knowledge and the living beings that contributed to the science have become immortal. Much more than life itself, it is the good health and ill health and their aspects affecting the life, which are described in the Ayurveda.

The means to tackle the unhappiness caused by ill health are described here. Similarly the measures to be taken for the maintenance of positive health are also described in Ayurveda. The matter and their attributes are both eternal and ephemeral. The causes like Akasa etc. are eternal and the effects are ephemeral.

The same principle is applicable to the eternity and ephemerality of their attributes. The attributes of Akasa, like quantity etc. are eternal and taste etc. is ephemeral. But these ephemeral attributes like taste have their continuity, which is also eternal. Thus the etiological factors, which are manifest naturally, produce or alleviate diseases that are also natural. The science of life deals along others with the correlation of these eternal causes and effects. Thus the science itself is eternal.

Brahma is described to have originally conceived Ayurveda. Bharadwaja learnt
the science from Lord Indra. But these statements are not indicative of any beginning of the science. The phenomenon of increase by homologous substances and decrease by heterologous ones, are nothing but natural manifestations and do not involve artificiality. Such natural manifestations are indicative of the eternity of the science of life.

**Determination of Vedic period**

The period extends from pre-historic times up to 2500 BC can be treated as *Vaidika Yuga*. Though there is a difference of opinion regarding the fixation of *Vaidika Yuga* among various scholars, all opine that *Vedas* are the oldest records of Hindu scriptures. Hindu scriptures are generally classified into two types such as *Sruti* and *Smriti*.

*Sruti* means heard. *Smriti* means recollection. It is believed to have been heard as revelation from Brahma and *Rishis*, thus inspired have left a record of those truths for the benefit of mankind. These records are known as *Vedas*. The term *Veda*, literally means knowledge.

They are 4 in number.

1. *Rigveda*
2. *Yajurveda*
3. *Sama Veda*
4. *Adharvana Veda*

Each of them is divided into 4 parts.

a) The *Samhitas* (Sacred texts)
b) The *Brahmanas* (Commentaries)
c) The *Aranyakas* (Forest books)
d) The *Upanishads*

The *Brahmanas* and *Samhitas* are loosely designated as ‘*Karma Kanda*’, the portion pertaining to rituals and as the *Upanishads*, the ‘*Gnana Kanda*’ the portion dealing with supreme knowledge. Though Ayurveda has been described as the essence of all *Vedas*, some opine that it is the fifth *Veda*.

Every *Veda* has an *Upaveda* of it’s own as under.

- *Rigveda* - *Dhanurveda* (Archery)
- *Yajurveda* - *Gandharva Veda* (Music)
- *Sama Veda* - *Stapatya Veda* (Architecture)
- *Adharvana Veda* - *Ayurveda* (Science of life)
Status of Ayurveda during Vedic Period:

Ayurveda is regarded as *Upa Veda* of *Rigveda* also. Whether Ayurveda is *Upa Veda* to *Rigveda* or *Adharvana Veda* both are preponderating sources of the principles of Ayurveda lying scattered in the *Vedic* literature.

**Ayurveda is the 5th Veda or Upaveda:**

- In ‘Charanavyuha’ and works of Shankara – Ayurveda is considered as *Upaveda* of *Rigveda*.
- Sage Kasyapa has bestowed *Vedas* status to Ayurveda and mentioned it as *Panchama Veda*.

**Rigveda:**

The *Rigveda Samhita* is the oldest significant existent Indian text. It is a collection of 1,028 Vedic Sanskrit hymns and 10,600 verses in all, organized into *mandalas*. The hymns are dedicated to *Rigvedic* deities. The books were composed by sages and poets from 10 different priestly groups over a period of at least 500 years.

1) *Kanvas*  
2) *Angirasas*  
3) *Agastyas*  
4) *Goutamas*  
5) *Visvamitras*  
6) *Atris*  
7) *Vasishthas*  
8) *Kasyapas*  
9) *Bharatas*  
10) *Bhrigus*

Throughout this *Veda*, the title of each of the following 1028 *Mantras* (Hymns) will be the name of the *Rishi* that authored (composed) that *Mantra*.

In order (*Mandala #.Sukta #.Mantra #)*:

1. *Rigveda*  
1.1 *Mandala*  
1.1.1 *Sukta*  
1.1.1.1 *Mantra* or Hymn related to Agni

According to Max Muller, based on internal evidence (philological and linguistic), the *Rigveda* was composed roughly between 1700–1100 B.C.

It has 6 *Sakhas*

1. *Shakala*  
2. *Vaashkala*  
3. *Aswalyana*  
4. *Shankhayanana*  
5. *Kaushitaki*  
6. *Paingi*

1. Shakala Rigveda
   a. *Aitareya Brahmana*  
   b. *Aitareya Aranyak*  
   c. *Aitareya Upanishad*
2. Vaashkala – Manuscript is available
3. Aswalayana RV-
   a. Aitareya Brahmana    b. Aitareya Aranyaka
   c. Aitareya Upanishad
4. Shankhayana RV-
   a. Shankhayana Brahmana
   b. Shankhayana Aranyaka
5. Kaushitaki RV-
   a. Kaushitaki Brahmana  b. Kaushitaki Upanishad

Yajurveda:

The Yajurveda ("Veda of sacrificial formulas") consists of archaic prose mantras and also in part of verses borrowed from the Rigveda. Its purpose was practical, in that each mantra must accompany an action in sacrifice but, unlike the Sama Veda, it was compiled to apply to all sacrificial rites, not merely the Soma offering. It has two branches

1. Sukla Yajurveda        2. Krishna Yajurveda

The founder of Sukla Yajurveda was Yagnavalkya and it was in the form of Mantra. Where as Krishna Yajurveda was in the form of Mantra and Gadya and the founder was Vaisampayana.

This Veda is made up of 6 Kanda (Segments) with each of these having 5 to 11 Prapathaka (similar to Chapters) for a total of 44 Adhyaya (Chapters):

In order (Kanda #.Prapathaka / Adhyaya #.Mantra #):

2 Yajurveda
2.1 Kanda
2.1.8 Prapathaka (New and full moon sacrifice)
2.1.8.1 Mantra

Yajurveda consists of 44 chapters and has 7 Sakhas as under:

1. Madhyandina YV        2. Kanya YV
3. Katyayana YV          4. Taittiriya YV
7. Kapishthala YV

1. Madhyandina YV
   a. Madhyandina Satapatha Brahmana
   b. Brihadaranyaka Upanishad
2. Kanva YV
   a. Kanva Satapatha Brahmana
   b. Kanva Satapatha Aranyaka
   c. Brihadaranyaka Upanishad

3. Katyayana YV- MSS of only first 6 books are there, rest are not available

4. Taittiriya YV
   a. Taittiriya Br.-
   b. Taittiriya Aranyaka-
   c. Taittiriya Upanishad & Maha Narayana Upanishad

5. Maitrayani YV
   a. Maitrayani Aranyaka
   b. Maitrayani Upanishad

6. Kathaka YV
   a. Katha Aranyaka
   b. Kathaka Upanishad

7. Kapishthala YV - Small fragment is existing in manuscript

Sama Veda:

The Sama Veda is the “Veda of chants” or “Knowledge of melodies”. The name of this Veda is from the Sanskrit word saman which means a metrical hymn or song of praise. It consists of 1875 stanzas, taken entirely (except 78) from the Rigveda. Some of the Rigveda verses are repeated more than once. It means originally it consist only 75 Riks, and the rest has been compiled from Rigveda.

Sama Veda has 1875 Mantras total:
   Purvarchika - 6 chapters with 650 mantras
   Uttararchika - 21 chapters with 1225 mantras

In order (Book 1 Purvarchika #. Section / Adhyaya #.Mantra #):
3. Sama Veda
   3.1. Book 1 Purvarchika
   3.1.1. Section
   3.1.1.1. Mantra

In order (Book 2 Uttararchika #. Section / Adhyaya #.Mantra #):
3. Sama Veda
   3.2 Book 2 Uttararchika
3.2.1. Section / Adhyaya

3.2.1.1. Mantra

Sama Veda has 4 Sakhas as under:

1. Kauthuma SV
2. Ranayaniya SV
3. Jaiminiya/Talavakara SV
4. Shatyayana SV

1. Kauthuma SV
   a. 8 Brahmanas in all
   b. The Samhita itself has the ‘Aranyakas’
   c. Chhandogya Upanishad

2. Ranayaniya SV – Same as Kauthuma SV

3. Jaiminiya/Talavakara SV
   a. Jaiminiya Brahmana & Arsheya Brahmana-
   b. Talavakara Aranyaka
   c. Kena Upanishad

4. Shatyayana SV - traditions might be similar to Jaiminiya SV

Adharvana Veda:

The Adharvana Veda is the “Knowledge of the Adharvana and Angirasa”. The Adharvana Veda is the text ‘belonging to the Adharvana and Angirasa’ poets. This Veda contains at least 20 Kanda (Chapters) and the total number of hymns in this Veda may be as much as 12,300.

In order (Kanda #,Sukta #,Mantra #):

4. Adharvana Veda
4.1 Kanda
4.1.1 Sukta
4.1.1.1 Mantra

Most of the verses are metrical, but some sections are in prose.

It has 9 Sakhas as Sounaka, Pippalada, Touda, Moda etc.

Out of 9, Saunaka & Pippalada are the only two which are available now.

Most of the Ayurvedic literature can be found in the Saunakiya branch only.

1. Paippalada AV
   a. Prasna Upanishad & Sharabha Upanishad
2. Shaunaka AV
   a. Gopadha Brahmana
   b. Mundaka Upanishad

**Ayurveda in the Vedas**

Vedas occupy a unique position among the Hindu scriptures and enlighten us upon the early habits and customs of the people and also of the medical science of our nation during that period. So many references regarding the medical science can be found in the Vedas as follows.

**Reference to Tridhatus**:

- A reference to the theory of Tridhatus can be seen in Rigveda 1-7-46
- The Equilibrium State of the said Tridhatus maintains the health and the derangement leads to disease.
- Sayanacharya, the famous commentator of Vedas interpreted the Tridhatus as Vata, Pitta and Sleshma.

**Anatomical references**:

- Every surgeon must have perfect knowledge regarding the anatomical structures of the body for surgical practice.
- There can be no doubt that the ancient surgeons possessed a good knowledge of Anatomy of different parts of the body.
- They were acquainted with the Anatomy of at least certain animals like goat, horse etc. that they often used for sacrificial functions.
- The following anatomical terms can be seen in the Vedas.
  - Antra (intestines), Dhamani (artery), Nadi (nerve), Hridaya (heart), Yakrit (liver), Pleeha (spleen), Kaphodau (lungs), Kukshi (stomach), Kloma (pancreas), Mastishka (brain), Manya (neck), Vasti (bladder), Gaveni (ureters), Vrishana (testes), Guda (anus).
- The Adharvana Veda in its 10th Kanda contains a special hymn on the creation of Purusha in which several parts of the skeleton have been described as under.
  - Parshni (heal), Gulpha (ankle bone), Anguli (digit), Uchalaka (long bones), Jamu (knee cap), Jangha (leg bones), Sroni (pelvic cavity), Uru (thigh), Uras (chest), Greeva (wind pipe), Skandha (neck bone), Prishta (back bone), Amsa (collar bone), Lalata (brow), Kapala (cranium), Hanu (jaws).
According to Satapatha Brahmana, the number of bones in man is 360. Similarly a reference can be seen in the Vedas that the body is made up of Pancha Maha Bhutas (five basic elements).

The process of metabolism:

- In Chhandogya Brahmana of Sama Veda, references are available regarding the process of digestion, assimilation, metabolism and also the nourishment of the senses in the form of discourse between Swetaketu and his father.

References to bacteriology:

- Various references in the Vedas show that great stress has been laid on the harm done by Krimis or worms and microbes.
- They are of 2 types viz.
  1. Drishta (visible)
  2. Adrishta (invisible) which are said to cause diseases.
- The sunrays have been recognized as effective destroyers of these germs.

Yuktivyasraya in Vedas:

- Classification of several herbs according to their morphological features as well as their medicinal properties has been described in the Vedas.
- Not only herbs but certain minerals such as iron, gold etc. also have been described in the Vedas.
- Some drugs and their uses

<table>
<thead>
<tr>
<th>Herb</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rajani</td>
<td>jaundice</td>
</tr>
<tr>
<td>Kushtha</td>
<td>leprosy, tuberculosis, malarial fever</td>
</tr>
<tr>
<td>Haritala</td>
<td>skin diseases</td>
</tr>
<tr>
<td>Prisniparni</td>
<td>abortions and ailments of blood</td>
</tr>
<tr>
<td>Harina Sringa</td>
<td>leprosy, tuberculosis, Apasmara</td>
</tr>
<tr>
<td>Satavari</td>
<td>Rasayana</td>
</tr>
<tr>
<td>Rohini</td>
<td>fractures</td>
</tr>
<tr>
<td>Sahadevi</td>
<td>relieving thirst</td>
</tr>
<tr>
<td>Apamarga</td>
<td>tooth brush</td>
</tr>
<tr>
<td>Guggulu</td>
<td>fumigation in Yakshma</td>
</tr>
<tr>
<td>Aswattha</td>
<td>sankramika roga</td>
</tr>
</tbody>
</table>

Soma:

- The plant Soma has been praised as the elixir of life or Amrita and was considered as the king of plants.
Some common Herbs available in Vedic Literature

Apamarga  Rajani  Asvattha

Kushta  Guggulu  Satavari

Amalaki  Eranda  Vibhitaki
References regarding the list of diseases:

- Takma (fever), Kasa, Balasa, Apachi, Jayanya (T.B.), Harima (jaundice), Mutrarodha, Kilasa, Visuchi, Unmada etc. have been described in the Vedas.

Causative factors:

- 3 types of factors for the manifestation of diseases have been mentioned in the Vedas as under.
  1. Accumulated toxins in the body
  2. Drishta and Adrishta Krimi
  3. Tridosha

Sadvritta Prakarana:

- It was clearly mentioned regarding the code of conduct as under
  1. Satyameva jayate na anritam - Mandookopanishad 3-1-6
  2. Matru devo bhavah, pitru devo bhavah, acharya devo bhavah, atidhi devo bhavah - Taittareya Aranyak 7/6/1

Circulation of blood:

- The process of circulation of blood was also described in the Vedas.

Toxicology:

- Two types of poisons such as
  1. Sthavara visha (plant origin)
  2. Jangama visha (animal origin), their properties, signs and symptoms, antidotes etc. have been discussed.

Rasayana and Vajeekarana:

- Subject matter related to Rasayana and Vajeekarana is also available in the Vedas. Ex. Chyavana Maharshi was rejuvenated by the celestial physicians.

Surgical references:

- There are so many references in the Vedas regarding the remarkable surgical techniques of the celestial physicians - the Aswin twins.
- When Vishphala lost her leg in a battle, they made an artificial leg with iron and fitted it to her.
- The severed head of Daksha Prajapati was replaced with goat’s head and he was given life.
Obstetrics and gynecology:
- Obstetrics and gynecology were also practiced by women specialists’ viz. Susha, Vishkala, Saraswati, Savitri etc.
- The mechanism of labor and the management was also available in Vedas especially in Adharvana Veda.
- During labor dorsal position was suggested.
- To relieve the abnormalities of labor or puerperal disorders certain oblations and other practices were prevalent.
- For asphyxia neonatoram artificial respiration was resorted to.
- Similarly attention was also paid regarding the infections pertaining to female reproductive system as well as infertility.

Divine therapy:

So many methods can be seen in the Vedas for relief from ailments, as to pray to Gods and to prescribe gems for certain disorders.

References concerning Ayurveda in Rigveda:
- Specialty in Rigveda is the use of natural remedies like sunrays, fire, air, water etc. have been discussed.
- Sun rays: Exposure to sun rays gives relief in many a number of disorders such as worms, cardiac problems, anemia, jaundice etc.
- Water: Water is essential for the sustenance of life and also having miraculous therapeutic properties.
- Fire: It is mentioned as destroyer of bacteria and virus and is applied in various ways in different disorders.
- Air: It is also said as ‘Bhishak’
- Single drug therapy was more familiar in those days.
- Along with the internal medications use of gems and other divine therapeutic measures were also in practice.
- Air, Sun / fire and water have been described as the symbolic representatives for the Tridoshas respectively.
- Causative factors and the treatment pertaining to animals also have been described in Rigveda.
- In Rigveda equal importance has been given to general medicine as well as surgery.
- Descriptions regarding the various parts of the body and various diseases like Rajayakshma, Hridroga etc. are also available in Rigveda.
References pertaining to Kayachikitsa:

- **Aswin twins** made old Chyavana quite young and blessed him with long life.
- Chadrimathi’s husband was cured of sterility and she was blessed with a son.
- Princess Ghosha, daughter of Kakshavan was cured of leprosy made young and beautiful and was blessed with a husband.
- Syava was also cured of leprosy rejuvenated and was blessed with a good wife.
- They took out the drowned Dhecha out of water and made him quite fit and free from trouble.
- Aswins successfully treated the moon who suffered from tuberculosis caused due to excessive copulation.
- God Indra gave relief to Aphala and also to her father who suffered from skin disorders.

Miracles in surgery:

- Aswins fitted iron legs to Vispala, daughter of the king Khala and made her fit for the battle
- They conjoined the severed body parts of Syavasya and gave him life.
- They gave eyes to the blind Rajaswa.
- They united the severed head of Daksha Prajapathi with goat’s head and gave life.

References concerning Ayurveda in Yajurveda:

- **Yajurveda** specially dealt with *Karma kanda*, the portion dealing with rituals.
- References pertaining to anatomical structures of animals as well as human beings are vastly available in this *Veda*.
- Similarly the morphological features and medicinal properties of the plants which will be useful for sacrificial functions have been vividly described in *Yajurveda*.
- In the 12th *Sukta* of *Sukla Yajurveda* the medicinal properties of different herbs, their uses, collection of drugs and also treatment of *Balasa, Arshas, Swayadhu, Galaganda, Slipada, Yakshma, Mukhapaka, Kshata* etc.
- The use of horses for sacrificial functions were also mentioned.
- Diseases like *Arunshika, Vishuchika, Hridroga, Arma* (eye disease), *Charma roga, Kushta* etc. have been described in Ayurveda.
References concerning Ayurveda in Sama Veda:

- Only a few references pertaining to medical science are available in Sama Veda.
- Mainly it dealt with the use of natural remedies like Sun, Air, Water, Fire etc.

References concerning Ayurveda in Adharvana Veda:

- Only a brief introduction and history of medical science were available in Rigveda, where as in Adharvana Veda a detailed description of various aspects has been covered.
- In Adharvana Veda anatomical structures of human body, digestion and metabolism, blood circulation, diseases and their causative factors, preventive measures, treatment with herbs, minerals and surgical techniques, different types of worms and the diseases caused by them along with treatment etc. have been described.
- It clearly shows that there is a definite relationship between Ayurveda and Adharvana Veda. Hence Ayurveda is called Upa Veda of Adharvana Veda.
- In Adharvana Veda spiritual therapy was given equal importance along with rational therapy.
- To relieve abnormalities of labor and puerperal disorders certain oblations and other practices were prevalent.
- Most of the diseases were treated by offerings and prayers to Gods and other natural agents.
- Identification and classification of plants are also available in Vedas. The Oshadhi Sukta of Rigveda was the first authentic document of knowledge about the plants.
- In Adharvana Veda classification of plants from various angles such as form, size, color, morphological characters, habitat etc. has been discussed.

Knowledge of Bacteriology:

- Many references were available in Adharvana Veda pertaining to Krimi (Bacteria).
- The following words have been used to denote micro-organisms in Adharvana Veda.

  - **Krimi** - which are nourished by raw flesh
  - **Rakshasa** - which sucks blood
  - **Yatudhana** - which causes pain
Ch. 1 - Vedic period

\[\begin{align*}
\text{Pisacha} & - \text{eats flesh} \\
\text{Apsara} & - \text{swims in water} \\
\text{Gandharva} & - \text{makes noise etc.}
\end{align*}\]

- Nearly 100 types of organisms were described. Some of them are \textit{Drishta} (Macroscopic) and the others are \textit{Adrishta} (Microscopic).
- Different types of organisms, the place where they dwell, their shape, types, the harm caused by them, signs and symptoms, line of treatment, use of fumigation to control such organisms etc. were described in \textit{Adharvana Veda}.

\textbf{Medicinal plants:}

Mostly single drugs were used in \textit{Adharvana Veda}.

1. \textit{Apamarga}: It is not found in \textit{Rigveda}. It destroys worms, poisons and calculus.
2. \textit{Aswattha}: It is one of the oldest plants of India, and is regarded as \textit{Yagna Vriksha} (Sacrificial tree). It is indicated to cure contagious disorders.
3. \textit{Prsniparni}: Sayana interpreted it as ‘Chitraparni Oshadhi’ (a plant having variegated leaves). It destroys bacteria, skin diseases and nourishes fetus. It is also used as external application in \textit{Kushta}.
4. \textit{Rohini}: It is indicated in fractures.
5. \textit{Ajasringi}: It is a shrub. It emits intensive odor, which acts as a repellent to \textit{Rakshasa}.
6. \textit{Nyagrodha}: It is also known as \textit{Vata}. It is widely used in sacrifices and domestic rites. It is indicated in contagious disorders.
7. \textit{Arjuna}: It is a small herb and also known as \textit{Phalgunu} and used as a substitute for ‘\textit{Soma}’. Sayana interpreted it as tree, but is not correct.
8. \textit{Naktama}: Indicated in \textit{Kilasa}.
9. \textit{Asuri}: It is prescribed in \textit{Kilasa}, \textit{Kushta} and other skin disorders.
10. \textit{Guggulu}: It is a fragrant gum resin obtained from the plant. The fumes of the resin are indicated to cure Yakshma. It is also used in veterinary medicine.

\textbf{Diseases in Adharvana Veda:}

- \textit{Yakshma}: \textit{Yakshma} means disease. It affects all most all parts of the body. In the later texts also it has been used as the synonym for disease. \textit{Kushta}, \textit{Arundhati}, \textit{Satavari} etc. are used for treating \textit{Yakshma}.
- \textit{Takma}: It has been described vividly in \textit{Adharvana Veda}. It is a periodic fever with rigors and can be correlated with malarial fever.
If it attacks in summer it is known as - Graishmika  
Rainy season - Varshika  
Autumn season - Sarada.

Its types are such as Anyedyushka (Quotidian), Tritiyaka (Tertian), and Sadandi (Remittent) etc.

Arjuna, Anjana, Kushta were used to treat Takma.

- **Apachi**: It has been described in detail. Mostly it is located at Manya, Greeva and Skandha. Apachi was classified into several types according to the color, suppuration and others.

**Treatment:**

1. Offering prayers to the Gods - Sun and Moon
2. Giving incision with the root of Muni Deva
3. Leach application
4. External application with conch shell, saliva of dog etc.

- **Hridroga**: The word ‘Hridroga’ was mentioned in Rigveda, where as in Adharvana Veda the terms ‘Hridyamaya’ and ‘Hriddyota’ are seen. Water has been mentioned as the remedy for ‘Hriddyota’. It was also treated with rays of morning Sun and the drug Chipudru.

- **Harima**: It can be correlated with Kamala (Jaundice) in which yellowish color of the body is seen and can be treated with morning Sunrays. Red cow’s milk and the drug Anjana are said to be efficacious in treating Harima.

- **Mutraghata**: Description of Mutraghata (retention of urine) and its treatment by catheterization is also available in Adharvana Veda.

**Types of treatment:**

- For the management of diseases 4 types of treatment have been mentioned in Adharvana Veda as under.

  1. **Adharvani**: Treatment with offerings, prayers, oblations, spiritual rites. (Spiritual therapy)
  2. **Angirasi**: Hypnotherapy.
  3. **Daivi**: Treatment with natural resources such as Water, Air, Earth, Sun etc. (Naturopathy)
  4. **Manushi**: Treatment with drugs available in nature such as herbs, minerals and animal resources. (Rational therapy)
Classification of Vanoushadhi in Vedas:

In *Vedas*, *Oudbhida Dravyas* are classified into

1. Vanaspati
2. Vaanaspati
3. Virudh
4. Oshadhi

Charaka has incorporated this classification in toto.

- In *Rigveda* the word ‘Vanin’ is used in place of *Vaanaspati*.
- In *Brahmana Grandhas* - *Oshadhi*, *Vanaspati* and *Vaanaspati* are mentioned but *Virudh* was not mentioned.
- In *Upanishads* the words *Oshadhi* and *Vanaspati* are mentioned and *Vaanaspati* and *Virudh* classification is not referred.
- In the *Vedic* literature the plants originated from seeds is labeled as ‘Dhanaruha’.
- In *Adhavarna Veda* - “*Antariksha*” is quoted as father of *Vanaspati*; “*Pradhvi*” as the mother and “*Samudra*” as the abode of roots of plants.
- Basing on these quotations historians interpreted that *Vedic* literature has mentioned 3 varieties of plants including
  a) Celestial plants
  b) Non Hydrophytes
  c) Hydrophytes
- In *Adhavarna Veda* Non Hydrophytic plants have been categorized under 2 varieties viz.
  a) Plants growing on hilly area (*Parvatiya*)
  b) Plants growing on plains (*Bahya*)
- In the *Oushadha Sukta* of *Rigveda* the origin of plants are quoted to numerous and the plants growing on earth was considered to be the prime one.
- *Brihadaranyaka Upanishad* was mentioned the comparison between plant parts with parts of human body.

<table>
<thead>
<tr>
<th>Parts of human body</th>
<th>Plant parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Hair</td>
<td>Parna (leaves)</td>
</tr>
<tr>
<td>b) Twak (Skin)</td>
<td>Bahiruptatika (ectoderm)</td>
</tr>
<tr>
<td>c) Rakta (blood)</td>
<td>Niryasa (latex)</td>
</tr>
<tr>
<td>d) Mamsa (muscles)</td>
<td>Sakara (mesoderm)</td>
</tr>
<tr>
<td>e) Snayu (tendons)</td>
<td>Kinata (endoderm)</td>
</tr>
</tbody>
</table>
f) Asthi (bones)       Abhyantara Kashta (heartwood)
g) Majja (bone marrow) Majja (pith)

- The names of certain plants mentioned in Vedic literature are still in vogue. Eg: Aswattha and Udumbara.
- The nomenclature of certain plants is available in the modified form Eg:
  a. Gulgulu - Guggulu
  b. Kashmarya - Kasmarya
- Certain plants are totally disappeared Eg: Khalakula, Jangida
- It appears that animals and birds have been used as a source for giving nomenclature of certain medicinal plants.

Animals          Birds
a. Varahi        a. Hamsapadi
b. Nakuli        b. Kakamachi
c. Ajasringi     
d. Meshasringi   
e. Mrigadani     
f. Aswavara      
g. Sarpasugandha

Summary:
- Ayurveda is Anadi and Saswata
- Brahma is identified not only as the creator of the universe but also the creator of Ayurveda
- The concepts of Ayurveda are available in Rigveda and Adharvana Veda abundantly
- The concepts of health care are well developed during the time of Adharvana Veda which has formed the basis for developing Ayurvedic treatises (Samhitas)
- With regards to the descent of Ayurveda the period of transmission of knowledge from Brahma to Indra is identified as Vaidika Kala and the latter period is considered as the starting phase of Samhita Kala.
- The division of Ayurveda into Ashtangas (8 branches of Ayurveda) has started after Indra period.
- The number of medicinal plants in Rigveda, Yajurveda and Adharvana Veda are 67, 81 and 289 respectively.
### List of Medicinal Plants found in Vedic literature

#### Herbs in Rigveda

1. Aalaka
4. Aksha
7. Aswattha
10. Bhalvaj
13. Darbha
16. Hiranyaparni
19. Kakambara
22. Kyambu
25. Lodhra
28. Nata
31. Parayate
34. Pimsathi
37. Ropanaka
40. Sepal
43. Shat
46. Sinsupa
49. Spandan
52. Tejan
55. Udojasa
58. Uttanparni
61. Veerana
64. Vibhitaka
67. Yavasana

2. Aayati
5. Anjan
8. Aswavati
11. Bhanga
14. Durva
17. Hradika
20. Khadira
23. Laksha
26. Madhula
29. Pakadoorva
32. Parna
35. Pippali
38. Salmali
41. Shakavali
44. Sigru
47. Soma
50. Swaditi
53. Tila
56. Ujjayanti
59. Uvarika
62. Venu
65. Viswabheshaja

3. Abhagnati
6. Arutu
9. Atasi
12. Bilwa
15. Grathachi
18. Jalapbheshaja
21. Kimsura
24. Livija
27. Munja
30. Pakavali
33. Patha
36. Pushkara
39. Seetika
42. Shara
45. Silachi
48. Somavati
51. Syrya
54. Trayamana
57. Ulpa
60. Vamsa
63. Vetasas
66. Yava

#### Herbs in Yajurveda

1. Abaka
4. Anjana
7. Arka
10. Aswavati
13. Bhurja
16. Chatushkon Vanaspati
19. Gamrut
22. Godhum
25. Ikshu
28. Kakandhu

2. Alabu
5. Apamarga
8. Aswattha
11. Badara
14. Bilwa
17. Darma
20. Gavedhuka
23. Gulgulu
26. Jambir
29. Kareera

3. Amba
6. Arjuna
9. Aswavara
12. Balvasa
15. Chanak
18. Durva
21. Ghutachhi
24. Hiranyaparna
27. Jarthil
30. Kasmarya
| 40. Mamoora | 41. Masha | 42. Mudouga |
| 43. Murva | 44. Neever | 45. Nitatni |
| 46. Nyakshodh | 47. Parna | 48. Pitrudharu |
| 49. Plaksha | 50. Pootadru | 51. Priyangu |
| 52. Pushkar | 53. Putika | 54. Rohitaka |
| 55. Sahamanar | 56. Salmali | 57. Sami |
| 58. Sara | 59. Soma | 60. Somavathi |
| 61. Srekaparna | 62. Sugandhi Tejan | 63. Syamaka |
| 64. Tila | 65. Tilwaka | 66. Udojasa |
| 67. Udumbara | 68. Upavaka | 69. Vamsa |
| 70. Varshabhu | 71. Varshahva | 72. Varuna |
| 73. Vatashtila | 74. Vena | 75. Vetasa |
| 76. Vibhitak | 77. Vikankat | 78. Vreehi |
| 79. Vrisha | 80. Yava | 81. Yavasa |

_Herbs in Adharvana Veda_

| 1. Aasuri | 2. Abhivattam | 3. Abhshorudh |
| 10. Alasala | 11. Alavo | 12. Amula |
| 31. Aswattha | 32. Aswavar | 33. Aswvati |
| 34. Atasi | 35. Atividdha Bheshaja | 36. Avaka |
| 40. Bahrika | 41. Baja | 42. Bala |
| 43. Baladanthi | 44. Balaparni | 45. Balasa Bheshaja |
| 46. Balasanasani | 47. Balwaja | 48. Banga |
| 49. Baswa | 50. Bilwa | 51. Chetanthi |
| 52. Chipudh | 53. Chiti | 54. Chitranga |
55. Chyukakani
56. Dalpatra
57. Dandan
58. Darbha
59. Dasavriksha
60. Deva
61. Devamuni
62. Dihalha
63. Dishandadupana
64. Drusyavan
65. Durva
66. Dwishoshadhi
67. Eeta
68. Endrani
69. Eshaka
70. Eshya Beshaja
71. Godhuma
72. Guggulu
73. Haridrava
74. Harita Beshaja
75. Hiranyakapushpi
76. Hladika
77. Jalapa Beshaja
78. Jamgira
79. Jarya
80. Jeevanthi
81. Jeevara
82. Kabu
83. Kadkadanti
84. Kalkali
85. Kalkandu
86. Kalkatasu
87. Kalva
88. Kamala
89. Kambara
90. Kanavanak
91. Kapithak
92. Kashraf
93. Kesabhila
94. Kesaduhani
95. Kesavadani
96. Kesi
97. Khadira
98. Kalmali
99. Khanda visha
100. Kirasa Beshaja
101. Kirasanasana
102. Klivakarna
103. Kshariyanasani
104. Kshipa Beshaja
105. Kshumpa
106. Kudi
107. Kumuda
108. Kushta
109. Kutsyamadani
110. Kuval
111. Kyambu
112. Laksha
113. Liboja
114. Lohitavriksha
115. Madhavathi
116. Madhooka
117. Madhugha
118. Madhujata
119. Madhula
120. Madhulaka
121. Madhumati
122. Mahavriksha
123. Mandukaparni
124. Masha
125. Mashakajambani
126. Mirika
127. Mulali
128. Munja
129. Nada
130. Nadya
131. Nadyamal
132. Nadyavisha
133. Nagavisha
134. Nalada
135. Naladi
136. Nanaroga Beshaja
137. Narachi
138. Narista
139. Neelibaya
140. Neragharasala
141. Nitani
142. Nyagrodha
143. Nyastika
144. Oukshagandhi
145. Paidu
146. Palasa
147. Palasa
148. Panaa
149. Para
150. Parna
151. Parnali
152. Parushalva
153. Parushavala
154. Pata
155. Pigu
156. Pinga
157. Pippali
158. Plaksha
159. Pramandani
160. Pratisal
161. Pravadani
162. Preni
163. Prisniparni
164. Prusnatak
165. Punarnava
A Hand Book of History of Ayurveda

166. Pundarika
169. Pustaka
172. Putirajju
175. Ratavandhura
178. Rujayantii
181. Sachina
184. Sahadevi
187. Sahasrakanda
190. Sahasravati
193. Sahiyasi
196. Saluki
199. Sambaka
202. Samutpala
205. Sankhapushpi
208. Sarupamkarpani
211. Satasakha
214. Sepaharshani
217. Shipala
220. Sismipa
223. Somavathi
226. Swadha
229. Tabuva
232. Tastuva
235. Thodi
238. Tikshnavalsa
241. Trakoshma
244. Trusta
247. Udojas
250. Ulpa
253. Utsaktha Bheshaja
256. Valadhucha
259. Vata
262. Vedavruna
265. Venu
268. Vibadha
271. Vikankat
167. Purusha Bheshaja
170. Pustra
173. Rajani
176. Rohini
179. Rutajata
182. Sadamphala
185. Sahanana
188. Sahasraparna
191. Sahassini
194. Sakadurva
197. Samasthakanda
200. Sambanani
203. Sana
206. Sara
209. Satakanda
212. Satavara
215. Seval
218. Sikandi
221. Sochi
224. Straktya
227. Syama
230. Tarunaka
233. Tattbanga
236. Thovilika
239. Tila
242. Trayamana
245. Trustagna
248. Udumbara
251. Urvaruk
254. Utsayanthi
257. Vamsa
260. Vatikrita Bheshaja
263. Veerana
266. Veshtana
269. Vibhitaka
272. Vimbhi
168. Pushpa
171. Putadu
174. Rama
177. Rohitaka
180. Rutavari
183. Saha
186. Sahasrachakshu
189. Sahasraparni
192. Sahasya
195. Salakhala
198. Samattha Bheshaja
201. Samsapa
204. Sani
207. Sara
210. Sataparva
213. Seetika
216. Shaphaka
219. Simlaji
222. Soma
225. Subhagakarani
228. Syamaka
231. Tashtra
234. Tejan
237. Tikshnasringi
240. Tilaparna
243. Trivruth
246. Uchushma
249. Ugra Oushadhhi
252. Uthana parna
255. Vagaka
258. Varana
261. Vatikritanasan
264. Veerodeek
267. Vetasa
270. Vihmal
273. Vipa
Herbs of the Bible

There are numerous references in the Bible to a wide variety of herbs. Obviously, most of these herbs are well-suited to dry, desert-like conditions as one would find in the Middle East.

1. Aloe (*Aquilaria agallocha*)
2. Coriander (*Coriandrum sativum*)
3. Cumin (*Cuminum cyminum*)
4. Garlic (*Allium sativum*)
5. Hyssop (*Sorghum vulgare*)
6. Mustard (*Brassica nigra*)
7. Rose (*Rosa spp.*)
8. Rue (*Ruta graveolens*)
9. Wormwood (*Artemisia absinthium*)
10. Rosemary (*Rosmarinus officinalis*)
11. Costmary (*Chrysanthemem balsamita*)
12. Fennel (*Foeniculum vulgare*) and
13. Dill (*Anethum graveolens*)

Herbs in the Islamic tradition

Carl Linnaeus (1707-1778), a Swedish Botanist is regarded as ‘Father of Taxonomy’. He was not only a pioneer in Botany. He has also known for his research in Zoology, Medicine, Mineralogy and Ecology.

Sania Hamid, Dept. of Botany, University of Jammu, while working on the plants in the traditions of Prophet Mohammed – out of 80 plants 43 were found to be named by Linnaeus. The list of the plants is as under.
<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Name in the traditions of Prophet Mohammed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acorus calamus Linn.</td>
<td>Darirah</td>
</tr>
<tr>
<td>Allium cepa Linn.</td>
<td>Basal</td>
</tr>
<tr>
<td>Allium sativum Linn.</td>
<td>Fumthum</td>
</tr>
<tr>
<td>Anethum sowa Linn.</td>
<td>Sunul</td>
</tr>
<tr>
<td>Apium graveolens Linn.</td>
<td>Karfas</td>
</tr>
<tr>
<td>Artemisia maritime Linn.</td>
<td>Shih</td>
</tr>
<tr>
<td>Beta vulgaris Linn.</td>
<td>Silq</td>
</tr>
<tr>
<td>Cassia senna Linn.</td>
<td>Sanna</td>
</tr>
<tr>
<td>Ceratonia siliqua Linn.</td>
<td>Anam</td>
</tr>
<tr>
<td>Cichorium intybus Linn.</td>
<td>Hindba</td>
</tr>
<tr>
<td>Cinnamomum camphora Linn.</td>
<td>Kafur</td>
</tr>
<tr>
<td>Citrullus colocynthis Linn.</td>
<td>Hinzal</td>
</tr>
<tr>
<td>Citrus limon Linn.</td>
<td>Utruj</td>
</tr>
<tr>
<td>Citrus medica Linn.</td>
<td>Utruj</td>
</tr>
<tr>
<td>Citrus sinensis Linn.</td>
<td>Utruj</td>
</tr>
<tr>
<td>Crocus sativus Linn.</td>
<td>Za’fran</td>
</tr>
<tr>
<td>Cucumis sativus Linn.</td>
<td>Qiththa</td>
</tr>
<tr>
<td>Eruca vesicaria Linn.</td>
<td>Jarjir</td>
</tr>
<tr>
<td>Euphorbia pithyusa Linn.</td>
<td>Shibrum</td>
</tr>
<tr>
<td>Ficus carica Linn.</td>
<td>Teen</td>
</tr>
<tr>
<td>Hordeum vulgare Linn.</td>
<td>Sha’eer</td>
</tr>
<tr>
<td>Indigifera tinctoria Linn.</td>
<td>Kutum</td>
</tr>
<tr>
<td>Lawsonia inermis Linn.</td>
<td>Henna, Faghiya</td>
</tr>
<tr>
<td>Lepidum sativum Linn.</td>
<td>Habb-ur-rashad</td>
</tr>
<tr>
<td>Narcissus lasella Linn.</td>
<td>Nargis</td>
</tr>
<tr>
<td>Nigella sativa Linn.</td>
<td>Habb-ul-rashad</td>
</tr>
<tr>
<td>Ocimum basilicum Linn.</td>
<td>Raihan</td>
</tr>
<tr>
<td>Olea europaea Linn.</td>
<td>Zaytun Zayt</td>
</tr>
<tr>
<td>Plant</td>
<td>Local Name</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td><em>Origanum vulgare</em> Linn.</td>
<td>Marzanjush</td>
</tr>
<tr>
<td><em>Oryza sativa</em> Linn.</td>
<td>Uruz</td>
</tr>
<tr>
<td><em>Phoenix dactylifera</em> Linn.</td>
<td>Tannar fruit</td>
</tr>
<tr>
<td><em>Pistacia terebinthus</em> Linn.</td>
<td>Batm</td>
</tr>
<tr>
<td><em>Partulaca oleracea</em> Linn.</td>
<td>Alhumqa</td>
</tr>
<tr>
<td><em>Punica granatum</em> Linn.</td>
<td>Rumman</td>
</tr>
<tr>
<td><em>Rhus coriaria</em> Linn.</td>
<td>Sumaq</td>
</tr>
<tr>
<td><em>Salvadora persica</em> Linn.</td>
<td>Miswad</td>
</tr>
<tr>
<td><em>Santalum album</em> Linn.</td>
<td>Hanul</td>
</tr>
<tr>
<td><em>Solanum melongena</em> Linn.</td>
<td>Bazingan</td>
</tr>
<tr>
<td><em>Tamarix aphylla</em> Linn.</td>
<td>Tarfa</td>
</tr>
<tr>
<td><em>Thymus vulgaris</em> Linn.</td>
<td>Sa’tar</td>
</tr>
<tr>
<td><em>Trigonella foenum gracum</em></td>
<td>Hulba</td>
</tr>
<tr>
<td><em>Triticum aestivum</em> Linn.</td>
<td>Hintah</td>
</tr>
<tr>
<td><em>Vitis vinifera</em> Linn.</td>
<td>Inab</td>
</tr>
</tbody>
</table>

Plants named by Linnaeus find mention not only in the traditions of Islamic faith but also in other traditions.

Eg:

1. *Ocimum sanctum* Linn (*Tulasi*),
2. *Emblica officinalis* Linn. (*Aamlaki*),
3. *Aegle marmelos* Linn. (*Bilwa*) in **Hindu faith**.

1. *Ficus religiosa* Linn. (*Aswattha*)
2. *Syzygium cumini* Linn. (*Jambu*) in **Buddhist faith**.

1. *Magnifera indica* Linn. (*Amra*)
2. *Ficus bengalensis* Linn. (*Vata*) in **Jain faith**

1. *Arundo donas* Linn.
2. *Ricinus communis* Linn. (*Eranda*)
3. *Morus nigra* Linn. (*Mulberry*) in **Christian faith**.

*****
Vedas consist of four types of literature:

i. Samhitas (hymns),
ii. Brahmanas (rituals),
iii. Aranyakas (theologies) and
iv. Upanishads (philosophies).

The collection of mantras or hymns is called the Samhita. Most important are the four Samhitas, which are the basic Vedas. The earliest is the Rigveda (rig=stanza of praise), a collection of 1,028 hymns. The Sama-Veda (saman=chant) consists of stanzas taken from the Rigveda meant to be sung to fixed melodies. The Yajurveda (yajas=sacrificial prayer), compiled a century or two later than the Rigveda, contains prose and verse formulas that were to be pronounced by the priest performing the manual part of the sacrifice. These three Vedas were recognized as canonical and called Trayi Vidya [the threefold knowledge]. The Adharvana Veda (atharvan=charm), written at a later period, was included in the canon only after a long struggle. Influenced by popular religion, it included spells and incantations for the practice of magic.

The Brahmanas are prose explanations of the sacrifice and include precepts and religious duties. Each Veda has several Brahmanas attached to it. Between about 900 and 700 BC the Brahmanas were written in prose as sacerdotal commentaries on the four Vedas to guide the practices of the sacrificers and give explanations for these customs.

The Aranyakas (forest texts) intend to serve as objects of meditation for ascetics who live in forests and deal with mysticism and symbolism.

The Upanishads form the concluding portions of the Veda and therefore called the “Vedanta” or the end of the Veda and contains the essence of Vedic teachings.

The Upanishads and the Aranyakas are the concluding portions of the Brahmanas, which discuss philosophical problems.
Ayurveda in Brahmana Grandhas

Brahmanas are 23 in number as follows:

1. Aitareya Brahmana.
2. Chhandogya Mantra Brahmana
3. Devatadhya Brahma
4. Gopadha Brahmana
5. Jaiminiya Arsheya Brahmana
6. Jaiminiya Brahmana
15. Satapatha Brahmana - Madhyandina (Devanagari and accented)
18. Taittiriybrahmana 19. Taittiriy Chardi Brahmana
20. Tundya Brahmana 21. Vadhula Anvaakhyaana
22. Vamsa Brahmana. 23. Fragments of Lost Brahmanas

The Brahmanas are originally instructions for the proper performance of ritual and sacrifice, but they are also the nucleus of later Hindu philosophy, introducing concepts of Karma and Samsara.

The four stages in the life of a Brahmin, viz.

1. Brahmacharya 2. Grihastha
3. Vanaprastha 4. Sanyasa

Each Brahmana is associated with one of the four Vedas for ex.

 Rigveda - Aitareya Brahmana, Kaushitaki Brahmana
 Krishna Yajurveda - Taittireya Brahmana
 Sukla Yajurveda - Satapatha Brahmana
 Sama Veda - Jaiminiya Brahmana
 Adharvama Veda - Gopadha Brahmana

Aitareya Brahmana

- Aitareya Brahmana is a part of the Rigveda dealing principally with worship and ceremonies of royal inauguration.
Brahma: In the beginning Brahma was Purusha and later on he separated himself into two halves as female and male and evolved the entire universe. According to the Aitareya-Brahmana, Brahma as Prajapati (lord of beings) manifests himself first of all as twelve bodies or attributes, which are represented by the twelve gods.

Introduction to Hinduism: Hinduism is referred to as Sanatana Dharma, the eternal faith. Hinduism is not strictly a religion. It is based on the practice of Dharma, the code of life. Since Hinduism has no founder, anyone who practices Dharma can call himself a Hindu. He can question the authority of any scripture, or even the existence of the Divine.

Soma-drink: Made from a rare mountain plant by initiated Brahmans. This Hindu sacred beverage he who drinks it easily Heaven.

The Hymns of Dirghatamases: Some scholars have claimed that the Babylonians invented the Zodiac of 360 degrees around 700 BC, perhaps even earlier and India received the knowledge of the zodiac from Babylonia or even later from Greece. However, as old as the Rigveda, the oldest Vedic text, there are clear references to a chakra or wheel of 360 spokes placed in the sky. The number 360 and its related numbers like 12, 24, 36, 48, 60, 72, 108, 432 and 720 occur commonly in Vedic symbolism. It is in the hymns of the great Rishi Dirghatamas (RV I.140 - 164).

Satapatha Brahmana

Satapatha Brahmana ("Brahmana of one-hundred paths") is one of the prose texts describing the Vedic ritual, associated with the Sukla Yajurveda. It belongs to the Brahmana period of Vedic Sanskrit, dated to the first half of the 1st millennium BC.

Among the points of interest are the mythological sections embedded in it. The text describes in great detail the preparation of ceremonial objects, ritual recitations, and the Soma libation, along with the symbolic attributes of every aspect of the rituals.

The Satapatha Brahmana was translated into English by Prof. Julius Eggeling, in the late 19th century, in 5 volumes published as part of the Sacred Books of the East series.

Jaiminiya Brahmana

This work is of special interest for the history both of religion and legend, but unfortunately the manuscript material is so fragmentary that it cannot be edited.

Even such famous Vedic scholars, as W. Caland and H. Oertel, were not able to establish a satisfactory text form.
Although the MSS were acquired as early as the 19th century by Dr. Burnel and others, it was not found possible to edit them. A few MSS are deposited in some of the Western libraries and a few in Indian libraries.

Among the Brahmans, the Jaiminiya may now easily be called the premier Brahmana, side by side with the Satapatha which belongs to the Yajurveda.

The Jaiminiya Brahmana had become rare in India during the last one thousand years.

**Herbs in Brahmana Grandhas (128):**


**Ayurveda in Aranyakas**

The Aranyakas are associated with and named after individual *Vedic Sakhas.*

- Aitareya Aranyak belongs to the Shakala Sakha of Rigveda
- Kaushitaki Aranyak belongs to the Kaushitaki and Shankhayana Sakhas of Rigveda
- Taittiriya Aranyak belongs to the Taittiriya Sakha of Krishna Yajurveda
- Katha Aranyak belongs to the Katha-Charaka Sakha of the Krishna Yajurveda
- Maitrayaniya Aranyak belongs to the Maitrayaniya Sakha of Krishna Yajurveda
• *Talavakara Aranyak* belongs to the *Talavakara* or *Jaiminiya Sakha* of *Sama Veda*

- The *Aranyakas* discuss philosophy and sacrifice.
- *Aitareya Aranyak* has six chapters of which the first three are about ‘Prana-Vidya’ — meaning, *Prana*, the Vital Air that constitutes the life-breath of a living body.
- In *Taittiriya Aranyak* the importance of *Surya Namaskaras* in maintenance of health has been explained
- In *Shankhayana Aranyak* it is seen that “All divine personalities are inherent in the *Purusha*, just as *Agni* in speech, *Vayu* in *Prana*, the Sun in the eyes, the Moon in the mind, the directions in the ears and water in the potency.”

**Ayurveda in Upanishadic literature**

The Sanskrit term *Upanishad* literally means “sitting down beside”. It derives from *Upa-* (near), *ni-* (down) and *sad* (to sit), referring to the “sitting down near” a spiritual teacher (*guru*) in order to receive instruction in the *Guru-Shishya* tradition. The date of composition of the *Upanishads* may be from around 800 - 400 B.C.

The *Upanishads* are regarded as *Vedanta* (“the end of the *Vedas*”) and as such form part of the Hindu scriptures. They primarily discuss philosophy, meditation, and the nature of God.

The number of *Upanishads* is given as 108.

10 *Upanishads* are associated with the *Rigveda*
16 *Upanishads* are associated with the *Sama Veda*
19 *Upanishads* are associated with the *Sukla Yajurveda*
32 *Upanishads* are associated with the *Krishna Yajurveda*
31 *Upanishads* are associated with the *Adharvana Veda*

Though the Upanishads are many in number the following 11 have been considered as the Principle or Major *Upanishads* because the philosophers have commented on through the centuries.

1. *Katha Upanishad*
2. *Isa Upanishad*
3. *Kena Upanishad*
4. *Mundaka Upanishad*
5. *Svetasvatara Upanishad*
6. *Prasna Upanishad*
7. *Mandukya Upanishad*
8. *Aitareya Upanishad*
9. *Brihadaranyaka Upanishad*
10. *Taittiriya Upanishad*
11. *Chhandogya Upanishad*
Each one of these Upanishads deals with a separate subject of spiritual contemplation or aspect of the spiritual life and has becoming the starting point of the later philosophies.

The commencement of the rule of a divine life for man and enjoyment of all by renunciation of all through the exclusion of desire is found in Isa Upanishad. In sum, absolute enjoyment is possible only by absolute renunciation.

The Brihadaranyaka Upanishad says:

“From the unreal lead me to the real!
From darkness lead me to light!
From death lead me to immortality!”

Kundalini Awakening or Pranic awakening: Breath, sound and meditation are the main resources of Kundalini yoga.

References related to Pranayama are available in Upanishads.

Manduka Yoga: A “particular kind of abstract meditation in which an ascetic sits motionless like a frog”. However, all true yoga practice involves complete mental abstraction from exterior concerns and the outer environment, so that all yogis, while practicing yoga sit motionless “like a frog.”

Yogic way of washing eyes
1. First fill the mouth with water.
2. Then wash eyes with fresh water five to six times.
3. Now spit out the water from the mouth.

Whenever you are cleaning your eyes there should be water in your mouth.

Prana Vata: The chief subdivision of Vata, it governs the mind, the heart, respiration, and life itself.

Herbs in Upanishads: The following 31 herbs are available in Upanishads.

Ayurveda in Vedangas

The Vedangas (“member of the Veda”) are six auxiliary disciplines for the understanding and tradition of the Vedas.

They are six in number viz.
1. **Siksha** (Phonetics and phonology or pronunciation of the Vedas)
2. **Vyakarana** (Grammar)
3. **Chandas** (Vedic Meter)
4. **Nirukta** (Etymology)
5. **Kalpa** (Rules of rituals)
6. **Jyotisha** (Astrology and astronomy, dealing particularly with the auspicious days for performing sacrifices)

The *Vedangas* are first mentioned in the *Mundaka Upanishad* as topics to be observed by students of the *Vedas*. Later, they developed into independent disciplines, each with its own corpus of Sutras.

For the *Veda Purusha*, the 6 limbs are:

| 1. शिक्षा  | Siksha       | Phonetics | Nose |
| 2. व्याकरण  | Vyakarana   | Grammar   | Mouth |
| 3. छन्दो  | Chandas     | Vedic Meter | Feet |
| 4. निरूक  | Nirukta     | Etymology | Ears |
| 5. ज्योतिष  | Jyotisha    | Astrology/Astronomy | Eyes |
| 6. कल्प  | Kalpa       | Vedic action | Arms |

*Jyotisha* is the *Vedic* astronomy and astrology. It contains the scientific lore which kept India at the forefront of all ancient nations. The very ancient Brahmagupta, one of the *Jyotish* works, is an astronomical treatise dealing with such matters as

- Heliocentric motion of the planetary bodies in our solar system
- Obliquity of the ecliptic
- Earth’s spherical form
- Reflected light of the Moon
- Earth’s daily axial revolution
- Presence of fixed stars in the Milky Way,
- The law of gravitation and other scientific facts which did not reach the western world until the time of Copernicus and Newton.

The importance of the *Jyotish* scriptures for the Hindus lay in their astrological use for determining the auspicious times and seasons for the fitting performance of various works or actions.
- Interpretation of dreams is found in Vedangas similar to Ayurveda
- Water is a very common but powerful dream symbol. Its meaning varies with the details and the mood of the dream.
- Matter related to Ayurveda in Vyakarana is going to be detailed in the following pages.

**Ayurveda in the Smritis**

Hindu Dharma or Hindu way of life is called Sanatana Dharma, which has been incorporated in Smritis. Smritis were based on Vedas. The basic Smritis were eighteen in number. Among them Manu Smriti, Naradiya Smriti, Vishnu Smriti and Yagnavalkya Smriti have become more popular. Manu Smriti was written by Raja Manu in the ancient times, but it was redacted in the first Century AD.

These Smritis are not mere law books. They deal more with the civil and criminal laws and the rules of inheritance and the laws of marriage and family. Every aspect of the individual life is included. The king's duties in relation to the internal and external affairs of the country are included there in. Worship of Gods, ceremonies in commemoration of the dead, birth and death, pollutions and expiatory acts, sacrifices, customs and manners of daily life and behavior are all included.

Penalties were levied upon those who disobeyed the rules of conduct laid down in the Smritis.

The rules of conduct codified in the Smritis and expressed in the Samhitas (like Charaka and Susruta) correspond so much that we feel that both derived their knowledge from a common source.

Ayurveda Sutras were more or less exclusively intended for the educated classes; the Smritis were intended for propagating this knowledge among the masses.

**Examples of hygienic rules from Manu Smriti:**

1. 'Na Snanamacharet Bhuktwat' — don't take bath after eating.
2. 'Brahmi muhurte buddheta dharmardhamcha anu chintayet'
   One should get up from bed in 'Brahma Muhurta' and think about Dharma and Arda.
3. 'Na bhukta matre Adhyeta' — one should not study immediately after meal.
4. 'Satyam bhruyat, priyam bhruyat...'
   Tell truth, tell what is pleasing, and don't tell falsehood even if it is pleasant. This is the eternal rule.
5. The body is purified by water, and the mind is purified by truth. Knowledge and Tapas purify the soul. The Buddhi is purified by correct knowledge.


7. If you pour Ghee over fire, the fire will never be suppressed but it will blaze more. Similarly you can never satisfy the sense organs by fulfilling its desires. The best way to conquer them is to control them.

8. Even if one sense organ is addicted to vicious habits, it is enough to ruin a wise man also, just like a water bag with a small hole will not be capable of containing water.

9. One should neither pass urine or stools and nor spit into water.

10. People may poison the food of animals and men, water and fuel in the enemy’s country, so that they may not be useful to them.

These Smritis influenced greatly Indian culture in good olden days. Except Vishnu Smriti the rest of them are in the form of Slokas.

- In Manu Smriti plants have been classified as Oushadhi, Vanaspati, Vriksha and Valli.
- Preventive measures mentioned in Vishnu Smriti are found in Vagbhata’s Ashtanga Sangraha. Similarly the subject matter pertaining to Sadvritta (Code of conduct) is available in the other Ayurvedic texts.
- Yagnavalkya Smriti is the next authentic one after Manu Smriti.
- The number of bones (360), layers of skin (6), Sira (700), Dhamani (200), Snayu (900), Pesis (500) etc. are mentioned in Yagnavalkya Smriti and similarly in Charaka Samhita.

### Ayurveda in the epics

The Ramayana and the Mahabharata are considered two great epics of Indian literature. The Ramayana in its original form is the first epic in Sanskrit, which has been the source of inspiration for many epics. Maharshi Valmiki composed Ramayana before 500BC. The epic was revised and set down in its best-known form by the poet Tulasi Das (1532-1623). Traditionally the epic belongs to the Treta Yuga, one of the four eons (Yuga) of Hindu chronology.
Valmiki Ramayana has been divided into seven sections, dealing with the life of Rama from his birth to his death as under.

1. Bala Kanda  
2. Ayodhya Kanda  
3. Aranya Kanda  
4. Kishkindha Kanda  
5. Sundara Kanda  
6. Yuddha Kanda  
7. Uttara Kanda

The Mahabharata was composed by Sage Vyasa between 300 BC and 300 AD and has the honor of being the longest epic in world literature, one lakh 2-line stanzas.

The Mahabharata in the present form is an encyclopedic work compiled in a long course of time, say about 300 to 400 years in which various materials and stories were added to it. The work is divided into 18 books (concerning an 18-day war among 18 armies). Mahabharata is an illustration of struggle between cousins for power and material. The epic has a message for mankind which is of far greater importance than its story.

Both Ramayana and Mahabharata have religious value to Indian families and are valuable ideal epics of Indian ethics and culture. In both the epics (the subject related to) the basic principles of Ayurveda and other Ayurvedic aspects are mentioned. A few examples are given here.

Ayurveda in Valmiki Ramayana

Medical practice:

- King Dasaradha enquired about the sadness of queen Kaika and advised her to take the suggestion of Raja Vaidyas (Royal physicians) for getting relief which indicates that the medical profession already existed in those days and the court physicians are appointed to look after the health of Royal families.

Transplantation of organs:

- The sage Gouthama castrated once the testicles of Indra. In place of that Aswins transplanted the testicles of goat. He was therefore called ‘Meshanda’.

Toxicology:

- When Dasaradha rejected to fulfill the desires of queen Kaika, she said, “If you install Rama as the king of Ayodhya, I am going to die by taking poison.” which shows that the use of poisonous substances already existed in those days.
Preservation of dead body:

- The dead body of the king Dasaradha was preserved in ‘Taila Droni’ till the arrival of Bharata. Traditionally Indians used to preserve many things in oil and honey. Pickles also can be preserved in oil.

Amputation:

- Sita sent a message to Rama conveying her miseries through Hanuman, “If Rama does not come soon, Ravana will amputate my body with sharp instruments like the surgeon who amputated the parts of a baby situated in the womb and throws out of the womb.”

Description of herbs:

- Many plants and trees have been described in Ramayana at different places such as Kutaja, Arjuna, Kadamba, Nimba, Saptacchada, Ashoka, Asana, Saptaparna, Kovidara etc. They are also used in Ayurveda.

Use of alcoholic preparations:

- In the enumeration of ‘Pana Bhumi’ of Ravana, different types of Asavas, wine, meat and their preparations according to the principles laid down in Ayurveda, several varieties of Sura, Sarkarasava, Madhvika, Pushpasava, Phalasava etc. and the vessels made of gold, silver, quartz etc. also are described.

Oushadhi Parvat:

- There is a chapter entitled ‘Oushadhi Parvat’ in Yuddha Kanda of Ramayana. Oushadhi Parvat, Kanchan Parvat and the peak of Kailasa have been mentioned. Instead of bringing the specific drugs, Hanuman had brought the entire Oushadhi Parvat to Lanka, which contained the following herbs.

  - Mritasanjivani - which revives the dead
  - Visalyakarani - which frees trouble or anxiety
  - Savarnyakarani - which imparts original color
  - Sandhanakarani - which joins the fractured bones

Examination of the dead and alive:

- During the war, when Lakshmana became unconscious struck by an arrow, Rama declared him dead. At that time Vaidya Sushen explained the following signs and symptoms of alive.

  - His face has not changed
  - Has not blackened
- Has not become charm less but is full of light
- Palms are like lotus
- Eyes are clear. Such signs are not found in dead persons.

The face of the persons having life is similar to his face.

Vaidya Sushen treated Lakshmana with the drugs which had been brought from the Himalayas by Hanuman and he was revived. In this way there are many references concerning Ayurveda in the Ramayana

**Revival of Lakshmana**

**Ayurveda in Mahabharata**

- *Mahabharata* of Vedavyasa occupies the second position among the greatest epics of Indian literature.
- Different types of personalities and their psychology, socio-economic and political conditions of that period can be seen in *Mahabharata*.
- It gives us the complete picture of the art and culture of that period and it can be called encyclopaedia of *Bharata Khandha*.
- Subject matter related to Ayurveda and various types of medical and surgical treatments can be seen in *Mahabharata*.
- Description of eight branches of Ayurveda is also available.

**Practice of Medicine:**

- Once Narada Maharshi went to Yudhishtara and made enquiry about his health as follows.
  “Oh! Yudhishtara how is your health? Are you getting treatment or not? By adopting *Satsanga* and *Sadachara* psychological disorders can be prevented.
  By taking wholesome diet most of the somatic disorders can be prevented. Whether the Royal physicians are well versed in *Ashtangas* or not?”
  It shows that the practice of medicine already existed in those days.
Toxicological references:

- The discourse between Takshaka and Kasyapa is evidently proof of the latter’s expertise in toxicology by which he revived the Banyan tree which was reduced to ashes by Takshaka, the king of serpents.
- Practice of divine therapy in toxicology was also seen in *Mahabharata*.
- When Parikshit Maharaj was affected by snakebite, he called the physicians, who were experts in toxicology.
- Once Duryodhana gave poisonous food to Bhima who became unconscious and was thrown into the river. Due to the serpent bite he was revived. It suggests that *Jangama Visha* might have acted as antidote for *Sthavara Visha*.
- In *Mahabharata* various types of serpents have been described. It is stated that Lord Brahma taught the Toxicology to Kasyapa.

Mritisanjivani Vidya:

- The story ‘Kacha- Devayani’ tells that Brihaspati sent his son Kacha to Sukra, to learn ‘*Mrita Sanjivana Vidya*’.

Diseases, causative factors and treatment:

- In *Santipurva* of *Mahabharata* the psychosomatic disorders and their clinical picture were described along with the influence of *Trigunas* on the body and mind.
- Aswins treated the blindness of Upamanya, which was caused due to the consumption of *Arka* leaves.
- Atriputra suffered from *Rajayaksha* caused due to excessive copulation and was revived by getting treatment.

Test tube baby:

- During her pregnancy, Gandhari beat herself on her abdomen which resulted in abortion. The pieces were kept separately; one in each earthen pot containing ghee for a period of ten months as a result engendered one child from each piece.
- The zygotes formed in the uterus of Kadruva and Vinata were kept in an earthen pot containing ghee gave birth to children. We can infer that the formation of test tube baby was already in practice.

Influence of mother’s feelings on the baby:

- As Ambika closed her eyes out of fear at the time of intercourse; she gave birth to blind Dhritarashtra. One can infer that the feelings of the mother reflect over the progeny.

5 His. Ayur.
• Similarly Ambalika gave birth to severe anemic child, Pandu raja, as she had sorrowful face at the time of intercourse and also during pregnancy.

Practice of Surgery:
• When Bhishma was wounded and was lying on the bed of arrows during Kurukshetra war, Duryodhana called experienced and skilled surgeons to treat Bhishma. But heroic Bhishma refused to take any treatment, as he wanted to die on the bed of arrows as a true Kshatriya. This suggests that military surgeons and practice of surgery also existed in those days.

➢ Excessive use of Ghee in Yagna, Yagas results in Ajirna to Agni Deva and he was relieved only after the forest fire burnt various herbs and trees present in ‘Kandava Vana’.

Ayurveda in Purana and Upa Purana

The 4th century may be the turning point in the Indian history. The popularization of Vedic religion and Hindu philosophy was accelerated through the publication of a number of Puranas and the epics. The object of Puranas is to represent natural descriptions from Vedas and some historical events in the form of stories. The compilation of the Puranas was attributed to Vyasa, the author of Mahabharata.

They are more than 180 Puranas existing in Hindu literature. Among them the following 18 can be considered as Maha Puranas and are categorized as under.

Brahma Puranas:
1. Brahma Purana
3. Agni Purana
5. Brahmanda Purana

Vaishnava Puranas:
1. Vishnu Purana
3. Vamana Purana
5. Garuda Purana

Shaiva Puranas:
1. Shiva Purana
3. Kurma Purana
5. Skandha Purana

2. Bhavishyat Purana
4. Brahmavaivarta Purana
6. Padma Purana

2. Narada (Naradiya) Purana
4. Matsya Purana
6. Srimad Bhagavata Purana

2. Linga Purana
4. Markandeya Purana
6. Varaha Purana
18 more **Upa Puranas** are also there as under:

1. Sanatkumara Purana
2. Narasimha Purana
3. Brihannaradiya Purana
4. Sivarahasya Purana
5. Durvasa Purana
6. Kapila Purana
7. Yamana Purana
8. Bhargava Purana
9. Varuna Purana
10. Kalki Purana
11. Samba Purana
12. Nandi Purana
13. Surya Purana
14. Parasara Purana
15. Vasishtha Purana
16. Devibhagavata Purana
17. Ganesa Purana
18. Hamsa Purana

Propagation of the study of Ayurveda was attempted through *Puranas* only. The benefits of establishing free hospitals were praised in many *Puranas*. It is known that along with medicines, food also being supplied freely to the patients in those days.

The progress of Ayurveda was steady in those days. Ayurveda was taught as a compulsory subject along with the studies of *Vedas* and *Sastras*.

**Brahma Purana**

- **Origin of Jwara**: It is seen in *Brahma Purana* that *Jwara* is originated due to *‘Rudra kopa’* in connection with the destruction of *‘Daksha Yagna’*
- **Soma** has been described as the king of herbs.
- The religious importance of **Aswattha** was also realized.
- It was also said that the power of amulets, *mantras* etc. are beyond the perception of human beings.

**Padma Purana**

- It is the second biggest, after *Skandha Purana* and contains 55,000 Slokas.
- **Herbs**: So many drugs or plants are described in many contexts such as *Plaksha, Nyagrodha, Kadali, Tulasi, Amalaki, Guggulu, Kusa, Kasa, Durva, Yava, Vrihi, Pundarika* etc.

- **Basic principles of Ayurveda**:
  - *Pancha Maha Bhutas, Tridoshas* have been discussed.
  - Derangement of *Doshas* causes diseases.
  - *Jwara* was mentioned as the common disorder.
  - *Kushta, Switra, Kshaya, Swasa, Kasa, Apasmara, Sula* were also mentioned.
  - By worshiping the Sun God a number of diseases such as *Kamala, Malaria, Ashmari* etc. can be cured.
By disregarding the Sun, *Kushta* occurs.
- Preservation of dead body in *Taila Droni* is also mentioned.
- Development of fetus, food and regimen of the pregnant woman was also described.
- Daily regimen and the ethics of human beings were also described in *Padma Purana*.

**Vishnu Purana**
- Origin of Ayurveda, emergence of Dhanvantari, genealogy of Divodasa etc. are seen in *Vishnu Purana*.
- Herbs such as *Nyagrodha*, *Kadali*, *Kusa*, *Kasa*, *Plaksha* etc. are mentioned.
- *Dina Charya*, *Ritu Charya* and *Sadhvritta* are adequately described.
- Diet and dietetics are also discussed. Among dietary preparations *Saktu*, *Apupa*, *Payasa* etc. are mentioned.
- Classification of diseases such as *Sareeraka* and *Manasika* is also seen.
- Among the somatic disorders *Jwara*, *Sirah soola*, *Pratisyaya*, *Sula*, *Gulma*, *Arshas*, *Swayadhu*, *Swasa*, *Chardi*, *Atisara*, *Kushta* etc. are mentioned.

**Brahmavaivarta Purana**
- **Origin of Ayurveda according to Brahmanda Purana:**
  
  In *Brahmanda Purana* it is found that Daksha Prajapati taught Ayurveda to Brahma and he, in turn, taught it to Bhaskara and he taught to Dhanvantari and other 16 disciples. They all wrote separate texts on their names and spread the medical knowledge to the next generations. In this way the origin of Ayurveda differs from the other Ayurvedic texts.
  
  - This *Purana* is divided into 4 sections viz. *Brahma*, *Prakriti*, *Ganesh* and *Krishna*.
  - Tantric practices were prevalent in those days.
  - Unqualified physicians were not honored.
  - ‘Rasayana’ was held as the best drug among ‘Oshadhis’ (Drugs). It is inferred that mercury and mercurial preparations might have been the drugs of choice.
  - Various plants and parts used for medicinal uses were also clearly mentioned.

**Skandha Purana**
- In *Skandha Purana*, description pertaining to the types of physicians, qualities of an ideal physician, various types of instruments and equipment required for the practice of medicine, suitable place for the construction of a hospital, plan of the hospital etc. is available.
• Providing help to the diseased was regarded as the best religious act in those days.
• Duties, responsibilities and the ethics of medical profession are also seen in Skandha Purana.

Agni Purana:
• It is a text of encyclopedic character and thus contains materials pertaining to all branches of Indian tradition and culture including medicine.
• Origin of Ayurveda and its branches are also seen in Agni Purana.
• Description pertaining to Pancha Mahabhutas, Five senses, Trigunas, Tridoshas, Sapta Dhatus is also available.
• Similarly development of fetus, anatomical structures and constitution of the body according to the dominance of Tridoshas are also seen.
• Factors that cause psycho- somatic disorders, signs and symptoms and the treatment are also described.

Ex. Shadanga Paneeya in ... Pitta Jwara
Nasal administration of Durva Swarasa in ... Epistaxis
Use of Guduchi Swarasa in ... Vatarakta

• The concept of drugs, their properties and the pharmaceutical preparations are described.
• Types of poisonous substances, their symptoms and the treatment are also seen.
• Diseases pertaining to horses, elephants and their treatment are mentioned in Agni Purana.
• Mercury and other inorganic substances like Swarna, Rajatha, Tamra, Ayas, Kamsya, Naga, and Vanga etc. are described.
• Identification of precious gems and their uses also are seen in Agni Purana.

Matsya Purana:
It gives details about the selection of soil for building houses, the rules of hygiene, construction of houses, swimming pools and playgrounds.

Garuda Purana:
• It has its own importance among the 18 Maha Puranas.
• It consists of 3 divisions viz.
  1. Achara Khanda  2. Preta Khanda
  3. Brahma Khanda
• In all Achara Khanda has 240 chapters. It contains many subjects including medicine.
Basic principles of Ayurveda:

- *Tridoshas, Sapta Dhatus, Trimalas* their places, causes of their vitiation, signs and symptoms have been elaborately described.
- Different tastes, their quality, *Rasa Panchaka* are also seen in *Garuda Purana*.
- Four limbs of the treatment and their qualities also are described.
- Description of body constitution is also seen, which is similar to Ayurvedic texts.

Swasthavritta:

- Daily routine (*Dina Charya*) is described in a separate chapter along with *Sadvritta*.

Toxicology:

- The branch of knowledge in poisons and their treatment is available in *Garuda Purana*.
- Kasyapa was an authority in toxicology in those days, and well versed in both types of treatment such as *Mantra* and *Oushadhi*.

Pathology and General Medicine:

- Causative factors, pathogeneses and the treatment were dealt elaborately in a number of chapters viz. *Jwara, Raktapitta, Kasa, Swasa, Hikka, Yakshma, Arochaka, Hridroga, Madatyaya, Arshas, Atisara, Grahani, Mutraghata, Prameha, Vidradhi, Kushta, Vata roga* etc.

Embryology:

- Development of the fetus and the formation of the body are described.
- Number of plants is also described.
- Characters of Gems are also described in several places.

In this way many references pertaining to Ayurveda can be seen in Puranas.

Ayurveda in the grammar of Panini

- *Ashtadhyayi* of Panini is an excellent Sanskrit work belonging to 4th century BC
- Sanskrit was the spoken language of the people in those days.
- Later on, in the 3rd century BC Katyayana improved the work of Panini.
• Again in the 2nd century BC Patanjali wrote a commentary named *Mahabhashya* on the *Sutras* of Panini.

• According to the available references from *Mahabhashya*, Panini was also called ‘Dakshi Putra’ and ‘Shalaturiya’. Out of these two, the former relates to his mother ‘Dakshi’ and the later relates to the place of his birth ‘Shalatur’.

• Along with the grammar, the condition of the society and the habits of the people and other important information about the status of Ayurveda also can be understood from Panini’s work.

• The references of Acharyas of Ayurveda named Bharadwaja, Atreya etc. were mentioned in ‘Asvadi Gana’ while the disciples of Atreya- Agnivesa, Parasara, Jatukarna are mentioned in ‘Gargadi Gana’. Susruta and his disciples were also mentioned in *Ashtadhyayi*.

• The references of *Tridoshas* – *Vata*, *Pitta* and *Sleshma* were mentioned in ‘Sidhmadi Gana’. Similarly the five basic elements and *Pancha Tanmatras* are also seen in ‘Rasadi Gana’

• Regarding seasons, two systems are mentioned in Ayurveda such as *Sisiradi Krama* and the other replaces *Sisira* by *Pravrit*. The later system is followed particularly during the process of eliminating the vitiated *Doshas*. Panini seems to be acquainted with both of these systems.

• Classification of plants is also seen in *Ashtadhyayi* as *Oshadhi* and *Oushadhi*.

• *Oushadhi* and *Oushadha* are also differentiated such as *Oushadhi* means medicinal plant or herb and *Oushadha* means the finished product.

• A large number of names of medicinal plants are found in *Ashtadhyayi* described under various *Ganas*. Eg: *Haritakyadi Gana*, *Plakshadi Gana*, *Bilwadi Gana* etc.

• Similarly the names of the plants like *Soma*, *Munja*, *Vrihi*, *Kasa*, *Darbha*, *Khadiira*, *Amra*, *Ikshu*, *Yava*, *Sali*, *Mudga*, *Masha*, *Tila* etc. are also seen.

• Metals like Gold, Silver, Iron, Tin etc. are also seen in ‘Apupadi Gana’

• Almost all units of weights and measures are mentioned in different ‘Sutras’ as were in Ayurvedic texts.

• Panini also mentions *Pancha Vidha Kashaya Kalpanas*. Alcoholic preparations like *Maireyaka*, *Madya* and *Sura* are also found.

• References pertaining to Anatomical structures of the body like *Sakha* (extremities), *Yakrit* (liver), *Vasti* (urinary bladder), *Hridaya* (heart) etc. are found in different contexts. The word ‘*Nadi*’ was used in the sense of tube.
- Various types of fevers like Dwitiyaka, Triyaka, Chaturdhaka and the diseases like Atisara, Arshas, Kushta, Unmada, Vata roga, Hridroga etc. are also mentioned in different contexts.
- Patients were classified on the basis of the disease and they are called as Kushti (affected with leprosy), Unmadi (affected with madness), Atisarak (affected with diarrhoea) etc.

In this way knowledge pertaining to Ayurveda is found in the Sutras of Panini.

**Ayurveda in Darshanas**

The word ‘Darshana’ is derived from the root ‘Drisyate’ or ‘Dris’ means to see.

“Drisyate Anena Ithi Darshanah” means which facilitates to visualize the facts pertaining to the universe is known as Darshana.

“Sarve Darshanah Jnardha Sadhanah”

All the Darshanas are the means or instruments of knowledge. They are born out of Upanishads.

There is a difference of opinion regarding the number of Darshanas and varied from 108 and up to 300.

Though there are many a number of Darshanas the following nine are having great influence on Ayurveda.

They have been classified under two heads such as

1. Asthika Darshana (Theistic)
2. Nasthika Darshana (Atheistic)

**Asthika Darshanas are**

- Having faith in the eternity of Vedas
- They believed that Vedas are Apourusheya
- Believes the existence of Atma, Paramatma, Janana, Marana, Moksha & Ishwara

They are six in number as follows:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Darshana</th>
<th>Name of the Propounder</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sankhya Darshana</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Vaiseshika Darshana</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Kapila Maharshi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kanada Maharshi</td>
<td></td>
</tr>
</tbody>
</table>
3. Nyaya Darshana  - Gouthama Maharshi 
4. Yoga Darshana  - Patanjali Maharshi 
5. Poorva Mimamsa  - Jaimini Maharshi 
6. Uttara Mimamsa  - Vyasa Maharshi 

Nasthika Darshanas (Atheistic) are:

- Not having the faith or standard ness of Vedas
- Doesn’t believe the existence of Atma, Paramatma, Janana, Marana, Moksha and Ishwara.
- Believes that there is no difference between the body and soul.

They are three in number as follows

1. Charvaka Darshana  - Brihaspati
2. Bouddha Darshana  - Gouthama Buddha
3. Jaina Darshana  - Rishabha dev

- In general all the Darshanas have influence on Ayurvedic theories to some extent. Sankhya and Vaiseshika Darshanas have their influence not only on Ayurveda but on all contemporary sciences.
- Mainly the Tatwika Vivechan of Sankhya and Nyaya Darshanas greatly influenced the theories of Ayurveda.
- Some of the scholars opined that several theories mentioned in Ayurveda were adopted from Darshanas as it is. But it is not true. Though some concepts were adopted form Darshanas those have been utilized according to the necessity of the science.

Ayurveda and Sankhya Darshana:

Both Sankhya Darshana and Ayurveda are having certain similarities regarding the following theories which confirm the relation between both the sciences.

1. Description of Pramana: Pratyaksha, Anumana and Aptomadesa are Testimonials, which are the means to acquire the real knowledge of an object have been described in a similar passion in both the sciences.
2. Equality in usefulness: Adhyatmika, Adhidaivika, Adhibhoutika are the three types of miseries described in Sankhya Darshana. In Ayurveda diseases have been classified into three types similar to Sankhya philosophy.
3. Equality in Realm: Number of Realms in the evolution of the universe is also mentioned similarly.
4. Purusha Vivechan: Purusha was discriminated in Ayurveda as well as in
Sankhya philosophy. Susruta stated that “Bahavastu Purushah” while in Sankhya Darshana also mentioned as “Purusha Bahutwam Siddham”

5. Parinama Vada: Transformation theory of evolution is mentioned in Sankhya philosophy. Similarly in Ayurveda “Dhatu Parinama Siddhanta” is explained.

Eg.: Existence of gingili oil in the seeds of sesamum

7. Description of Trigunas: Satwa, Rajas and Tamo Gunas are also described in Ayurveda are identical with Sankhya Darshana.

Ayurveda and Vaiseshika Darshana:

- Padardhas have been described for the first time in Vaiseshika Darshana only. Significantly Visesha Padardha was described in an exhaustive manner. Ayurveda also describes the same six Padardhas but in a different order according to the utility of the science.

Ayurveda and Nyaya Darshana:

- Charaka described the theories of Nyaya Darshana in detail.
- Nyaya Darshana has given much more importance to Pramanas in general and Anumana Pramana in particular. Hence Nyaya Darshana is defined as “Pramanaih Artha Parikshanam Nyayah”
- According to Ayurveda the utility of Pramanas is mostly in the diagnosis of the diseases and in the treatment.
- Tadvidya Sambhasha, Sambhasha Parishad, Varieties of Parishads, Forty four Vada Margas etc. were taken from Nyaya Darshana only.
- Ten types of Karya Abhinirvritthi Ghatakas viz. Kaarana, Karana, Karyavoni, Karya, Karyaphala, Anubandha, Desa, Kala, Pravritthi and Upaya are also adopted from Nyaya Darshana.
- Tantrayuktis mentioned in Ayurveda are also taken from Nyaya Darshana only.

Ayurveda and Yoga Darshana:

- The Pramanas, Nidra, Smriti, Abhyasa, Eswara Samanatwa, Ashtasiddhis etc are mentioned equally in both the sciences.
- The statement “Yogah Saha Samyoga Uchyate” mentioned in Ayurveda is according to Yoga Darshana.
- The methods and ways for practicing Yoga mentioned in Charaka are also taken from Yoga Darshana.
Ayurveda and Poorva Mimamsa Darshana:

- *Poorva Mimamsa* believes that a person will attain *Moksha*, if he follows the rituals like *Yagna*, *Yaga* etc.
- In Ayurveda Charaka states that health is important to attain the *Purushardhas* viz. *Dharma*, *Ardha*, *Kama* and *Moksha*. Without sound health nobody can reach the ultimate goal.

Ayurveda and Uttara Mimamsa or Vedanta Darshana:

- While describing the theory of ‘*Loka Purusha Samya*’ Acharya Charaka stated that *Brahma Padardha* mentioned in *Vedanta Darshana* is the *Antaratma* in the body.
- The effects of the past deeds, Theory of *Panchikarana*, *Srishti*, *Laya*, *Jivatma*, *Moksha* and the techniques to attain *Moksha* etc. were described by Charaka as mentioned in *Vedanta Darshana*.

Ayurveda and Jaina Darshana:

- Various *Pramanas*, *Karma*, *Bandha*, *Moksha*, *Jiva Bahutwa*, *Akasa*, *Kala*, *Ahimsa*, *Dharma*, *Adharma* etc. are identical in Ayurveda and Jaina Darshana.

Ayurveda and Buddha Darshana:

- The prominent theory of *Boudhha Darshana* is ‘*Kshana Bhangura Vada*’ and the same was described as *Swabhavoparama Vada* in Ayurveda by Acharya Charaka.
- The theory of “*Ahimso Paramo Dharmaha*” of *Boudhha Darshana* has been taken by the Acharyas of Ayurveda and considered *Himsa* is one of the ten sinful acts.

Ayurveda and Charvaka Darshana:

- Ayurveda never accepted the views of Charvaka directly. But Charaka while explaining the protection of health indirectly accepted the views of *Charvaka Darshana*, as under.

  "*Sarvamanyat Parityajya Sareeramanupalyet
  Tadabhave hi Bhavanam Sarvabhavaha Sareerinam*"

  Which means health should be maintained by leaving the other matters aside. If health is not maintained properly one can’t lead a happy life.

  Though Ayurveda has adopted some of the theories from various *Darshanas* to fulfill the aims and objectives it never lost its identity and independence.
Topics of Ayurveda in Sramana Vangmaya
(Jaina – Bouddha literature)

The Sanskrit word Sramana is derived from the Sanskrit verbal root śram “to exert, effort, labor or to perform austerity”. Sramana thus means “one who strives”.

A traditional Sanskrit definition is Sramati tapasyatiti Sramanah. A Sramana is he who exerts himself and performs religious austerities. One of the earliest uses of the word is in Taittiriya Aranyaka (2-7-1) with the meaning of ‘performer of austerities’.

A Sramana (Sanskrit) or Samana (Prakrit and Pali) is a wandering monk in certain ascetic traditions of ancient India, including Jainism and Buddhism.

Several Sramana movements are known to have existed in the 5th century BC. Sramanas adopted a path alternate to the Vedic rituals to achieve salvation, while renouncing household life. Famous Sramana include religious leaders Mahavira and Gouthama Buddha.

Buddhism

- Gouthama Buddha propounded Buddhism in the 6th century BC and he was the contemporary of Mahavira.
- There was a small country in what is now southern Nepal that was ruled by a tribe called the Shakyas. The king of this country was named Suddhodhana, and his wife was the beautiful Maya Devi.
- Maya Devi gave birth to a male child in a small town of Lumbini. They named him Siddhartha, which means “he who has attained his goals.”
- He lived in between 563 – 483 BC.
- He was born in the year 563 BC at Lumbini Vana, which is, located 24 miles away from Kapilavastu, towards Nepal.
- When Buddha was 7 days old, his mother Maya Devi passed away and he grew under the care of Mahapraja pathi Gouthami. Hence he was known as Gouthama Buddha.
- Gouthama Buddha married Yasodhara at the age of sixteen and he was blessed with a son, Rahul.
• In the 29th year of age Gouthama Buddha left his house and wandered for more than six years to find out the root cause of misery and unhappiness of mankind. He sat under Aswattha tree at Gaya and had been in a thoughtful state for 7 days. On the 8th day night i.e. (Vaisakha Purnima day) he radiated with extraordinary quantum of knowledge along with the solution to his problem he had been searching for. Buddha had achieved his enlightenment at the age of 35. Since then that tree and the town Gaya were called ‘Bodhi Vriksha’ and ‘Buddha Gaya’ respectively.

Place where Buddha enlightened (Buddha Gaya)

• Gouthama Buddha propagated Buddhism for more than 45 years in and around India.

• When the Buddha was 80 years old, he told his friend and cousin Ananda that he would be leaving them soon. He went into a deep meditation under a grove of Sala trees and died. His last words were... “Impermanent are all created things; Strive on with awareness.”

• Soon after Buddha’s death or Parinirvana, five hundred monks met at the first council at Rajagrha, under the leadership of Kasyapa. Upali recited the basic code (Vinaya) as he remembered it. Ananda, Buddha’s cousin, friend, and favorite disciple — and a man of extraordinary memory recited Buddha’s lessons (the Sutras). The monks debated details and voted on final versions. These were then committed to memory by other monks, to be translated into the many languages of the Indian plains. It should be noted that Buddhism remained an oral tradition for over 200 years.
- The 4 *Arya Satyas* are equated to diseases. Its cause and cure is as follows
  1. *Duhkha* - *Vyadhi*
  2. *Dosha* - *Vyadhi Nidana*
  3. *Nirodha* - *Arogya*
  4. *Marga* - *Bhaishajya*
- "To do no evil; To cultivate good; To purify one’s mind": This is the teaching of the Buddhas.

**Specialties of Buddhism:**
- Adoption of secularism: Treating all the human beings equally without any
discrimination such as caste, creed, status etc.
- Selection of common language for the propagation
- Insisting upon the work orientation: "Do your duty, without expecting any
thing, the results will be certainly in your favor."

**The Four Noble Truths**
1. Life is suffering;
2. Suffering is due to attachment;
3. Attachment can be overcome;
4. There is a path for accomplishing this.

**The Eightfold Path**
1. **Right view** is the true understanding of the four noble truths.
2. **Right aspiration** is the true desire to free oneself from attachment, ignorance,
   and hatefulness.
   These two are referred to as *Prajna*, or wisdom.
3. **Right speech** involves abstaining from lying, gossiping, or hurtful talk.
4. **Right action** involves abstaining from hurtful behaviors, such as killing,
   stealing, and careless sex.
5. **Right livelihood** means making your living in such a way as to avoid dishonesty
   and hurting others, including animals.
   These three are referred to as *Shila*, or morality.
6. **Right effort** is a matter of exerting oneself in regards to the content of one’s
   mind: Bad qualities should be abandoned and prevented from arising again;
   Good qualities should be enacted and nurtured.
7. **Right mindfulness** is the focusing of one’s attention on one’s body, feelings,
   thoughts, and consciousness in such a way as to overcome craving, hatred,
   and ignorance.
8. **Right concentration** is meditating in such a way as to progressively realize a
   true understanding of imperfection, impermanence, and non-separateness.
   The last three are known as *Samadhi*, or meditation.
Pancha Shila or (five moral precepts)

1. Avoid killing, or harming any living thing.
2. Avoid stealing — taking what is not yours to take.
3. Avoid sexual irresponsibility, which for monks and nuns means celibacy.
4. Avoid lying, or any hurtful speech.
5. Avoid alcohol and drugs which diminish clarity of consciousness.

With the above specialties, Buddhism spread in and around the country very soon.

Branches:

There are two branches in Buddhism as under:

1. Heena Yana
2. Maha Yana

One hundred years after the death of Lord Buddha, it happened due to the difference of opinion in the principles of Buddhism,

- The followers of Heena Yana adopted the principles, as laid down originally, as they were.
- Where as Maha Yana branch followers relaxed certain principles.

International Buddhist Flag

International Buddhist Flag was recognized by all Buddhist Traditions. The Buddhist flag, first hoisted in 1885 in Sri Lanka, is a symbol of faith and peace used throughout the world to represent the Buddhist faith.

The six colors; Blue (Nila), Yellow (Pita), Red (Lohita), White (Sweta), Scarlet (Manjishta), and the mixture of these six colors (Prabaswara) of the flag represent the colors of the aura that emanated from the body of the Buddha when he attained enlightenment under the Bodhi Vriksha.

The horizontal bars signify peace and harmony between all races through out the world while the vertical bars represent eternal peace within the world. In simple terms, the Buddhist Flag implies that there is no discrimination of races, nationality, areas or skin color; that every living being possess the Buddha Nature and all have the potential to become a Buddha.

Therefore, the overall flag represents that: Regardless of race, nationality, division or color, all sentient beings possess the potential of Buddha hood.
Texts of Buddhism:

The Tripitaka (Sanskrit for “three baskets”) is the earliest collections of Buddhist scripture. There are several versions, the oldest and most complete of which is called the Pali Canon. It is believed the many texts within the Tripitaka are the words of the historical Buddha as memorized and chanted by generations of monks. It was not written down until about the 1st century BC.

The texts of the Tripitaka are organized into three major sections

1. Vinaya pitaka (the basic law), containing the rules of communal life for monks and nuns
2. Sutta pitaka (words of the Buddha), a collection of sermons of the Buddha
3. Abhidharma pitaka (the philosophical commentaries), which contains interpretations and analyses of Buddhist concepts.

Ayurveda in Buddha Literature:

• Buddhism has played a significant role in uniting spirituality and medicine in the West. In the East, religion has impacted the field of health and medicine for a much longer time. Eastern medical practitioners never doubted the role of religion in disease; the two have been integrated for thousands of years.

• In the Sutras, we can find analogies that describe the Buddha as the doctor, knowledge of the Dharma as the medicine, Spartan as the nursing staff, and all people as the patients. According to this medical analogy, Buddhism is considered a medication with a broad meaning i.e. a medication that can cure the ailments in all aspects of life.

• Ayurveda came into existence long before the emergence of Buddha (563 - 483 BC) and naturally Buddhist tradition absorbed all previous and prevalent culture and Medicine. Lord Buddha was called as ‘Maha Bhishak’ (Great Physician) because he showed the path of liberation from disease and death.

• The Tripitaka literature is the oldest source to have a glimpse of Indian Medicine in Buddhist tradition.

• Navanitaka is one of the treatises of Ayurvedic literature belonging to Buddhist tradition.

• ‘Saddharma Pundarika’ is a work of 1st century AD and is one of the most sacred texts of Maha Yana. Here also Lord Buddha is praised as ‘Maha Vaidya’
• ‘Buddha Viharas’ were attached to a flower garden and a park and they were fully furnished, and provided with food, drink and appliances for diagnosis and treatment.
• Diseases were classified into 4 types, such as Vatika, Pittika, Sleshmika and Sannipatika.
• 4 types of plants are mentioned as Trina, Gulma, Oshadhi and Vanaspati.
• Various types of administration of drugs such as juice, paste, decoction, infusion are mentioned in Saddharma Pundarika.
• The word Dhatu is used for Pancha Mahabhutas in the Ardha Vinischaya Sutra of Maha Yana. Ex. Pridhvi Dhatu instead of Pridhvii Mahabhuta. Similarly Ap Dhatu, Tejo Dhatu etc. Qualities of each Dhatu also were described.
• In the Maha Yana literature the term Dosha was never used for Vata, Pitta and Kapha but they were designated as Vata Dhatu, Pitta Dhatu and Kapha Dhatu.
• In Buddha Charita also it is mentioned that Dhatu Prakopa leads to diseases and Dhatu Samya results in healthy condition.
• In Suvarna Prabha Sutra, description of seasons, their features, diet and regimen to be adopted during those seasons are available.
• In the Maha Yana literature 9 types of untimely deaths were quoted.
• Anatomical references such as the parts of the body, internal organs, number of bones, joints, arteries, veins, tendons, vital organs etc. are available.
• Physiological references — the process of digestion and metabolism were explained. Quantity of liquid tissues was also being described.

Vinaya Pitaka:
• Vinaya Pitaka is the third work available on Buddhist tradition.
• It gives ample information on the daily life of the monks and nuns.
• It gives the information about Ayurveda, that the science was fully established and flourished with all the eight branches in those days.
• The university of Takshasila was quite familiar where Medicine was taught for 7 years to Jivaka by the great teacher Atreyya. Jivaka was the eminent physician and surgeon of those days.
• In Bhaishajya Skandha different types of drugs, various types of formulations, different kinds of sudation therapies, procedure of bloodletting etc. have been explained.
• Combination of 5 substances (Pancha Bhashaja) such as Ghee, Butter, Honey, Oil and Jaggery was prescribed as a remedy to treat the vitiated Tridoshas.

6 His.Ayur.
1. Ghee & Butter - *Pitta hara*
2. Oil - *Vata hara*
3. Honey & Jaggery - *Kapha hara*

- Decoctions and fresh juices of *Haritaki, Rajani, Ardraka, Vacha, Agasthya, Usira, Mustha* etc. have been mentioned as common remedies. Use of decoctions of *Nimba, Kutaja* and *Aragwadha* were also available.
- *Anjana* and *Dhumapana* procedures and the drugs used were also mentioned.
- Surgical techniques, Post-operative procedures, various types of instruments, sterilization procedures etc. were described.
- Buddhist texts mentioned only four *Mahabhutas* such as *Pridhvi, Ap, Tejas* and *Vayu*.
- Concepts about health and hygiene, cleaning of the surroundings, personal cleanliness such as nail cutting, tooth-brushing etc. were strictly observed.

**Milinda Prasna:**

- *Milinda Prasna* contains valuable information about Buddhist tradition.
- Several hundred years after the Buddha’s death, the Greek ruler King Milinda asks Nagasena, the Buddhist sage, a series of questions. These are known as ‘The Questions of King Milinda’.
- It is in the form of dialogue between Nagasena and King Milinda.
- Medicine was one of the popular subjects of teaching in those days. Milinda himself learned Medicine along with other eighteen subjects.
- Basic principles of Ayurveda were mentioned in Milinda Prasna.
- *Tridoshas* and their derangement, the causative factors, production of various diseases, impact of seasons, irregular diet and dietetics over *Tridoshas, Trividha Ayatanas* (3 types of causative factors) etc. were detailed.
- In this context Nagasena says that disease is caused by eight factors such as *Vata, Pitta, Kapha, Samnipata*, Seasonal imbalance, Irregular diet, Improper treatment and Past actions.
- Development of fetus is indicated in terms of *Kalala, Arbuda, Pesi* and *Ghana*.
- Intake of mixture of Ghee, Butter, Oil, Honey and Jaggery is mentioned as useful in case of poisoning.
- Six tastes (sweet, sour, salt, pungent, bitter and astringent) can be perceived on contact with the tongue.
- Four types of animals – *Andaja, Jarayuja, Swedaja* and *Aupapati*ka etc. were mentioned.
- Therapeutic procedures like Sneha; Sweda, Vamana, Virechana, Vasti, Nasya etc. were described.
- Gomutra Haritaki in case of Jaundice was prescribed.
- It was observed that over eating causes Vishuchika.
- After purification of the body with Vamana, Virechana etc. specific course of diet was given.

Maha Vagga:

- Maha Vagga gives us valuable information regarding disease and treatment.
- Sirah soola can be managed by the external application of oil on the head as well as the administration of the drug into the nostrils i.e. by means of Nasya Karma.
- Intake of oil (Sneha Pana) is advised in case of the distention of abdomen.
- Sudation therapy is indicated for Rheumatism.
- Once Lord Buddha had undergone Sudation Therapy.
- He was also administered purgative drug sprinkled on lotus flower, which exerted its effect on smelling.
- Prescribing Gomutra Haritaki in Anemia and Jaundice is seen in Maha Vagga.
- Fever is once treated with lotus stalks.
- Bloodletting is also indicated in malarial fever.
- Four kinds of filth (dung, urine, ashes and clay) were given for snakebite.
- Gomaya rasa was given as emetic drug.
- Surgical operation of wounds and abscess were also done and they were treated with bandaging, dusting and fumigation.
- Bhagandara was also treated with surgery.
- Classification of drugs have been mentioned as follows

  1. Vegetable
  2. Animal products
  3. Minerals

- Vegetable drugs are again classified in the following groups

  1. Roots Haridra, Ardraka
  2. Bark Nimba, Kutaja
  3. Leaves Patola, Tulasi
  4. Fruits Vidanga, Pippali
  5. Latex Hingu, Sarjarasa

- Maha Vagga gives a detailed account of Jivaka and his miraculous medical and surgical cures.
Chulla Vagga:

- *Chulla Vagga* also gives ample information regarding the therapeutic procedures and the treatments given for various types of diseases in those days.
- *Pitta Dosha* is usually aggravated after rainy season. Hence the combination of five substances (Ghee, Butter, Oil, Honey & Jaggery) was prescribed as a remedy in such a condition.
- It is mentioned that the roots, barks, leaves, fruits and the latex are the useful components of drugs for the medicinal purpose.
- Skin diseases were managed with aromatic drugs. Scabies was treated with powders.
- For eye diseases, eye ointments and collyrium were applied with collyrium rods.
- *Bhashpa Sweda* was indicated in *Amavata*.
- Lord Buddha was not only a philosopher but also a physician practically and served humanity.
- Medicine proved to be an effective tool for the expansion of Buddhism, as the Buddhists offered medical service in their *Viharas*.
- Along with Buddhism, Indian Medicine traveled far and wide and thus had sown its seeds in other countries also.

Jainism

There was a wrong notion in the people that *Sramana Dharma (Jaina Dharma)* belongs to 6th century BC. Some opine that Jainism started from pre-historic period and some believe that it is linked with Vedic period, as the names of certain *Tirdhankaras* were seen in the *Vedic* literature. 24 *Tirdhankaras* were seen in *Jaina Dharma* as follows.

1. Rishabha dev  
2. Ajita  
3. Sambhava

**Rishabha dev 1st Tirdhankara:**

- Jains believed that Rishabha dev was the first *Tirdhankara*.
- He was a king and was born in the Ikshwaku region (Ayodhya).
- He was the man who brought civilization to the Indians.
- He died in the 109th year of age and after that his son Bharat ruled his kingdom.
- References pertaining to Rishabha dev are available in *Rigveda, Yajurveda* and also in Srimad Bhagavad-Gita.
- He was the most popular profounder of *Dharma*.
- Much information is not available about the rest of 22 *Tirdhankaras*.

**Parswanath 23rd Tirdhankara:**

- Parswanath was considered a historical personality and the references about him can be seen in *Brahmanas* also.
- Tulsidas considered and described him as the incarnation of God.
- He was born 250 years before Mahavir.
- He was the son of Aswasen, the king of Kasi and his mother’s name was Lama.
- He married Prabhavathi, the princess of Kausthal.
- At the age of 30, he left all his wealth and all other comforts and became a monk.
- He was in meditation for 83 days on a mountain named ‘Sammegha.’ On the 84th day he acquired wisdom and since then started to propagate ‘Dharma’, till his last breath. He died at the age of one hundred years.
- The parents of Mahavir were the followers of Parswanath.
- He did not have belief in *Vedas*. He believed that everybody is eligible to attain *Moksha*. 
He propagated the following four principles.
1. Should not do any harm.
2. Always speak truth.
3. Should not steal any thing.
4. Should not keep any wealth.

Mahavir 24th Tirdhankara:

- Though he was not the founder of Jainism, he made some reforms in the tradition.
- He was born in the year 599BC in a Kshatriya family.
- He belongs to Kunda village near Vaisali, Muijaffarpur District of Bihar.
- He was the son of Siddhartha. His mother’s name was Videha Datta. She was also known as Trisala and Priyakarini.
- His daughter’s name was Priyadarsana.
- After Mahavir, Ganadhar, Pratiganadhar, Sruta kevali and other disciples succeeded that seat to propagate Jainism in and around our country.

Ayurveda in Jain Literature:

- Similar to Buddhists, Jains also had a distinguished tradition of Medicine known as ‘Pranavaya’
- It was the 12th division of Agama and was prevalent prior to Mahavir, the last Tirdhankara.
- The science of vitality was defined as that which maintains the health of body and mind. The eight branches of Ayurveda were mentioned in Jain literature.
- Jain saints used to preserve their health. Hence it is essential for them to have the knowledge of Medicine in both aspects such as preventive and curative.
- Jains are very much particular in observing the rules of conduct, especially non-violence. In Medicine also they avoided the usage of honey, meat, alcohol etc. and accordingly they modified the formulations also.
- Physicians used to carry the kit containing the required drugs as well as instruments for attending the medical and surgical cases respectively.
- Plants were mentioned in different contexts.
- The list of fruits which were not acceptable by monks and nuns were mentioned. Ex. Mango, grapes, ginger, mustard stalks, wood apple, coconut, lotus, sugar cane, garlic etc.
- Cleanliness of body, speech and mind as well as personal hygiene was carefully observed.
- Many a number of diseases like Boils, leprosy, consumption, epilepsy, blindness, lameness, anemia, diabetes, arthritis, dysentery, vomiting etc. and their treatment were described.
• Plants were classified as *Vriksha, Gaccha, Gulma, Latha, Valli* and *Trina*.
• Similarly description about the animals along with their classification was also seen.
• Metals, Stones, Sulfur, Mica etc. were mentioned and Mercury was not mentioned.
• Methods of treatment like Emesis, Purgation, Fumigation, Anointing were enumerated.
• The only authoritative text available on the *Pranavaya* tradition of Medicine is *Kalyanakarika*, composed by Ugradityacharya. He was the contemporary of Amoghavarsha-I, the Rashtrakuta king (815-877AD).
• Ugradityacharya mentioned the names of famous authors of different branches of Ayurveda as under.

1. *Kayachikitsa* ——— Dasadadhya guru  
2. *Bala roga* ——— Meghanada  
3. *Graha Chikitsa* ——— Siddhasena  
4. *Visha Chikitsa* ——— -do-  
5. *Salya Tantra* ——— Patrapada swami  
6. *Salakya Tantra* ——— Pujyapada  
7. *Rasayana &*  
8. *Vajeekarana* ——— Simhanada  
All the 8 branches ——— Samanthabhadra.

**The contribution of Jain preceptors for the development of Ayurveda**

1. *Ashtanga Sangraha* (*Ashtanga Ayurveda*):
   • It was the work on Ayurveda deals with all the eight branches of the Ayurveda and it was composed by Samanthabhadra.  
   • Ugradityacharya also quoted some references from this book, in his treatise *Kalyanakarika*.
   • Presently this work is not available.

2. *Siddhanta Rasayana Kalpa*:
   • It is also not available.
   • It contained 18000 verses and dealt with all the eight branches of Ayurveda.  
   • This is one of the most important works in Jain literature.  
   • With great difficulty around 3000 verses have been collected from various resources.
   • The treatment mentioned in this book was according to the Jain principle i.e. keeping non violence in view all the formulations were prepared.
3. Pushpayurveda:
- In which 18000 formulations prepared from various types of flowers were incorporated by Samanthabhadra.
- Till now no such work is available in the history of Ayurveda.
- Hence the credit goes to Jain Acharyas for their valuable and unique contribution.

Pujyapada:
- Pujyapada was one of the most popular preceptors of Jain tradition.
- He was well versed in various subjects like Vyakarana, Vaidya, Yoga, Rasasastra and also Darshanas.
- He belongs to Digambara tradition of Jainism.
- The original name of Pujyapada was Devanaudi.
- He was also called Jainendra Buddhhi.
- Cleanliness of body, speech and mind were observed by Jains. Pujyapada composed the following works as under.
  
  To clean the body  -  Vaidya Sastra
  To clean the speech -  Vyakarana Sastra
  To clean the mind  -  Samadhi Tantra

- He was well-versed in herbal as well as mineral drugs.
- The mineral formulations composed by Pujyapada are available in Basawarajeeyam, Ratnaprakasa Sudhakara and also in Kalyanakarika.
- Particularly in Basawarajeeyam, more than 32 formulations were taken from the work of Pujyapada.
- Information regarding the works of Pujyapada is noticed in the 46th inscription, which is available at Nagar Taluk, Shimoga District.

Kalyanakarika:
- Jaina Siddhanta Bhavan, Ara of Bihar, published “Kalyanakarika” in the name of “Akalanka Samhita.”
- It was also known as Vaidya Sara Sangraha (or) Sara Sangraha.
- It was composed by Ugradityacharya
- The author stated that he had taken the references from various Ayurvedic texts like Vagbhata Samhita, Susruta Samhita, Harita Samhita etc.
- Various mineral formulations composed by Samanthabhadra and some powders, pills etc. from Pujyapada were also quoted by Ugradityacharya
- Kalyanakarika contains 20 chapters and Uttara Tantra 5 chapters and last two chapters are known as Parisishta Adhyaya which deals with Arista and Hita, Ahita (wholesome & unwholesome food)
1-3 chapters .................. Basic concepts
4th & 5th chapters .......... Food and drinks including Anupana
6th chapter .................. Dina Charya, Ritu Charya and Rasayana
7th chapter .................. Principles of treatment, diagnosis of the pa-
                          tient, Arrangements in the hospital etc.
8th to 20th chapters ....... Treatment of various disorders
Uttara Tantra 21st chapter.. Kshara karma, Agni karma, Jaluoka Prayoga,
                          Siravedhana
22nd & 23rd chapters ....... Panchakarma
24th chapter ................. Mercury and it’s processing in detail.
25th chapter ................. Deals with various formulations like
                          Haritaki, Shilajatu etc.
• Vaidyamrita, Salakya Tantra, Nadi Pariksha, Nidana Muktavali, Madana
  Kama Ratnam, Netra Prakasika etc. are some of the important works of
  Jaina Acharyas on Ayurveda.
• Jains believed that diseases occur due to sinful acts and so they paid greater
  attention to rituals to prevent diseases.
• In this way Jains contributed to the promotion of Health and Medicine, to a
  considerable extent.

Ayurveda in Koutilya’s Ardhasastra

• Koutilya and Vishnugupta, the names by which the political treatise Ardhasastra identifies its author, are
  traditionally identified with Chanakya.
• Chanakya (c. 350-283 BC) was an adviser and a prime minister to the first Mourya Emperor
  Chandragupta, and architect of his rise to power.
• Two books are attributed to Chanakya: Ardhasastra and Nitishastra which is also known as Chanakya Niti.
• The Ardhasastra discusses monetary and fiscal policies, welfare, international relations, and war strategies in detail.
• Nitishastra is a treatise on the ideal way of life, and shows Chanakya’s in
  depth study of the Indian way of life.
• Ardhasastra is a valuable document on cultural data including the status of
  medicine and physicians and it consists of 15 Adhikaranas, 180 Prakarana
  and 6000 Slokas.
• Along with political science & public administration, stress has been laid on
  medical practice.
Regulation of public health and hygiene is seen in *Ardhasastra*.

The government framed rules for the practice of physicians.

Physicians were given top regard and also Royal privilege in those days.

Classification of physicians, their duties and responsibilities, maintenance of the hospitals and dispensaries, plantation of medicinal plants, line of treatment for various diseases, facilities to be provided to the patients etc. were elaborately described in *Ardhasastra*.

Physicians were highly paid in those days and they should accompany the military expedition duly equipped with the required drugs and instruments.

They should report to the Government regarding the infectious diseases and epidemics as soon as possible or else they were severely punished.

Severe punishment was given to the physicians in case of carelessness, suppression of facts and administration of adulterated drugs.

Error of treatment causing death was more severely punished. A surgeon had to lose a limb, for causing a patient to lose it by his mistaken operation.

Physicians are classified into the following 5 types.

1. Experts in General medicine.
2. Experts in Toxicology
3. Experts in Obstetrics and Gynecology
4. Military surgeons
5. Veterinary doctors

The towns were provided with hospitals and medical stores furnished with sufficient quantity of medicines.

Daily regimen and preventive measures to be taken for the maintenance of positive health was also described in *Ardhasastra*.

Temples, Royal palaces, water ponds, roads and the environment should be kept clean. Persons causing pollution have been severely punished.

Use of poison was common to kill the enemies in those days. Generally food, water, vessels, massage oils, umbrellas, foot wears, seats, bedding etc. can be poisoned by cooks, attendants, masseurs, barbers, and water fetchers. Hence Royal physicians were highly cautious towards the suspected persons and the food was tested on animals, birds and fire prior to be served to the kings.

The concept of ideal diet is also seen in *Ardhasastra*.

Abortions (M. T. P’s) and feticide was considered severe crime in those days.

Medical jurisprudence was also highly practiced in those days. In case of a suspected death, postmortem was conducted to know the cause of death. The persons caused death was severely punished.
Various types of alcoholic preparations have been described in *Ardhasastra* such as *Madaka, Prasanna, Asava, Arista, Maireyaka, Madhu* etc.

- Description of metals like Gold, Silver, *Hingula* (Cinnabar), precious Gems and the method of preparing gold from base metals is also seen in *Ardhasastra*.
- Koutilya mentioned 32 *Tantra Yukitis* in the first chapter of *Ardhasastra*.
- A register of Births and Deaths was maintained.
- A number of diseases like *Kushta, Unmada, Prameha, Sodha, Vishuchika, Jwara* etc. were mentioned.
- Different types of medicinal plants and their cultivation also were mentioned in *Ardhasastra*.
- Plants have been classified as follows.

  | *Sara Daru Varga* | - | *Arjuna, Teak* |
  | *Venu Varga* | - | Different types of bamboo |
  | *Valli Varga* | - | *Nagavalli* |
  | *Valka Varga* | - | *Murva* |
  | *Patra Varga* | - | *Talisa, Bhurja* |
  | *Pushpa Varga* | - | *Palasa, Kusumbha* |
  | *Oushadha Varga* | - | Different Tubers, roots, fruits |
  | *Visha Varga* | - | *Vatsanabha* |

Thus it can be concluded that even in the period of Chandragupta Mourya the Government has taken utmost care regarding the public health and is also aware of it’s duties and responsibilities very well similar to the present era.

**Ayurveda in Rajatarangini**

- *Rajatarangini* is a book written in Sanskrit by Kalhana contains an account of the life and history of Kashmir. It is believed that the book was written sometime during 1147–1149 AD.
- Kalhana is regarded to be Kashmir’s first historian. *Rajatarangini* is one of the most valuable sources for Indian history. Kalhana begins by expressing his views on how history ought to be written.
- The book generally records the heritage of Kashmir. *Rajatarangini* also sheds some light on Ayurvedic practices during the reign of these rulers extending from 2448BC till 1148AD.
- Kalhana was closely associated with the reign of Kashmir King Harsha Dev (1089-1101), as he was the son of Harsha’s Prime Minister Champaka.
- Kalhana was a Brahmin and a devote disciple of Lord Shiva.
- The popularity and practices of Ayurvedic system of health care was established in ancient Kashmir and was well described in some Tarangas of Rajatarangini.
- Description of Kayachikitsa, Salya Chikitsa, Rasasastra and Panchakarma practices are available.
- Description of establishment of hospital in ancient Kashmir during reign of King Ranadatya and queen Ranaramba was also available.
- Spread of epidemics and the management was delineated in the 4th Taranga. Description of certain diseases like Vishuchika and Dandalasaka was available in the 4th and 7th Tarangas respectively similar to Ayurveda.
- It was written that once King Harsha was suffered from Dandalasaka and was managed by adopting the therapeutic procedures like Swedana, Samvahana and Vamana. If the patient is not responded even after adopting the above therapeutic procedures infers that it is incurable.
- In Taranga 8 there was a reference to death of 10,000 soldiers in army of King Jai Singh due to Sita Jwara, which was spread like an epidemic characterized by chills and fever.
- In Taranga 4 King Vajraditya was described that he was suffered from Kshaya roga occurred due to excessive indulgence in sex.
- The eighth Taranga of Rajatarangini also describes the surgical practices and care while describing the surgical dressings of war injured soldiers.
- In Taranga 7, use of fish soup to improve sexual potency for the King Kalash is available. Rasayana and Vajikarana therapies also can be seen.
- In the reign of King Lalitaditya references pertaining to plastic surgery is available such as the Vaidyas used to repair the mutilated noses, ears and cut throats of soldiers.
- The references of toxicological practices are also exists in Rajatarangini. Words like Amrita and Visha are commonly found in its text. Kalakuta Visha and the methods of detection of poisonous food substances are also seen in Rajatarangini.
- In Taranga 8 references related to the existence of pharmacies in those days is also noticed. It also gives the references of converting Mercury into Gold.
- Two English translations of Rajatarangini exist, by Ranjit Sitaram Pandit, and by S.L. Sadhu as on today.

*****
Brahma, the creator of the universe revealed Ayurveda to Daksha Prajapati, and Daksha taught it to the Aswins, the Vedic Gods of medicine, who in turn taught it to Indra. All schools of Ayurveda agree with the divine genealogy up to Indra. But they have given different versions regarding the transmission of the science among mortals as represented in the chart.

According to Charaka Samhita, the first mortal that received the science of life was Bharadwaja from Indra for the redemption of suffering mankind. From Bharadwaja, Atreya and other great sages learnt it and passed on to their disciples’ viz. Agnivesa, Bhela, Jatukarna, Parasara, Harita, Ksharapani etc.

But according to Susruta and Kasyapa Samhitas, the original teachers of these treatises namely Dhanvantari and Kasyapa claim to have received the science directly from Indra along with Bharadwaja.

Dhanvantari or Divodasa taught Ayurveda to his disciples – Susruta, Aupadhenava, Vaitarana, Poushkalavata, Karavirya, Gopurarakshita, Bhoja and others who in turn wrote treatises by their names independently.

Similarly Kasyapa, Vasishta, Atri and Bhrigu learned Ayurveda from Indra and spread it through their sons and disciples for the benefit of mankind.

Preceptors of Ayurveda

Brahma

↓

Daksha Prajapati

↓

Aswins

↓

Indra
A Hand Book of History of Ayurveda

According to Susruta
- Dhanvantari (or)
  - Divodasa
  - Susruta
- Aupadhenava
- Aurabhra
- Vaitarana
- Poushkalavata
- Karavirya
- Gopurarakshita
- Bhoja & others

According to Kasyapa
- Kasyapa
- Vasishta
  - Atri
  - Bhrigu
  - Their sons and disciples

According to Charaka
- Bharadwaja
- Atreya Punarvasu
  - Agnivesa
  - Bhela
  - Jatukarna
  - Parasara
  - Harita
  - Ksharapani
  - and others

Brahma

The Hindus believe that the science of life is of divine origin. Brahma, the first member of the Hindu Triad was the promulgator of Ayurveda, the science of life. It is also known as Upa Veda of Adharvana Veda. Brahma the creator of the universe composed the science of life in 1,00,000 Slokas divided into 1000 chapters, before he created the human beings. In order to suit the short span of life and inadequate intelligence of man it was revised and abridged as eight divisions namely:

- Kayachikitsa (General Medicine)
- Bala Chikitsa (Pediatrics)
- Graha Chikitsa (Demonology)
- Urdhwanga Chikitsa (E.N.T. & Ophthalmology)
- Salya Chikitsa (Surgical treatment)
- Damshtra Chikitsa (Toxicology)
- Jara Chikitsa (Geriatrics)
- Vrisha Chikitsa (Aphrodisiacs)

In the ancient times, other than Indians also believed that the Medical Science was divine in origin. As Indians believed that ‘Brahma’ is said to be the originator of Ayurveda, the Egyptian priests believed that ‘Thoth’ was the inventor of Science in general and Medicine in particular. The king ‘sirus’ and his son ‘Horus’, the Egyptian Sun God are also called the inventors of Medicine.
‘Thoth’, ‘Osiris’ and ‘Horus’ may be compared with Brahma, Daksha and Sun (Bhaskara) as inventors of the art of healing.

The ancient Greeks identified the Egyptian ‘Thoth’, as Hermes.

The Greeks also traced the origin of healing art to ‘Asclepius’ a deified (worthy of worship), son of ‘Apollo’.

Dr. Ryan remarks that all Medicine is derived from God, and without his will it can not exist or be practiced.

The references available in the following treatise viz. Susruta Samhita, Ashtanga Sangraha, Gadanigraha, Bhavaprakasa and Brahmavaivarta Purana suggest that Lord Brahma has direct relationship with the art of healing. Bhavamishra quoted that Lord Brahma composed Brahma Samhita. It is also observed in the Ayurvedic classics that many a number of formulations have been attributed to Brahma as under.

1. Sarvagasundara Ras. — R.S.S.

   “Brahmana nirmitta purvam rasah Sarvanga sundarah”

2. Vatakulantaka Ras
3. Chaturmukha Ras
4. Mritasanjivana Agada
5. Brihadagnimukha Churna
6. Chandraprabha Gutiaka
7. Swayambhuva Guggulu
8. Karnamrita Tailam

Disciples of Brahma:

It was already discussed in the previous pages regarding the descent of Ayurveda according to Charaka, Susruta and Kasyapa. In Brahmavaivarta Purana, Brahma taught Ayurveda to Bhaskara, who in turn taught it to Dhanvantari, Divodasa, Aswins and other 16 scholars. After wards they composed original treatises on Medicine independently.

Vishnu

Vishnu is the second member of the Hindu Triad and is known as preserver. He is a popular deity and recognized as the supreme. His wife is Lakshmi Devi and they live in Vaikuntha. He has one thousand names and the most common name is Narayana, which literally means moving in water.
In *Rigveda*, he is described as striding through the seven regions of the universe in three steps, at the end of *Vamana Avatar*.

Maxmullar compared the stepping of Vishnu as the rising, the culminating and the setting of the Sun. Yaksha and his commentator Durgacharya identified him with the Sun God.

It is observed that praying to Lord Vishnu in the form of “*Vishnu Sahasra Nama*” will cure all the diseases.

It is seen in Bower’s Mss. that, Lord Vishnu formulated *Siddhartha Taila*, and the same can be observed in *Vangasena* and *Chakradutta*. The following formulae can be attributed to Lord Vishnu.

1. *Maha Narayana Taila* - *Chakradutta*
2. *Siddhartha Taila* - *Sata Sloki*
3. *Satavari Taila* - *Gadanigraha*
4. *Sarvanga Sundara Rasa* - *R.S.S.*

**Siva**

Siva is the third member of the Hindu Triad and also known as the destroyer. He is mentioned as the first Godly Physician

“*Pradhamo Vaidyo Bhishak*”

In *Puranas*, Siva is considered to be the first propounder of Medical Science. He wrote a treatise on Medicine called ‘*Ayurgrandha*’ in *Treta Yuga* along with others. Many formulations in the name of ‘*Rudra*’ have been quoted by a number of authors in their works in the later times.

There is a strong belief in Hindus that ‘*Rudrabhisheka*’ cures almost all diseases. In the beginning of *Rasasastra* texts, origin of mercury is given. The work is in the form of conversation between Siva and Parvathi.

*Ayurgrandha*: First medical work and the original source of Medical Knowledge composed by Lord Siva in *Treta Yuga*.

*Rudra mala Tantra*: In which he propounded the use of Mercury as the therapeutic agent.

*Kama Tantra*: A treatise on sexology.

*Shaiva Siddhanta*: This was quoted by *Chakrapanidutta* with ref. to *Siva Guti*.

*Ayurveda*: The treatise deals with the signs and symptoms, diagnosis and treatment of Ayurveda.
The following formulations can be attributed to Lord Siva

1. *Mritasanjivani Rasa* - R.S.S.
2. *Ardhanareeswara Rasa* - R.S.S.
3. *Vaidyanatha Vati* - R.S.S.
4. *Siva Gutika* - *Shaiva Siddhanta*
5. *Chandraprabhavati* - R.C.

**Daksha Prajapati**

Daksha Prajapati was the ‘Manasa Putra’ of Lord Brahma, and he was appointed for the creation of the universe. He was also known as ‘Prachetasa’. He married Prasuti, the daughter of ‘Swayambhuva Manu’ and ‘Sata Rupa’. After getting married Daksha Prajapati was blessed with a daughter ‘Sati Devi’, who married Lord Siva.

\[\text{Swayambhuva Manu} \quad + \quad \text{Sata Rupa (wife)}\]

\[\text{Prasuti (Daughter)} \quad + \quad \text{Daksha Prajapati}\]

\[\downarrow \quad \downarrow\]

\[\text{Sati Devi (daughter)} \quad \text{(Who was married by Lord Siva)}\]

Once Daksha Prajapati conducted the famous sacrifice known as *Daksha Yagna* for which all the Gods were invited except Lord Siva. Sati Devi went to the sacrifice without invitation. Daksha proceeded with *Yagna* without Siva, made Sati Devi to sacrifice her life to the God of fire. To revenge her death, Lord Siva sent Virabhadra to attack *Daksha Yagna*. Daksha’s head was severed from his body; Bhaga Maharshi’s eyes were removed from the orbit, as he uttered nasty words towards Siva. As Pusha laughed at Virabhadra, his teeth were extracted.

![Daksha Prajapati](image)

When the prayer of the Gods pacified Siva’s anger, the goat’s head substituted Daksha’s head by Aswin twins, the *Vedic* physicians. Similarly Bhaga and Pusha were also treated for torn out eyes and the broken teeth respectively. Destruction of *Daksha Yagna* caused many a number of diseases as under.

7 His.Ayur.
Jwara:
In Charaka Samhita Chikitsa Sthana 3rd chapter it was described that the prime cause for the formation of Jwara was the anger of Lord Siva.

Atisara:
As Daksha Yagna was conducted for a longer duration, the cows were utilized as sacrificial animals due to the non-availability of sufficient number of goats. The un-wholesomeness of cows' flesh leads to Agnimandya, which in turn resulted in Atisara.

Rajayakshma:
Rohini, the daughter of Daksha Prajapati married the Moon. As he was so much attached to her, he had excessive copulation, which leads to Rajayakshma. Later on Aswin twins cured him of it.

It can be compared as under

Asclepius ———— Daksha
(Son of Apollo) ———— (Brahma Manasa Putra)

His 2 sons ———— Taught Ayurveda to Aswin twins
Machon & Podalarious ———— Aswin twins

The formulae attributed to Daksha:
1. Maharasnadi Quath
"Maharasnadi Nama Prajapatirvinirmitam" - B.P.

Aswani Kumara

Kasyapa + Dakshayani

(Son) Bhaskara + Surenu

Vaivaswata Manu Yama Yamuna

Horse + Mare

Aswin Twins

Viswakarma

(Daughter)

Bhaskara + Chaya

Savarna Manu Sanaischara
In Brahmanda Purana the birth of Aswin twins is described as under. Bhaskara (The Sun God) also known as Vaivaswana, was the son of Kasyapa and Dakshayani. Viswakarma had a daughter named Surenu and she married Bhaskara. The beautiful young Surenu was not satisfied with her husband, as he was too hot to approach. Still she gave birth to Vaivaswata Manu and the twins Yamuna, a daughter and Yama, a son.

One day while she was with her husband, she felt the heat so unbearable, that she secretly gave life to her shadow and went home to her father. As her father pressed her to go back to her husband again, she assumed the form of a mare and went to Uttara Kuru and began to graze in the field.

The shadow (Chaya) gave birth to two sons and she loved them more than her stepsons. Yama being angered by her partiality raised his foot against her. Then she uttered a curse “Let that leg fall away.” Yama became frightened and explained to his father what had happened.

On meditation he became aware of the fact and insulted the shadow and went out in search of his wife Surenu in the house of Viswakarma. Then Viswakarma made him beautiful and also reduced the severity of hotness. Then the Sun assumed the form of a horse found out his wife in the form of mare and caused the birth of the twins Nasatya and Dasra, who are known as the Aswin twins, the celestial physicians. Later on Yama became the religion incarnator. Vaivaswata Manu became the progenitor of the human race. Yamuna became the river. Sanaischara formed the planet Saturn in the sky. Manu became absorbed in meditation, so that he may be the originator of men in the next Manvantara or creation.

As Aswins were born to the horse and mare they were called Aswin Kumara. They are very much handsome and powerful, unaffected by age and ever young. They live in company of Gods such as Indra, Vayu, Aditya and Vishnu. They drink Soma juice. In fact Aswins are the symbol of ideal healers. The twins represent the schools of Medicine and Surgery as well as theory and practice of science.

Aswins did miracles in Medicine and Surgery as under

1. They made Chyavana quite young and blessed him with long life.
2. Sterile Vardhimati was cured and was blessed with a child.
3. Ghosha, the daughter of Kakshavan was cured of leprosy, was made young and was blessed with a husband.
4. Syava was also cured of leprosy, rejuvenated and was blessed with a good wife.
5. Blindness of Dirghatama was cured.
6. Replaced the severed head of Daksha with goat’s head.
7. Restored lost eye to Bhaga.
8. When Vishphala’s leg was severed in battle, they substituted an iron leg instead.
9. Broken teeth of Pusa were treated.

The works of Aswins

The following works are credited with the authorship of Aswins.

1. Chikitsa Sara Tantra: It is an abstract of the treatment by Aswins and is mentioned in Brahma Vaivarta Purana.
2. Aswani Samhita: It is quoted in Bhavaprakasa, which contains Haritaki Kalpa (or) Doctrine of Chebulic Myrobalan.

The following formulations have been attributed to Aswins.

1. Aswani Haridra Churna - Chakradutta
4. Vardhamana Pippali Rasayana - Harita Samhita
5. Amrita Prasa Avaleha - Bhavaprakasa.

Indra

Indra is the chief of the Gods in heaven. He is the son of Kasyapa Prajapati. He stands in the second position in the Puranas, next to the famous triad Brahma, Vishnu and Maheswara.

His wife is Indrani, popularly known as Sachi Devi and his son is Jayantha. His vehicle is the elephant, Airavata and his weapon is the Thunderbolt made either of Iron or of the bones of sage Dadhichi. In Mahabharata, he is said to have seduced Ahalya, the wife of sage
Gouthama. Then Gouthama uttered a curse “Let the testicles fall off.” Later on Aświns replaced them with goat’s testicles and since then Indra was called as Mesha Vrishana.

In Ramayana, Indra appears to have been defeated by Meghanada, the son of Ravana, king of Lanka as a punishment for seduction.

Lord Indra learned Ayurveda from Aświns and then taught the Kayachikitsa (General Medicine) to Bharadvaja, Atreya etc. Salya Tantra (Surgery) to Dhanvantari; Susruta etc; and Kaumarbhritya (Pediatrics) to Kasyapa.

Formulations:

1. Aindra Rasayana - Charaka Samhita.
2. Haritaki Avaleha - Gadanigraha
3. Dasamooladi Taila - Gadanigraha.

Bhaskara

The descent of Ayurveda has been described in Brahmavaivarta Purana as under. Prajapati, the Lord of creation expounded the science of life to Bhaskara, the Sun God. Based on this he composed his own treatise named Bhaskara Samhita and transmitted the knowledge to his 16 disciples – Dhanvantari, Divodasa, Aświns etc. They, in turn composed their treatises. The tradition is evidently based on the idea that the Sun was considered to be the custodian of health.

“Arogyam Bhaskaradicchet”

In Rigveda also, it is observed that Bhaskara is responsible for the cure of many diseases. Later on worshiping the Sun was resorted to, especially in cases of chronic diseases.

- Surya Namaskaras helps the human beings to restore health.
- Sun-rays destroy the poison as well as micro-organisms.
- Different seasons and time will be noticed due to the movement of the Earth around the Sun.
These seasons are responsible for the variation in the equilibrium of the three biological forces in the body.

*Rasa, Guna, Virya and Vipaka* are influenced by the seasonal variation.

"Brahmatwe srijate chaiva ................................
........................................................................
........................................................................Smritah"

According to *Agni Purana* the God in the universe is only one i.e. Bhaskara, the Sun God. Only he in the form of Brahma creates the universe; preserves in the form of Vishnu and destroys in the form of Siva.

Bhaskara, the Sun God, is the father of Aswin twins.

Bhaskara is described as golden handed, golden eyed, golden tongued and yellow haired. He moves on a golden chariot, drawn by seven radiant horses.

In *Vedic* times the Sun was regarded as the custodian of the eyes.

**Books:**

**Bhaskara Samhita:** A treatise on Medicine by Bhaskara, which is not available now. But the references can be seen in *Brahmavaivarta Purana*.

**Gnanabhaskara:** It deals with different diseases, their causative factors and the treatment. The whole treatise is in the form of conversation between Surya, the Sun God, and his charioteer, Aruna or Kasyapa.

The following formulations can be attributed to Bhaskara.

1. *Bhaskara Lavana Churna* - *Chakradutta*.
2. *Udanka Rasa* - *S.K.D.*
3. *Bhaskara Churna* - *Sarangadhara Samhita*

**Varuna**

Varuna is the son of Aditi, the God of the ocean. He is the lord of the cosmic order who controls the rhythmic movement of nature and continuous flow of rivers.

He is frequently associated with Mitra, the ruler of earth and skies.

Sayana expresses the opinion that Mitra is the God of the day and Varuna is the God of the night.
• According to *Satapatha Brahmana* this earth is Mitra and the heaven is Varuna.
• Varuna has been praised as the scholar of hundreds and thousands of medicines as remedial agents. He is prayed for protection, happiness and long life of mankind.

• The Vedic Mitra is identified with Mithra (Windichman) and the Asura Varuna with Ahura Mazda (Roth) or Varena (Westergadd) of the Zend-Avesta.
• The Varuna corresponds in name to the Uranus of Greeks.
• Ea or Cannes was the earliest (500 BC) known Sumerian deity associated with the art of healing. He was called the ‘Lord of Deep’
• He arises from the sea and is skilled in the art of healing the mankind.
• As God of the sea, he has certain healing powers. The sick get benefited by bathing in the sea.
• Varuna as water God inflicts on man dropsy as a punishment for their sin.
• It was observed that king Harischandra, became a victim of dropsy for violating the order.

**Samudra Manthan or the churning of the ocean of milk**

*Samudra Manthan* or the churning of the ocean of milk is one of the most famous episodes in the *Puranas* and is celebrated in a major way every twelve years in the festival known as *Kumbha Mela*. The story appears in the *Srimad Bhagavata*, the *Mahabharata* and the *Vishnu Purana*

**Churning of the Ocean**

Once, Indra was enjoying the songs sung by *Gandharvas* when sage Vasishta arrived. But, Indra was so immersed in music that he forgot to welcome his distinguished guest. Sage Vasishta was furious by his behavior and went away with anger. When the demon King Bali—the lord of *Patala Loka*, learnt about this incident he attacked *Indra Loka* with a large army. A fierce battle took place in which all the deities were defeated. Bali and his army brought all the wealth to *Patala Loka*. But the
demons were not intended to be the owner of this stolen wealth for too long as the whole wealth got submerged into the ocean. Bali was surprised and asked Shukracharya about the reason. Sage Shukracharya revealed to Bali that he could not enjoy the splendors of deities’ wealth because he had not performed 100 Ashwamedha Yagas.

The deities, after being defeated went to seek Lord Vishnu’s help. Lord Brahma was also present with them. After giving a deep thought to the whole issue, Lord Vishnu advised them to patch up with the demons so that all the wealth could be retrieved from the ocean bed. The deities went to Patala Loka and convinced the demons to participate in the churning of the ocean. When the process of churning of the ocean began, Mandarachal Mountain was used as a churner and the serpent Vasuki as the rope.

Both, the parties immersed the Mandarachal Mountain into the ocean but it sank down, as there was no base upon which it could be placed. So, Lord Vishnu took the form of a tortoise and held the mountain on his back.

Churning of the ocean resulted into the emergence of many things like

1. Sura, goddess and creator of alcohol
2. Apsarasas, various divine nymphs like Rambha, Menaka
3. Kaustubha, the most valuable jewel in the world
4. Uchhaishravas, the divine 7-headed horse
5. Kalpa Vriksha, the wish-granting tree
6. Kamadhenu, the first cow and mother of all other cows
7. Airavata, the elephant of Indra
8. Lakshmi, the Goddess of Fortune and Wealth
9. Parijatha, the divine tree
10. Halahala the deadly poison
11. Chandra, the moon
12. Dhanvantari, the doctor
13. Amrita, the ambrosia

When, poison emerged from the sea bed, neither the deities nor the demons made any claim for it. The poison was so fatal that the whole world started getting inflamed by it. Lord Shiva then drank the Halahala poison and this caused the throat to turn blue. Due to this, he is called Nilakantha. In this way the world was saved. Lord Vishnu accepted goddess Lakshmi as his consort.

The Emergence of Ambrosia

When Dhanvantari appeared with a pot of ambrosia in his hands, a demon named Vrishparva snatched it from him. All the demons then take off to Patala Loka with the pot of ambrosia. Lord Vishnu disguised himself as an enchanting beauty and
went to Patala Loka. There, he found all the demons quarrelling among themselves. Each of them wanted to have his, own share of ambrosia. The demons were stunned by Mohini’s beauty the moment they saw Lord Vishnu in the form of a beautiful lady. Mohini took control of the ambrosia pot and summoned the deities to Patala Loka.

All the deities and demons were made to sit in separate rows. Mohini then started distributing ambrosia to the deities. A demon named Rahu, who had disguised himself as a deity was also sitting among the deities. Hardly had Rahu drink hurriedly some ambrosia then Mohini severed his head with her divine discus, the Sudarshana Chakra, on the information given by the Sun God Surya and the Moon God Chandra. The head, due to its contact with the amrita, remained immortal. To gain revenge on Sun and Moon for exposing this - It is believed that this immortal head occasionally swallows the sun or the moon, causing eclipses. Then, the sun or moon passes through the opening at the neck, ending the eclipse. Shiva kept Chandrama within the lock of his hair. Meanwhile, Rahu too came chasing Chandrama and Lord Shiva wore his head as a garland in his neck.

The story represents the spiritual endeavor of a person to achieve self-realization through concentration of mind, withdrawal of senses, control of desires and practice of austerities and asceticism.

**Lord Vishnu Incarnation as Dhanvantari:**

Lord Vishnu took his thirteenth incarnation as Dhanvantari. He manifested from the ocean holding a vessel filled with ambrosia. He was the propounder of medicinal science.

*****

Dhanvantari
4th Chapter

The Samhita period

- Ayurveda, the science of life is eternal, permanent and it has no beginning.
- Lord Brahma revealed Ayurveda to Daksha Prajapati, who in turn taught to Aswins where from it passed to Indra. Sage Bharadwaja was the first mortal who learned the life science from Lord Indra.
- The descent of Ayurveda from Lord Brahma to Indra can be called as Divine origin. The period up to Indra was also known as Vedic period.
- Bharadwaja taught Ayurveda to Punarvasu Atreya and he in turn taught it to his disciples Agnivesa, Bhela etc. They started writing treatises on their names. That was the beginning of Samhita period. The period extended from the time of Sage Bharadwaja to the time Acharya Vagbhata can be treated as the Samhita period.
- During that period a number of treatises were written by various Acharyas on different topics of Ayurveda.
- Samhita means the authentic text on a particular subject. For Eg: Charaka Samhita, Susruta Samhita and Kasyapa Samhita.
- Even though all these works dealt with the eight branches of Ayurveda, Charaka Samhita is the authentic work on Kayachikitsa, where as in Susruta Samhita, Surgical branch of Ayurveda is stressed. Similarly Kasyapa Samhita deals specially with Bala Roga. In this way during Samhita period a number of Samhitas were written on all the eight branches of Ayurveda.
- As per the available evidence the Samhita period may be fixed from 1500 B.C. to 4th or 5th A.D.

The condition of Ayurveda during Samhita period

- During Samhita period overall development of Ayurveda took place.
• The sages of highest qualities who learned Ayurveda from Indra and others, taught it to their disciples and encouraged them to compose treatises.
• In this way various traditions like Atreya, Dhanvantari, Kasyapa etc. came into existence.
• As man cannot be called the perfect personality without all the ‘Shadangas’ (Head, Body & Limbs) the treatise of Ayurveda also cannot be called Samhita, if it doesn’t contain the eight branches of Ayurveda.
• Hence our ancient Acharyas took care in composing their works and tried to incorporate all the eight branches of the science. But according to the individual’s taste and interest, they have given importance to a particular branch.
• So, the students of Ayurveda, by the study of any one of the Samhitas, can get advanced knowledge of one particular branch.

Eg.
  o Atreya Sampradaya mainly dealt with Kayachikitsa.
  o Dhanvantari Sampradaya – Salya Tantra.
  o Kasyapa Sampradaya – Bala roga.

• In this way during the Samhita period many a number of works on all the eight branches of Ayurveda were composed.
• During Samhita period our Acharyas gave equal importance to preventive and curative aspects of diseases.
• The aim of composing treatises separately on various branches may be to obtain perfect and deep knowledge in that particular branch.
• During Samhita period the kings encouraged the physicians for the development of medical science. Physicians also accompanied the military expeditions. They were highly paid.
• In Mahabharata also it is observed that the physicians were kept in place with due respect and facilities.
• Jivaka, contemporary of Buddha was an eminent physician. Jivaka was brought up by prince Abhaya, and he was sent to Takhasila University to study medicine, and later he became the court physician of Bimbisara. This indicates the importance given to the physicians by the kings of Samhita period.
• During Samhita period, the kings not only encouraged the physicians but also were interested in learning medical science, and they in turn taught it to their disciples. Eg: Divodasa, King of Kasi was the preceptor of Susruta.
• During the Samhita period Ayurveda flourished and the greatest treatises were composed, which are useful for generations together.
Atreya

- According to Charaka, Atreya was a great teacher of Kayachikitsa. He was the son of Atri Maharshi.
- He learned the science of life from the Sage Bharadwaja and taught it to his disciples Agnivesa, Bhela, Jatukarna, Harita, Ksharapani etc.
- He is also known as Bhagawan Atreya, Punarvasu Atreya, Krishnatreya and Chandrabhaga.
- ‘Bhagawan’ means the possessor of knowledge of creation and dissolution of the world; birth and death of creatures and also both material and spiritual sciences. As Atreya possessed all the above he is known as ‘Bhagawan Atreya’.
- The designation ‘Punarvasu’ may be significant because Atreya was born during the dominance of ‘Punarvasu Nakshatra’.
- The words ‘Atreya’ and ‘Punarvasu’ are used together in the Charka Samhita and also in Kasyapa Samhita.
- ‘Krishnatreya’ seems to be his most popular title. Mahabharata refers to Krishnatreya as the famous teacher of Medicine. In Charaka Samhita, Atreya is often called Krishnatreya, probably because he belongs to Krishna Yajurveda Sakha or for having Krishna Varna.
- ‘Chandrabhaga’: He was also known as Chandrabhaga, a son of Chandrabhagi, being the resident on the banks of the river Chandrabhagi.
  o Thus Bhagawan Atreya, Punarvasu Atreya, Krishna Atreya and Chandrabhaga are the names of one single individual sage who was the teacher of the science of medicine and made his disciples to record his teachings.
- Bhikshu Atreya was a Buddhist and was a reputed teacher of ‘Jivaka’, who worked as a professor of medicine at the University of Takshasila. He was not the preceptor of Agnivesa, Bhela etc. In the history of Jivaka also one cannot find any references that Jivaka and Agnivesa studied together. Hence, Bhikshu Atreya and Punarvasu Atreya are not one and the same.

Atreya’s method of teaching:

- Punarvasu Atreya was adjudged as the best teacher from the methods he adopted to instruct his students and for his arrangement and subject classification.
At the beginning of each lesson, Punarvasu Atreya announces the definite subject he proposes to expand. Followed by it Agnivesa, brilliant among his disciplines, puts questions in order to spotlight the salient features of the subject proposed. Afterwards the teacher while expanding these salient points covers the whole field of the proposed subject. Occasionally, there are intelligent interjections by Agnivesa asking for clarification on certain points.

Eg: When the teacher, while explaining the types of Vaidyas as Pranabhisara and Rogabhisara, Agnivesa asks the question, “How can we distinguish a real physician from a quack?” Then Atreya delineates the differences between the quack and the real physician in a most impressive manner.

Similarly after proposing the subject to be expounded, the disciples and other contemporary scholars are invited to offer their individual views. Eg: Discussions on the subject of Vata (12th chapter of Sutrashtana Ch. Samhita) and Rasa (26th chapter) are the best examples of this kind.

After listening to the views of each of the learned persons participated in the discussion, Atreya summarizes the entire deliberations and announces his final opinion.

Atreya’s method of teaching is some what different from Socratic Method, known as teacher-disciple dialogues. It is in its form more ancient and related to the Brahmanical method of discussion.

In the discussions, there is a true spirit of enquiry and desire for discovering and accepting the truth on a subject without hostility.

Atreya taught medical science, regarding the drugs methodically and scientifically. The stage of rational medicine began with Atreya.

The concepts of Tridosha and Pancha Mahabhutas were fully explained by Atreya. The theory of ‘Rasa’ and its influences on metabolic and physiological functions and its application in therapeutics was propounded.

The concept of Rasa, Guna, Virya, Vipaka and Prabhava was explained scientifically. With the above concepts medicine passed on from the empirical stage to the scientific stage.
Prior to Atreya it was believed that insanity may have to a religious or demoniac origin. While describing insanity he observes that neither the gods nor the demons had anything to do with it, and it results due to the irregular diet and regimen and must be corrected by suitable remedies. Hippocrates of Greece also opined that the cause of insanity was no longer divine but human.

Hence Atreya can be called the father of scientific medicine and the first preceptor to teach medicine scientifically and methodically.

**Dhanvantari**

- Even though ‘Brahma’, the creator of the universe taught Ayurveda at first, it is observed that Lord Dhanvantari became more popular as the God of Ayurveda.
- ‘Dhanvantari’ was the physician of the gods in heaven. He appeared in this world as Divodasa, the king of Kasi.
- Dhanvantari was the master of surgery and he taught it to Susruta, Aupadhe-nava, Vaitarana, Aurabhra, Poushalavata, Karavirya, Gopurarakshita etc.
- In the name of Dhanvantari so many references are available as follows.
  (a) ‘Dhanvantari’ arose during the churning of ocean for Ambrosia (*Amrita*).
  (b) King of Kasi
  (c) Divodasa Dhanvantari – preceptor of Susruta etc.,

**The incarnation of Dhanvantari**

```
                                          Kasyapa Prajapati
                                         /          |
                                        |          |
            Diti (sons)                  Aditi (sons)
                                          |
                                    Daityas (or)          Suras (or)
                                          |
                                  Danavas (Dominance of           Gods (Having the dominance
                                           Rajas & Tamas)                of Satwa Guna)
```
Kasyapa Prajapati had 2 wives named Diti and Aditi, and the progeny through Diti were known as Daityas or Danavas who had dominantly the qualities of Rajas & Tamas. The sons of Aditi were called Suras or Gods having the dominance of Satwa Guna.

Both these Suras and Asuras used to quarrel with each other, and once they prayed to Lord Vishnu for their immortality. Then Lord Vishnu suggested that they should churn the ocean to get Ambrosia (Amrita).

During the process of the churning the ocean by the Gods and Demons, along with the Moon, Goddess Lakshmi, Kaustubha, Kalakuta Visha, Airavata and Lord Dhanvantari rose with Amrita Kalasa.

According to Vishnu Purana and Agni Purana, ‘Dhanvantari’ who rose from the ocean was no other than the incarnation of Lord Vishnu.

In Harivamsa, Vayu Purana and Brahma Purana also it was quoted that Lord Vishnu might have born as Dhanvantari, the son of Dhanva, the king of Kasi.

**Genealogical tree of the king of Kasi**

```
Kasa  ⟷ Deerghatapa  ⟷ Dhanva  ⟷ Dhanvantari
      ↓                                      ↓
           Ketuman
      ↓
Alarkas ← Vatsa ← Pratardana ← Divodasa ← Bhimaradha
```

In almost all Ayurvedic treatises, it is seen that Lord Brahma, the creator of the universe, taught the life science to Daksha Prajapati at first. Even though Lord Brahma taught the science of life i.e. Ayurveda at first, it is observed that ‘Dhanvantari’ became more popular as the ‘God of Ayurveda’.

- While the ocean was churned by the gods and demons, Lord Dhanvantari was born, and he was called ‘Abju’ by Lord Vishnu as he was born from water.
- Then Dhanvantari asked Lord Vishnu for special recognition in this universe and also a share in the sacrificial acts. Afterwards Lord Vishnu replied that as he was the last ‘person’ among the gods and as all the portfolios were already filled, his desire would be fulfilled in Dwapara Yuga.
- Hence in Dwapara Yuga, Lord Vishnu incarnated as Dhanvantari and was born as the son of the king of Kasi, Dhanva. Lord Dhanvantari learned the life science from the sage Bharadwaja and he, in turn, taught it to his disciples Susruta, Upadhenava, Aurabhra etc.
• Afterwards Dhanvantari was blessed with Ketuman. Ketuman had one son namely Bhimaradha. Bhimaradha’s son was Divodasa who later on became the king of Varanasi.
• Every year *Aswayuja Bahula Trayodasi* is celebrated as “Dhanvantari Jayanthi” by the world of Ayurveda.
• Though Lord Brahma propounded and propagated the science of life from immortals to mortals, he is not worshiped; where as *Dhanvantari Jayanthi* is celebrated because of his popularity.
• In *Susruta Samhita* it is seen that Dhanvantari, Divodasa and Kasi Raja are the different names of the same individual.

Formulations:

1. *Dhanvantari Ghrita*
2. *Pasupata Rasa*
3. *Mrityunjaya Loha*
4. *Vari Soshana Rasa*
5. *Rasa Rajendra*
6. *Aswagandhadi Taila*
7. *Saptavimsati Guggulu*
8. *Rasabhra Guggulu*

Works of Dhanvantari:

1. *Chikitsa Tatwa Vignana* - Dhanvantari
2. *Chikitsa Darshana* - Divodasa
3. *Chikitsa Koumudi* - Kasiraja
4. *Ajeernamrita Manjari* - Kasiraja
5. *Roga Nidana* - Dhanvantari
6. *Vaidya Chintamani* - Dhanvantari
7. *Dhanvantari Nighantu* - Dhanvantari (A dictionary of Materia Medica and Therapeutics)
8. *Vaidyaka Bhaskarodaya* - Dhanvantari
9. *Chikitsa Sara Sangraha* - Dhanvantari

**Dhanvantari**

*Dhanu* or *Dhanya* means surgery. *Anta* means end. *Dhanvantari* means the science of surgery or the end of surgical (science) knowledge.

**Maricha Kasyapa**

• *Kasyapa Samhita* is one of the ancient available treatises on Ayurveda, composed by Kasyapa.
• It is also known as *Vriddha Jivaka Tantra*.
• In the early days of 20th century the
M.S.S. of *Kasyapa Samhita* was obtained from palace library by pt. Hemraj Sharma, Raja Guru of Nepal and the same was published by Nirmayasagar Press, Bombay in the year 1938 under the supervision of Yadavji Trikamji.

- As per the references quoted in *Kalpadhyaya* it is understood that various disorders have manifested due to the destruction of *Daksha Yagna* only.
- Then Kasyapa *Maharshi* studied the science of life under Indra and composed a treatise known as ‘*Kasyapa Samhita*’ and taught the same to his sons and disciples.
- Jivaka, the son of ‘Ruchika’ and the youngest among all the disciples of Kasyapa composed a treatise on pediatrics at first, and shown it to his preceptor.
- But the galaxy of sages did not accept it, as he was five years old. Then the boy dipped in the waters of the river Ganges at ‘Kanakha’ in the presence of the sages and came out as an old man having wrinkles on the face with grey mustaches and beard. That scene made the sages astonished and then they admired him as a great physician and also accepted his work and called him ‘*Vriddha Jivaka*’.
- Though, *Vriddha Jivaka Tantra* was lost in the beginning of *Kaliyuga*, a copy of it was preserved by one of the *Yakshas* named “Anayasa” for the benefit of mankind.
- In the later days ‘Vatsya’ belonging to *Kasyapa Vamsa* obtained the treatise from ‘Anayasa’ and redacted the same in eight parts.
- In *Kasyapa Samhita* at the beginning and at the end of each chapter it is mentioned as ‘*Ihi hasmaha Bhagawan Kasyapaha*’
- In certain occasions the word ‘Maricha’ is used instead of ‘Kasyapa’. Hence it can be inferred that Kasyapa and Maricha are one and the same.

**Formulations attributed to Kasyapa**

1. *Dasanga Dhupa*  
2. *Abhaya Ghrita*

**Hiranyaksha**

- Literally, ‘*Hiranyaksha*’ means golden eyed person. Most probably ‘Hiranyaksha’ might have golden eyes or yellowish eyes.
- He was a great scholar of Ayurveda and was a contemporer of Atreya, Bharadvaja etc.
- For the redemption of suffering mankind, an international conference was held in the Himalayan region, to which many a number of Indian delegates like Angira, Jamadagni, Vasishtha, Kasyapa, Bhikshu Atreya, Bharadvaja, Viswamitra and the foreigners like Hiranyaksha, Paingi, Pulastya,
Kaikasaya etc. attended. The congress elected the Sage Bharadvaja and sent him to Indra, the king of Gods to learn the science of life.

- Hiranyaksha was also one of the delegates that participated in the international conference held at the Himalayan region for the redemption of suffering mankind.
- Hiranyaksha belonged to Europe. After getting the knowledge from Bharadvaja, he spread the same in his country and hence he was called the first scholar of the European Medicine.
- As he was a great scholar, (he was recognized by Punarvasu Atreya) he was invited to participate in the seminars and symposia conducted by Punarvasu Atreya.
- In the 25th chapter of *Charaka Samhita, Sutrasthana*, the name of Hiranyaksha can be seen as he participated in the discussion pertaining to ‘Rasi Purushotpatti’ and ‘Rogotpatti’ and condemned the statement of Varyovida.
- Hiranyaksha was also known as ‘Kousika’. It can be understood from the commentary of Chakrapanidutta.
- In *Kasyapa Samhita, Rogadhyaya*, 7 types of diseases were confirmed by Hiranyaksha as under: Vataja, Pittaja, Kaphaja, Dwandaja and Sannipataja
- Srikanthadatta, the commentator of *Madhavanidana* also quoted from *Hiranyaksha Tantra*, in the chapter *Balaragogadhikara* while narrating the symptoms of ‘Sakuni Graha’.

**Gargya**

- Gargya’s name occurs in the list of sages like Krishnatreyya, Karala, Sounaka, Bhadra-Sounaka and Kankayana.
- In *Hasti Ayurveda* of Palakapya, Gargya is further stated to have present in the meeting of Romapada, a friend of Dasaradha.
- According to Dalhana’s quotations, he was contemporary of Nimi, Kankayana etc.
- Hari Shastri Paradkar, editor of Ashtanga Hridaya says that Gargya wrote a treatise on *Salakya Tantra*.

**Bahlika Kankayana**

- References are available that the disciples of Divodasa Dhanvantari such as Aupadhenava, Aurabhra, Susruta, Nimi, Kankayana etc. used to sit nearer to him and hear the discourses.
- Nimi has been accepted as a *Salakin* and his associates can be logically taken to be authors of *Salakya*.
- Charaka has mentioned Kankayana as an eminent physician of Bahlaka Desa after whose name formulations named *Kankayana Gutika* are used for *Arshas* and *Gulma*.
- But unfortunately no treatise of *Salakya* written by Kankayana is now available.

**Varyovida**
- Varyovida was the king of Kasi and also a great scholar of Ayurveda.
- He was the contemporary of Atreya and Kasyapa.
- In *Kasyapa Samhita Rogadhyaya*, the reference of Varyovida is seen. Similarly at the end of the chapter ‘Kukunaka’ it is noticed that Maricha Kasyapa taught pediatrics to the king Varyovida.
- In the 12th chapter of *Charaka Samhita Sutrasthana*, discussion between Maricha and Varyovida pertaining to the merits and demerits of *Vata* is seen, which infers that both of them were contemporaries.
- In the 25th and 26th chapters of *Charaka Samhita Sutrasthana*, it can be seen that Varyovida also participated in the discussions along with the other disciples of Atreya.
- Even though no specific work in the name of ‘Varyovida’ is available, he was one of the great scholars of Ayurveda belonging to the period of Atreya.
- In other treatises of Ayurveda also it can be found that Varyovida, Punarvasu Atreya and Maricha Kasyapa were contemporaries.

**Krishnatreya**
- Krishnatreya’s name occurs in the list of sages like Gargya, Karala, Sounaka, Bhadra-Sounaka and Kankayana.
- There are many formulations ascribed to Krishnatreya in *Charaka Samhita*. Commenting on the *Nagaradi churna*, Chakrapanidutta says that elders take Punarvasu and Krishnatreya as one.
- Krishnatreya is also said to have been a specialist in *Salakya* as quoted by Srikantha and Shivadas Sen.
- It seems that some text authored by Krishnatreya was also there which is quoted off and on. It contained the chapters related to *Dravyaguna* and *Paribhasha* too.

****
Agnivesa

- Punarvasu Atreyya learned the science of life under the Sage Bharadwaja and imparted the science to Agnivesa, Bhela, Jatukarna, Parasara, Harita, Ksharapani etc.
- Agnivesa was the most intelligent among the six disciples of Atreyya, and was the first man who composed a treatise known as Agnivesa Tantra. It was declared as the best among all the treatises composed by the disciples of Atreyya.
- Agnivesa Tantra originally consisted of 12000 verses. Unfortunately the original text is not available at present. It was redacted by Charaka and thereafter it became popular as Charaka Samhita.
- In total 41 chapters (i.e. 17 chapters from Chikitsa Sthana, 12 Kalpa Sthana, 12 Siddhi Sthana) were lost, which were originally composed by Agnivesa and revised by Charaka. Later on those were redacted by Dridhabala.
- Agnivesa was also known by the names such as Hutasa, Hutasavesa and Vahnivesa. Hutasa and Vahni are the synonyms of Agni.
- In the 44th chapter of Madhavanidana, named Bhagna Nidana (fracture and its pathology), it is observed that Agnivesa was called by the name ‘Hutasa’.
- In the 12th chapter, verse 53 of Charka Samhita - Siddhi Sthana, Agnivesa is referred to as Vahnivesa.
- Chakrapanidutta, while starting the commentary on Charaka Samhita, in Mangalacharana refers to Agnivesa as Hutavesa.
- Dowson in his classical mythology quoted as follows:
  - Agnivesa was the son of Agni, the God of fire.
  - Bharadwaja gave him the ‘Agneyastra’ – the weapon of fire:
  - Which was in turn possessed by Dronacharya, the preceptor of Pandavas
• Some formulations also can be seen in *Gadanigraha* in the name Agnivesa.
  1. *Changeri Ghritam*  2. *Vasadyam Ghritam*

The following works are by him.

1. Agnivesa Tantra – present Charaka Samhita.
3. Nidana Sthana – on pathology

Besides these three, Agnivesa wrote two more historical books viz.,

1. Ramayana Rahasya  2. Ramayana Satasloki.

**Date of Atreya & Agnivesa**

Atreya’s name is mentioned in ‘*Asvadi Gana*’ of Panini’s Sanskrit grammatical work, *Ashtadhyayi*. As Panini’s date was fixed at 7th century BC it is deemed that Atreya and Agnivesa were quite renowned at that time. As Atreya’s teachings are mentioned in *Charaka Samhita*, which belongs to *Upanishadic* period, it is said that Ayurveda is more attached to *Adharvana Veda*. Thus the period of Atreya and Agnivesa may be fixed between the *Adharvana Veda* (1500 BC) and Panini 7th BC, i.e. 1000 BC i.e. in the age of *Upanishads*.

**Bhela**

• Bhela was one of the six disciples of Punarvasu Atreya, and he was the contemporary of Agnivesa.

• As on today, the available treatises written by the disciples of Atreya are *Agnivesa Samhita* and *Bhela Samhita* only.

• According to Burnell, Bhela belongs to Gandhara or Kandahar of Afghanistan, as he repeatedly mentioned the name of *Gandhara Desa*. He was also known as *Bheda*.

• The general out line of the treatise of Bhela agrees with *Agnivesa Tantra*, which contains *Sutra, Nidana, Vimana, Sharira, Indriya, Chikitsa, Kalpa* and *Siddhi Sthanas*.

• In comparison with *Agnivesa Tantra, Bhela Samhita* was concise and mostly in the form of prose rather than verse.

• Similar to *Charaka Samhita & Susruta Samhita, Bhela Samhita* has not undergone any redaction and is available in its original form in a mutilated state, in Tanjore, Saraswati Mahal Library. It was published and edited by
CCRAS under the guidance of Ayurveda Siromani C. Rajarajeswara Sharma and others.

- The Telugu M.S.S. belonging to 1650 AD was published by Calcutta University in Devanagari in the year 1921.
- Some of the verses in Bhela Samhita prove that Chandrabhaga and Punarvasu are one and the same.
- It also gives information regarding the progress and development of toxicology in those days, as the kings and emperors were in constant fear of being poisoned.
- The court physicians, who were well versed in Ashtangas and particularly Agada-Tantra were highly respected.
- The verses mention the name of the ruler of his country, the status of the court physician and the desire of the king to learn the science of toxicology.
- In the chapter ‘Janapada - Vibhaktiya’, it can be seen that new terms are applied to fevers in animals and plants.
  - Fever affecting the cows, dogs - ‘Charana’
  - Matsya (fish) - ‘Indrajala’
  - Sakuna (Birds) - ‘Pramilaka’
  - Sarva Dhanya (all cereals) - ‘Chitraka’
  - Kanda moola, Phala (tubers, fruits) - ‘Dava’
  - Hasti (elephants) - ‘Phalana’
  - Aswa (horses) - ‘Utkarna’
  - Sarvamaya (Different diseases) - ‘Tejas’
  - Others - ‘Artaka (va)’

- In the same chapter he gives an interesting description of the countries and the peculiar diseases prevalent in them.

Matsya + Anna - Kapha Prakopa, Slipada, Galaganda

Matsya – Dakshina Desa (Costal Belt) - Kushta
Masura, Yava, Godhuma, Tila

Uddala – Kamboja Desa - ‘Arshas’
Mamsa, Sura,

Stri, Sahasa - Paschima Desa - ‘Rajayakshma’
Tikshna, Ushna, Abhisyandi Mamsa,
Parvatopatyaka – Bahlika Desa - ‘Balasaka’
Bhela described 8 types of Sudation such as Sankara, Prastara, Seka, Nadi, Drona, Jala, Udakoshta and Kuti. But Charaka gives 13 varieties.

In Bhela Samhita, the following new terms, Pridhvi Kaya, Ap Kaya, Tejas Kaya, Vayu Kaya etc. can be seen.

Similar to Agnivesa Samhita, Bhela Samhita consists of 8 divisions and 120 chapters.

**Jatukarna**

- Jatukarna was also one of the six disciples of Punarvasu Atreya and was the contemporary of Agnivesa, Bhela etc.
- Like Agnivesa and Bhela, he wrote a treatise on medicine known as Jatukarna Samhita or Jatukarna Tantra.
- He was also known as ‘Jaatookarna’.
- Jatukarna Tantra is not available now but it seems that it was available up to Chakrapani’s time.
- Jejjata, Chakrapani, Dalhana, Arunadatta, Vijayarakshita, Srikanthadatta, Shivadas Sen etc. quoted Jatukarna in their works, which indicates that he was a great scholar of Ayurveda.
- Literally ‘Jatukarna’ means ‘bat-eared’. No reference is available that Jatukarna had ears like a bat or whether it was just a proper noun.
- In Satapatha Brahmana, Jatukarna was described as a propounder of Brahma Vidya. He is so great that his name is reverently used to denote a ‘Gotra’.
- It is a great loss for the medical world that the original work of Jatukarna is lost.

**Parasara**

- Parasara was one of the six disciples of Punarvasu Atreya and was the contemporary of Agnivesa.
- He also wrote a treatise named ‘Parasara Samhita’, but it is not available now.
- In ‘Hasti-Ayurveda’, a treatise on the treatment of elephants – it is stated that Rishis namely Achuda, Matanga, Urmimali were invited by Romapada’ to learn ‘Hasti Ayurveda’ under Parasara.
- Another work ‘Takra-Kalpa’, a treatise on pharmaecutics of buttermilk is also ascribed to him.
• Vagbhata, Dalhana, Chakrapani, Hemadri etc. quoted Parasara in their works. Shivadas Sen in his ‘Vyakhya Kusumavali’ also quotes him in several places.
• Susruta, while describing the process of the development of fetus, quoted that according to Parasara umbilicus was the first organ formed in the fetus.
• The word ‘Shat’ is a word to signify the six treatises on medicines as composed by Agnivesa, Bhela, Jatukarna, Harita, Ksharapani and Parasara.
• While discussing ‘Vasti Karma’, the opinion of Parasara regarding the quantity of Vasti Dravya and the number regarding Vasti was also quoted.
• While discussing Vipaka, Vagbhata quoted the opinion of ‘Parasara’ in his work Ashtanga Sangraha.
• Chakrapani also quoted the opinion of Parasara regarding the transformation of body tissues.
• Parasara opined that Siras starts from Guda sthana.
• According to the comments of Shivadas Sen, Parasara Samhita was popular up to 15th century A.D.
• The original work is not available presently. All we know about his works is from the cross references quoted in other works.

**Harita**

• Harita belongs to the galaxy of the six brilliant disciples of Punarvasu Atreya. He also composed a treatise named ‘Harita Samhita’. The original work is not available now.
• By the name ‘Harita’, there was an eminent scholar who was the disciple of the great sage ‘Jabali’ and was the author of Dharma Sastra and Smriti books. It is very difficult to conclude that the son of Jabali has become Atreya’s disciple.
• Another Harita was quoted by Vagbhata who was not concerned with the author of Harita Samhita.
• Harita, the disciple of Atreya was quoted in many famous medical works viz., Tatwachandrika, Tatwapradeepika, Bhavaprakasa, Chikitsakalika, Charaka Samhita, Susruta Samhita, Commentary of Shivadas Sen.
• In the year 1887 ‘Harita Samhita’ was published from Calcutta.
• The language and the style of presentation doesn’t look like the language of Agnivesa period. It might have been written in the later period by someone under name Harita.
Ksharapani

- Ksharapani was also one of the six disciples of Punarvasu Atreyā.
- He was the colleague of Agnivesa, Bhela, Jatukarna etc.
- Along with his colleagues he also composed a treatise known as ‘Ksharapani Samhita’.
- The original work is not available presently.
- Many other authors like Susruta, Vijayarakshita, Shivadas Sen also liberally quoted him.
- The prognostic aspects of ‘Sodha’ described by Ksharapani was quoted by Vijayarakshita in his commentary ‘Madhukosa’ on Madhavanidana.
- Similarly the features of Balasa Jwara mentioned in Ksharapani Samhita was quoted by Susruta.
- Vagbhata also quoted Ksharapani in his Ashtanga Hridaya, while describing Rakta Gulma.
- Shivadas Sen has taken the formulation ‘Pippalyadi Leha’ for Pitta Kshayaja Kasa from Ksharapani Samhita.
- It is a known fact that every disciple of Atreyā has written one treatise each in their respective names but presently only Agnivesa Tantra and Bhela Samhita are available to us.

Susruta

- In Susruta Samhita it is mentioned that Divodasa, the king of Kasi, who was considered the incarnation of Dhanvantari, taught Ayurveda, the science of life, especially the branch of surgery, to Susruta, Aupadhenava, Aurabhra etc.
- During the period of Susruta, among all the eight branches of Ayurveda, Salya Tantra was given the top priority. Divodasa belonged to royal family, and there was the need of treating the soldiers during the war.
- Dhanu or Dhanva means surgery. Anta means end. Dhanvantari means the master of surgery. Those who learned Salya Tantra are called ‘Dhanvantari’ and the tradition is known as Dhanvantareya.
- Susruta was the son of Viswamitra, the preceptor of Rama and Lakshmana who taught Military Science – According to Ramayana.
• *Bhavaprakasa* mentioned that Viswamitra sent his son Susruta to Divodasa Dhanvantari to learn medical science.

• *Kaushitaki Brahmana* mentioned Pratardana, son of Divodasa, as proficient in philosophy.
  - Panini (7th century BC) gave the derivation of the term *Susruta* (as a person skilled in surgery).
  - Katyayana (3rd cent. BC) also mentioned Divodasa.
  - In *Milinda Prasna* (2-3rd cent BC) the name Dhanvantari was mentioned.
  - From the above information, in determining the dates of Divodasa and Susruta there are differences of opinion. However, fixing of the upper and lower limits of their period can be done with the available data, and it can be presumed that Divodasa and Susruta might have flourished between 1500-1000 B.C.

• In 34th chapter *Susruta Samhita, Sutrasathan*, it is mentioned that the royal physicians should be attending on the royal families and they should be careful all the time to protect their lives.

• The word “Sousruta Pardhivah” might have been used by the famous grammarian Panini, because of a close relation between the royal physicians and the emperors, of those days.

• The physicians must be well versed in both the aspects of theoretical and practical knowledge. Those who had knowledge only either in theory or practice, are not eligible for medical profession. – *Susruta Samhita*.

• In *Susruta Sarveera* it is mentioned that dissection of the dead body was conducted at first by *Acharya* Susruta. It was stated that every medical student should also conduct dissection of dead body.

• The surgical techniques should be practiced on the flowers and fruits during the course of learning operative surgery.

• Similarly prior to performing ‘Vasti Karma’ one should have practice with the similar type of *Vastiyantra* made of leather.

• Application of Alkalies and the cauterization technique should be practiced on to dead animals during the period of house-surgery.

• Royal physician should be well versed in all the eight branches of Ayurveda along with the knowledge of allied sciences.
Susruta’s Rhinoplasty
(Ref: Himalaya info line Jan – Mar 2007)

From 1769 AD to 1799 AD, in a period of 30 years four mysore wars were fought between Hyder Ali and his son Tipu Sultan, on the one hand, and, the British on the other. As a result of these wars the British learnt two very important Indian techniques – Rocketry and Plastic Surgery. Both these Indian techniques were improved and became globally accepted – first in England and then in other European countries. How the British learnt the art of Indian Plastic Surgery is a fascinating story.

A Maratha cart-driver, Kawasaji, who had served the British and four Tilanges (Indian soldiers of the British army), had been captured by Tipu Sultan of Srirangapatna. After their noses were cut off as a punishment for serving the enemy, they were sent back to the English command.

After some days, when dealing with an Indian merchant, the English commanding officer noticed that he had a peculiar nose and triangular scar on his forehead. On, inquiry, he learnt that the merchant’s nose had been cut off as a punishment for adultery and that he had a substitute nose made by a Maratha Vaidya of the potter caste. The commanding officer sent for the Vaidya and asked him to reconstruct the noses of Kawasaji and four Tilanges.

The operation was performed near Pune in the presence of two English doctors. An illustrated account of this operation was reproduced in the Gentleman’s Magazine of London in October 1794. this description fired the imagination of young English Surgeon J.C.Carpue, who after researching the ‘Indian Nose’, performed two similar operations in 1814 AD successfully. Concurrent translations of Susruta Samhita by Sanskritists of Germany popularized plastic surgery throughout Europe. All replacement operations, which use flaps of skin in the immediate vicinity of the loss are known as ‘Indian plastic Surgery’.

Aupadhenava

- According to Dalhana’s commentary, it is known that Aupadhenava, Vaitarana, Aurabhra, Poushkalavata, Karavirya and Gopura Rakshita were the colleagues of Susruta and the disciples of Dhanvantari.
• Aupadhenava composed a text on *Salya Tantra*, known as *Aupadhenava Tantra*, which is not available now.

• The treatises composed by Aupadhenava, Susruta, Aurabhra and Poushkalavata were considered meritorious and they formed the basis of later compilations.

• Presently *Susruta Samhita* is the only available complete text along with commentaries.

**Aurabhra**

• He wrote a treatise on *Salya Tantra*, named *Aurabhra Tantra*, which is not available now.

• It is also known from *Chikitsakalika* that Aupadhenava and Aurabhra were proficient in the art of surgery.

• From Susruta’s words it is known that *Aupadhenava Tantra* and *Aurabhra Tantra* existed.

• As the quotations are not found in the commentaries on the original texts, it is probable their treatises were not available to medieval authors of medical texts.

• Dalhana quoted that ‘*Dosholpo Ahita Sambhutah*’ – Su. U. 39 was the concept of Aupadhenava.

• ‘*Poushkalavate apuktam ... Aharasya Parandhama Tadagninaranjitam Raktatwam Pratipadyate*’ was the concept of Poushkalavata.

• Dalhana also quoted the concept of ‘Vaitarana’, while discussing treatment of Ashmari.

• Bandages and the surgical techniques which were not mentioned in *Susruta Samhita* were found in ‘Vaitarana Tantra’.

**Bhoja Tantra**

• It is one of the most popular treatise on *Salya Tantra*, composed by Bhoja, who was the disciple of Dhanvantari and the colleague of Susruta. The commentators of Susruta and others, in their works, quoted several references about *Bhoja Tantra*.

• While describing the surgical instruments, Dalhana quoted as ‘*Tadhata Bhojaha — Sastram Vrihimukham Karyamangulani Shadayatam Dwyangulam tasya Vrittam Syat tatphalam Chaturangulam*’ – Su. Su. 8th ch.
• Vijayarakshita quoted the concepts of Bhoja regarding Grahaniroga, Rajayakshma and Murcha.
• Srikanthadatta also quoted the views of Bhoja while discussing Vishpota and Mukharoga.

Karvirya Tantra

Karvirya was also one of the disciples of Dhanvantari. He wrote a treatise on Salya Tantra. He is quoted in Madhukosa, while discussing Atisara.

Gopurarakshita

He was a disciple of Dhanvantari and also the colleague of Susruta, Aupadhenava, Aurabhra, Poushalavata, Karavira etc. Some considered Gopura and Rakshita to be the names of two persons. But it is not true. He was quoted in Tatwachandrika.

Vaitarana

Vaitarana was a disciple of Dhanvantari. As per the reference quoted by Dalhana in his work, Nibandha Sangraha, in the chapter on the extraction of stone, it can be noticed that Vaitarana was a specialist in surgery.

Bhaluki Tantra

Chakrapanidutta as well as Dalhana quoted him in the commentaries on Susruta Samhita. Vijayarakshita and Srikanthadatta have also quoted Bhaluki in their work Madhukosa.

• Similar to Salya Tantra, separate works on Salakya Tantra also existed, among them Videha Tantra, Kankayana Tantra and Sounaka Tantra are the important treatises.

Videha Tantra

It was written by the king of Videha, Janaka. Videha Tantra was also called as Nimi Tantra, which mainly dealt with eye diseases. He was quoted by Dalhana, Vijayarakshita and Srikanthadatta in their works.

• Kankayana (Tantra), Gargya (Tantra), Galava (Tantra), Satyaki (Tantra) etc. were quoted by Dalhana, Vijayarakshita and Srikanthadatta.
Some of the passages from the treatises namely Sounaka Tantra, Karala Tantra, Krishnatreyya Tantra, Chakshusya Tantra were quoted by Chakrapanidutta, Srikanthadatta and Shivadas Sen in their works.

Jivaka

- Jivaka was the eminent physician of Buddha’s time in the 6th century B.C.
- He was born to Salavati, a call girl of Vaisali, and was rejected by his mother. Then he was brought up by the prince “Abhaya” in the royal palace and so he was called ‘Kumara Bachcha’. The word is also having the meaning of ‘Kaumarbhritya’ expert in treating the children.
- He learned Ayurveda from the renowned scholar, ‘Atreya’ at Takshasila, the centre for medical education of those days, for 7 years.
- After the completion of the course he was asked by the teachers, to bring any one of the plants which is not used in medicine. He returned with empty hands and replied that he did not find any such plant. After hearing the answer given by Jivaka, the preceptors were very much pleased and issued the certificate to do medical practice.
- On his way to Rajagaha, the capital of the ancient kingdom of Magadha. (Present day Rajgir, located in Nalanda District, Bihar State - It was a great holy place of the Buddhists. During the days of Mahavira and Buddha, who visited Rajagaha very often, as it was a very flourishing city. It was the venue of the 1st Buddhist Council held immediately after the Nirvana of Buddha, during the time of king Ajatshatru) Jivaka started doing medical practice as the money on hand was exhausted.

- He showed extraordinary proficiency in medicine and surgery.
- A merchant’s wife at ‘Saketa’, who had been suffering from head ache for 7
years was cured of it with ‘Nasya Karma’. He was rewarded a huge amount of money along with a horse-cart and a servant.

- As Bimbisara was suffering from fistula-in-ano, Jivaka prepared a paste and in one application only he was cured. By virtue of that success, he was appointed as Royal physician to Bimbisara.
- At Rajagaha he also performed a cranial operation on a merchant and pulled out two worms. The patient was relieved from chronic head ache.
- At Benarus he performed laparotomy on a merchant’s son, to set right the twisted and obstructed intestines.
- Jivaka also treated the king of Ujjain, Pradyota who was suffering from Jaundice.
- Jivaka treated Lord Buddha for constipation, after a heavy meal, by asking him to smell a medicated lotus flower which acts as a purgative. Lord Buddha’s ailment was relieved by Jivaka with the use of ‘Aghrana Yoga’ (purgative recipe).
- Bouddha Bhikshus suffering from Ajirna were also treated.
- He was reported to have traveled to Egypt at the request of the king Bimbisara and performed cranial operation in the royal family there.
- The principle of neurosurgery, cutting the nerve at its root, for a quick (relief) cure of the disease were recognized by Jivaka.
- Jivaka became popular as a great physician and surgeon of those days.
- He is said to have possessed a herb by name ‘Bhaishajya Raja’ which had the specific property of illuminating the internal organs when it was placed over the body.
- Jivaka’s fame spread far and wide even beyond the borders of India.

Nimi

- Nimi was the first man who composed a treatise on Salakya Tantra, and also known as Nimi Tantra (or) Videha Tantra.
- Acharya Susruta took some reference from ‘Nimi Tantra’ and presented the subject matter related to Salakya Tantra in his work, Susruta Samhita.
- It is known through the historical references that the king ‘Nimi’ and ‘Vaidheha’ are one and the same.
- In Bhagavata, the matter relating to the king Nimi can be seen as under:
  o Once upon a time the king Nimi, Son of Ikshwaku decided to conduct sacrificial act and invited Vasishta Maharshi to perform Yagna.
As he was already invited by “Indra”, he asked king Nimi, to wait for him till his arrival, after attending on Lord Indra.

King Nimi was impatient to wait for a longer period and started ‘Yagna’ with the available sages.

- *Vasishta Maharshi* came from Indra and saw the situation, and got very much annoyed with the king Nimi who started *Yagna* without waiting for him and cursed him to death.

- King Nimi also cursed the same in return, as Vasishta did not follow the *Dharma*.

- Then the soul of Vasishta left his body and entered the womb of ‘Urvasi’ and born as a child with the help of Mitravarana.

- The body of the king Nimi was preserved by the sages till the completion of the *Yagna*.

- Then the sages (churned) massaged the body of Nimi on the suggestion of Gods, and a boy came out from the body. As he was the king by birth he was called ‘Janak’ and as he was born from a ‘body’ (Videha) he was known as ‘Vaideha’. He was also called ‘Midhila’ as he was born due to ‘Manthan’ (Churning).

*****

9 His.Ayur.
Charaka

- Acharya ‘Charaka’ redacted the treatise, Agnivesa Tantra which has became popular as ‘Charaka Samhita’.
- ‘Charaka Samhita’ was the first and fore most authentic text in the literature of Ayurveda. It is one among the greatest trio.
- As per the references available in the Chinese translation of the Buddhist text, ‘Samyukta Ratna Pitahaka Sutra’, it is known that Acharya Charaka was a court-physician of the king Kanishka belonging to 2nd century AD.
- In Vedic times a branch of Krishna Yajurveda was known as ‘Charaka’. Vaisampayana had a disciple Charaka, who himself was known as ‘Charaka’.
- There was another meaning for Charaka i.e. the physician who wanders from place to place offering medical service to the people.
- The word ‘Charaka’ also came to be used for the inferior type of people, commonly a messenger.
- Some opine that Charaka is identified with Patanjali, the author of Mahabhashya and Yoga Sutra. But it is not true.
- In Bhavaprakasa it is described that ‘Charaka’ is a sage, born as the incarnation of ‘Sesha’, the serpent-king and the servant of Lord Vishnu.
- The details pertaining to Charaka, name of his parents, place of birth etc. are not available.

Charaka

- Basing on the external and internal evidences his date may be fixed as under:
  - Acharya Vagbhata (4th to 6th AD) clearly quoted ‘Charaka’; that means he should definitely have lived before Vagbhata.
Many references from Charaka Samhita were available in Yagnavalkya Smrithi (3rd Century A.D.) such as

- The concept of Shaddhatwatmaka Purusha.
- Garbhavakranti (Development of fetus)
- 6 layers of skin.
- 360 bones.
- Anjali Pramana of Dosha Dhatus etc.

Many a number of formulations of Charaka Samhita are mentioned in Navanitaka (2nd Century AD).

Aswaghosha, the contemporary of Kanishka (1st AD), also quoted many references from Charaka Samhita.

Milinda Prasna (2nd BC) has many things similar to those in Charaka Samhita. All these indicate that Charaka may belong to 3rd-2nd century BC.

Internal Evidences

Philosophical background

As the Sankhya Philosophy was dealt with in Charaka Samhita, which is definitely earlier than Sankhyakarika (200 AD), it should have existed before 200 AD.

Religious Condition

Many references from Puranas and Grihya Sutras are available in Charaka Samhita.

Political Condition

In Charaka Samhita, many references of Kings, Samanta, Maharajas etc are mentioned. It was the time when Buddhism was developing i.e. during the period of Mouryas-Sungas (3rd-2nd BC).

Thus on the basis of external and internal evidences, the date of Charaka may be fixed between 3rd and 2nd Century B.C.

- Charaka Samhita occupies a very important place in the history of world’s medical science.
- Since 4th century A.D. onwards many a number of great scholars of Ayurveda, authors, scientists, commentators etc. gave utmost respect to the sage ‘Charaka’.
- Famous commentators like Bhattara Harischandra, Swami Kumara, Yogendranath Sen etc, paid their tributes to Acharya Charaka by naming
their works as Charakanyasa, Charaka Panjika and Charakopaskara respectively. There are as many as 43 Sanskrit commentaries on this work.

- The popularity of this work spread beyond the boarders of our country. In the beginning of 8th Century AD Charaka Samhita was translated into Arabic language.
- According to the Colophon, Agnivesa, on the advice of his preceptor Punarvasu Atreya, composed this work which was subsequently redacted by Charaka and Dridhabala.
- In November 1898 ‘Charaka's Club’ (Medical organization) was established in New York of United States. It was simply known as medico-historico- social club that discussed a range of subjects involving fields like medical-medical history-literature-poetry and more. This club was founded by a group of four doctors Charles. L. Dana, Joseph Colliers, Fredrick Peterson and Barnad Sachs

**Dridhabala**

- Dridhabala was the redactor of Charaka Samhita.
- He was the son of Kapilabala.
- He was the native of ‘Panchanadapura’, belonging to Kashmir.
- ‘Panchanadapura’ means the place where the five streams are conjoined. Now it is known as ‘Panjnor’ which is situated about seven miles to the north of Srinagar, the capital of Kashmir.
- Vagbhata extensively quoted, Dridhabala in his treatise, Ashtanga Sangraha. It suggests that he must have lived one or two centuries earlier. Cultural data fixes him in the Gupta period. Hence 4th century AD should be considered as the period of Dridhabala.
- Seventeen chapters in Chikitsa Sthana, and the entire Kalpa Sthana (12 chapters) and Siddhi Sthana (12 chapters) of the treatise, Charaka Samhita were redacted by Dridhabala.
- Redactor is one who elaborates the concised concepts and concise the elaborated concepts and tries to modernize the most ancient work suitable to contemporary needs.
- Charaka Samhita was originally composed by Agnivesa 1000 BC; revised by Acharya Charaka – 3rd, 2nd century AD; and redacted by Dridhabala in 4th century AD.
- Dridhabala not only completed the 41 chapters, which were lost or left unfinished by Charaka, but also reedited the entire book.
Nagarjuna

Even though direct references are not available as in case of Charaka, most of the historians believed that:

- Acharya Nagarjuna redacted *Susruta Samhita* and also supplemented the last section, *Uttara Tantra*.
- The name of Nagarjuna comes across in many contexts, in the ancient Indian literature.
- More than 14 references are seen in the name of Nagarjuna and about 100 works are attributed to his authorship.

- The following are important references to be noted.
  1. Nagarjuna was the contemporary of king Kanishka. He was the author of a treatise titled ‘*Upaya Hridaya*’.
  2. Nagarjuna is considered *Bodhisattva 13th* and his chief disciple ‘Arya Deva’ is considered the 14th *Bodhisattva* in Chinese tradition.

  - As per the references available in ‘*Harsha Charitra*’ it may be inferred that he was the propounder of a new philosophy of Buddhism, the *Madhyandina* doctrine of *Sunyavada* and Goutamiputra Satavahana or Yagnasri Satavahana (106 to 203 AD) was the friend and disciple of Nagarjuna.
  - Nagarjuna, a Buddhist monk-philosopher and founder of the Madhyamika (“Middle Path”) school, is estimated to have lived between 150-250 CE in south India.
  - Nagarjuna konda, meaning the hill of Nagarjuna, was named after him and it is situated in Macherla Mandal of the District Guntur, Andhra Pradesh.
  - It was a great religious center promoting Brahmanical and Buddhist faiths, molding the early phases of art and architecture affiliated with them. It was an extensive Buddhist establishment nourishing several sects of Buddhism that culminated into the full-fledged Mahayana pantheon.
  - The objects displayed in the museum include carved lime stone slabs, sculptures, inscriptions and other antiquities all assignable to 3rd-4th century AD constitute a majority of the exhibits which include the popular miracles he performed during his life time.
More than 25 works were found in his name, such as

- Madhyandina Karika - Ratnavali
- Vigraha Vyavartini - Suhrulekha
- Dwadasa Mukha Sastra - Maha Prajna paramita Sastra etc.

He was born in a Brahmin family at ‘Vedali’ in the Vidarbha region, a part of ancient Andhra Desa in South India.

In the later period he stayed for some time at Dhanyakataka (Amaravati, Guntur Dt. of Andhra Pradesh) and moved to Sri Parvata (Srisaila).

In the text Prajna paramita Sastra, the description of Herbs, Minerals, science of alchemy, Mantra, Tantra etc. are available.

3. Nagarjuna of Gupta’s period belonged to 4-5th century AD.

4. Nagarjuna, the alchemist (8th-9th century AD) hailed from South India and he was the author of Rasendra Mangala, Kakshaputa Tantra, Yogaratnamala and many other books on magic, alchemy and erotics. He studied at Nalanda University as a disciple of ‘Sarahava’.

5. Nagarjuna (9th-10th AD)

Al-Beruni, the Persian traveler, who visited India between 1017-1030AD quoted that Nagarjuna was a great scholar of Alchemy. He lived about one hundred years before his visit, studied at Nalanda University and also became the dean of the same (Nalanda) University. At that time the dean of Vikramasila University was one of the Naropas from the teachers of ‘Maspia’.

It is very difficult to establish the identity of Nagarjuna the redactor of Susruta Samhita.

In Koutilya Ardhasastra it was noticed that the number of Tantra Yuktis (32) are exactly similar in description available in the original text, Susruta Samhita. Where as in Vagbhata Samhita, the description pertaining to Tantra Yuktis is like that of Uttara Tantra of Susruta Samhita.

The period of Ardhasastra was 3rd Century AD where as the period of Vagbhata was 6th Century AD. Hence, it can be concluded that Susruta Samhita might have been redacted after 3rd but before 6th Century AD (in between 4th & 5th AD). The date of Nagarjuna, who redacted Susruta Samhita, can be fixed at 4-5th century A.D., which was the golden period of India, ruled by Gupta kings.

Most probably he may the author of ‘Rasa Vaiseshika’ and ‘Yoga Sataka’. Many a number of books are in the name of Nagarjuna. Most of them have been translated into Tibetan language, and are available in the Tanjore Library.
Vatsya

- *Kasyapa Samhita*, a treatise of ancient period has remained the only source book on *Kaumarbhritya* till 19th century AD. Though initial arrangement of sections and number of chapters of each section is similar to *Charaka Samhita*, however, subjects dealt are original, some of which are incomparable.

- *Kasyapa Samhita* was lost during the commencement of *Kali Yuga*; a copy of it was conserved by one of the *Yakshas* named ‘Anayasa’ for the advantage of mankind.

- In the later period ‘Vatsya’ belonging to *Kasyapa* family acquired the treatise from ‘Anayasa’ and redacted the same in eight parts.

*****
The reign of Gupta Kings, may be called the golden period of Indian History. In this period medical facilities were improved and for the teaching of Ayurveda, the University of Nalanda was established during the reign of Kumara Gupta I (414-445 A.D.) In this period the old treatises of different disciplines, including Ayurveda were made up to-date after proper redaction.

In the preceding ages the ancient Acharyas had composed voluminous works on different specialties. Hence it is not possible for an ordinary student and the general practitioner to learn the subject by referring various texts. It also took a long time to gain the knowledge of the subject. So, the time demanded concised texts or Hand books, which cover the essentials of all the eight branches of Ayurveda. This need was fulfilled by Acharya Vagbhata. At first he composed a treatise titled ‘Ashtanga Sangraha’ by collecting materials from Charaka Samhita, Susruta Samhita and other available texts.

Afterwards a number of works were composed by various authors in different periods as under:

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tisata</td>
<td>Chikitsakalika</td>
<td>5th cent. AD</td>
</tr>
<tr>
<td>Chandrata</td>
<td>Commentary on Chikitsakalika</td>
<td>6th cent. AD</td>
</tr>
<tr>
<td></td>
<td>Yogaratna Samucchaya</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Susruta Patha Siddhi</td>
<td></td>
</tr>
<tr>
<td>Madhavakara</td>
<td>Rigvinishchaya / Madhavanidana</td>
<td>7th cent. AD</td>
</tr>
<tr>
<td>Vrinda</td>
<td>Siddhayoga</td>
<td>9th cent. AD</td>
</tr>
<tr>
<td>Chakrapani</td>
<td>Chakradutta</td>
<td>11th cent. AD</td>
</tr>
<tr>
<td>Sarangadhara</td>
<td>Sarangadhara Samhita</td>
<td>13th cent. AD</td>
</tr>
<tr>
<td>Bhavamishra</td>
<td>Bhavaparakasa</td>
<td>16th cent. AD</td>
</tr>
<tr>
<td>Yogaratnakara</td>
<td>Author not known</td>
<td>17-18th cent. AD</td>
</tr>
<tr>
<td>Govindadas</td>
<td>Bhaishajya Ratnavali</td>
<td>18th cent. AD</td>
</tr>
</tbody>
</table>
During this period many a number of commentaries on *Brihat Trayee* and *Laghu Trayee* were written. The commentators also expressed their own concepts while writing their treatises. In the same period *Nighantus* also were composed.

Acharya Vagbhata founded the tradition of compilations, which has put an end to the original writings like those of Charaka, Susruta etc. He stands at the juncture of *Samhitas* and *Sangraha Grandhas*.

In conclusion, it may be said that the compilations and commentaries started during the reign of Gupta Kings. The period extending from 5th cent. AD to 15th cent. AD can be treated as *Sangraha period*.

**Charaka Samhita**

- *Charaka Samhita* (by Agnivesa), *Susruta Samhita* (by Susruta) and *Ashtanga Sangrahal/Hridaya* are recognized as *Brihat Trayee* or the greater trio.
- *Charaka Samhita* occupies a very important place in the history of world’s medical science.
- Originally Agnivesa, the most intelligent amongst the disciples of Atreya Punarvasu, composed this work and it was subsequently redacted by Charaka and Dridhabala.
- Even though all the eight branches of Ayurveda have been dealt by the author, this work has become more popular as the authentic text of General Medicine (or) *Kaya Chikitsa*, because of the stress has been laid on this branch.
- That means *Charaka Samhita* is the best book for general medicine.
- *Charaka Samhita* is studied and referred to by the physicians, teachers, research workers and the students of Ayurveda all over the country and abroad.
- More than 40 commentaries were written on this work and it was translated into almost all Indian languages and also into some other foreign languages like Arabic, Persian, Simhali, Nepali etc.
- *Charaka Samhita* has been divided into eight sections and 120 chapters as under.

<table>
<thead>
<tr>
<th>Section</th>
<th>Chapters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Sutrasthana</em></td>
<td>30</td>
<td>Deals with fundamental principles of Ayurveda.</td>
</tr>
<tr>
<td><em>Nidana Sthana</em></td>
<td>8</td>
<td>Etiology, Pathogenesis and diagnosis of diseases.</td>
</tr>
</tbody>
</table>
Ch. 7 & 8 - The Sangraha period of Ayurveda

Sareera Sthana - 8 chapters  Anatomy and physiology
Vimana Sthana - 8 chapters  Principles governing the bodily factors that cause diseases – drugs – medicaments.
Indriya Sthana - 12 chapters  Prognostic signs & symptoms
Chikitsa Sthana - 30 chapters  Treatment of diseases
Kalpa Sthana - 12 chapters  Formulations for emesis, purgation etc.
Siddhi Sthana - 12 chapters  Principles governing the administration of elimination therapies

- Sutrasthana is again subdivided into seven quadrates (Sapta Chatuskas), having 4 chapters each.
1. Bheshaja Chatushka - Quadrates on drugs
2. Swasta Chatushka - Quadrates on regimen for the maintenance of health.
5. Roga Chatushka - Quadrates on description of diseases.
6. Yojana Chatushka - Quadrates on Administration of various therapies

Two chapters at the end are known as Sangrahadhyaya, the concluding chapters.
- In Charaka Samhita the titles of some chapters are based on the first word occurring in the chapter and the others are based upon the subject matter discussed in that particular chapter.
- Four types of Sutras are found in Charaka Samhita such as
  2. Sishya Sutra – Statements/enquires made by the disciple.
  4. Ekiya Sutra – Statements made by individual scholars.
In *Charaka Samhita* subject matter of each chapter is described as follows.

*Uddesya* (statement in brief) followed by *Nirdesa* (detailed expansion of the above statement) & *Lakshana* (definition).

Total text is presented in 3 different forms.
1. Recording the proceedings of a seminar or symposium.
2. Dialogue between the teacher and disciple.
3. Narrative instructions.

At the end of each chapter the contents are given.

The colophons give the information pertaining to the name of the author, name of the redactor, title of the section, title of the chapter and the serial number of the chapter also.

The influence of Buddhism is seen due to incorporation of ‘Swabhavoparama Vada’ in the text of *Charaka Samhita*.

Fundamental principles of *Tridoshas*, *Pancha Mahabhutas* and *Rasa Panchaka*, have been scientifically established in this treatise.

The importance of investigating attitude (examine and then proceed) is also stressed in *Charaka Samhita*.

**Commentaries on Charaka Samhita**

More than 40 Sanskrit Commentaries were written on *Charaka Samhita*. Out of them the following are available partly or in full form.

1. *Charakanyasa* - Bhattara Harischandra - 4th cent. AD
2. *Charaka Panjika* - Swami Kumara - After 4th cent. AD
3. *Nirantarapada Vyakhyaa* - Jejjata - 6th cent. AD
4. *Ayurveda Dipika* - Chakrapani-11th cent. AD
5. *Tatwa Chandrika* - Shivadas Sen -15th cent. AD
6. *Jalpakalpataru* - Gangadhar Sen -19th cent. AD
7. *Charakopaskara* - Yogendranath Sen -20th cent. AD
8. *Charaka Pradipika* - Jyotishchandra Saraswati- 20th cent. AD

**Bhattara Harischandra**

- Bhattara Harischandra wrote a commentary on *Charaka Samhita*, by name ‘*Charakanyasa*’, which is the oldest one.
- The complete commentary is not available and the commentary on 1, 2, 3 & 5 chapters of *Sutrasthana* were published by Mastanadha Shastry of Lahore.
- A manuscript copy of this commentary is in the Madras Govt. library.
- As he was a versatile genius he became popular in the literary as well as medical world.
The literary style and the beauty of presentation of Bhattara Harischandra conferred him a sovereign place among the writers of prose such as Bhasa, Agnimitra, Kuntideva, Kalidasa etc.

Hence he was also praised by the great poet ‘Bana’ in the beginning of Harsha Charitra.

The commentary on Charaka Samhita by Bhattara Harischandra is considered to be the best by many scholars like Indu, Tisata, Maheswara etc.

Tisatcharya stated that it would be arrogance on the part of any one else to attempt to write a commentary on Charaka Samhita, after Harischandra and Jejjata.

Maheswara quoted that Bhattara Harischandra was the court physician of the king Sahasanka who belonged to (375-413 AD) 5th cent. AD.

Bhattara Harischandra flourished before the time of Vaghbata can be proved by the fact that Tisata, the son of Vaghbata quoted Bhattara Harischandra.

Bhattara Harischandra also wrote a commentary on ‘Kharanada Samhita’, which was redacted later on by Indra.

It was available till the time of Arunadatta and Hemadri.

Bhattara Harischandra quoted 42 Tantra Yukti in the beginning of his work. But Acharya Dridhabala mentioned 36 only.

It is really a misfortune of the medical world that his works are not available to the present day generation.

Swami Kumara

Much information is not available pertaining to Swami kumara, the commentator of Charaka Samhita.

His commentary is known as Panjika.

As he quotes, Bhattara Harischandra in his work, it is inferred that he belonged to the later period of Bhattara Harischandra.

Only a portion of the commentary i.e. up to the 5th chapter of Sutrasthana, is available.

A manuscript copy of this work is available in the Government Library, Madras.

The M.S.S. consisting two chapters of Sutrasthana, is available in the Sanskrit library, Calcutta.

Jejjata quoted Swami kumara through which are on can infer that he might have lived in between the period of Bhattara Harischandra and Jejjata i.e. 5th cent. A.D.
Shivadas Sen

- ‘Tatwachandrika’ was the commentary on Charaka Samhita written by Shivadas Sen in the 15th century AD.
- His father’s name was Ananta Sen.
- His native place was ‘Malanchika’, a village in Bengal.
- He was the court physician of ‘Barbara Saha’ who ruled over Bengal from 1456 to 1474 AD. His ancestors also worked as Royal physicians.
- Only a portion of his work on Charaka Samhita i.e. 1 to 27 chapters of Sutras is available in the Royal Asiatic Society Library, Bombay.
- Other works of Shivadas Sen.
  1. Siva Dipika – Commentary on Dravyaguna Sangraha.
  2. Tantra Pradipika.
  3. Commentary on Ashtanga Hridaya.
  4. Commentary on Yogaratnakara.

Jejjata

- Jejjata wrote a commentary on Charaka Samhita known as ‘Nirantarapada Vyakhyā’.
- Next to Bhattachar Harischandra, Jejjata became more popular commentator of Charaka Samhita.
- He was the son of ‘Kaiyyata’. The name ending with ‘ta’ suggests that he belonged to Kashmir.
- As he was the disciple of ‘Vagbhata’, there is no difficulty in fixing his period as 6th cent. AD.
- He wrote a commentary on Susruta Samhita also which was quoted by Dalhana in his work.
- The work of Jejjata was available up to the period of Chandrata, the grandson of Vagbhata.
- The commentary of Jejjata, revised by Haridatta was published by Madras Government Oriental Library.
- The complete work of Jejjata on Charaka Samhita i.e. Nirantarapada Vyakhyā is not available and only the following sections are available at present in the Govt. Oriental library, Madras.

  Chikitsa Sthana - 5th Chapter 71st quotation onwards 23rd chapter 160th quotation

  Kalpa Sthana - 1 to 5 chapters.
Siddhi sthana - 2nd chapter, 7th chapter 
32nd quotation to the end.

- He also wrote a commentary on Ashtanga Hridaya.

Chakrapanidutta

- Chakrapanidutta is the most famous among the commentators of Charaka Samhita.
- The name of his commentary is “Ayurveda Dipika”, which is available completely.
- As per the colophon present at the end of his work it can be inferred that he was the son of Narayana Datta. His elder brother’s name was Bhanu Datta. Both of them were in the service of the Gouda king Nayapala in-charge of Royal kitchen. He was the disciple of Naradatta. He belonged to ‘Londhrvali Kula.’
- Historians fixed Nayapala’s period from 1040-1070 AD. Hence it becomes easy to fix the date of Chakrapani and he belonged to 11th century AD.
- He was the native of ‘Birbhum’ district of Bengal. A temple called Chakrapanee swaralaya exists there, which was built by Chakrapani.
- He wrote a commentary on Susruta Samhita by name ‘Bhanumati’.
- Besides these the following other works are ascribed to him
  1. Chakradutta (or) Chiktisasara Sangraha.
  2. Dravyaguna Sangraha.
  3. Sabda Chandrika
  4. Vyakarana Tantra Chandrika
  5. Vyagradaridra Subhankari
  6. Sarvasara Sangraha

Shivadas Sen wrote commentaries on Chakradutta & Dravyaguna Sangraha.

- As he showed his specialty in writing the commentaries on Charaka Samhita and Susruta Samhita, he was honored as ‘Charaka Chaturanana’ and as ‘Susruta Sahasranayana’.

Yogendranath Sen

- Yogendranath Sen was the son of Dwarakanath Sen, who was one of the brilliant disciples of Kaviraj Gangadhar Roy.
- He was born in the year 1871, in Calcutta, West Bengal and passed away in the year 1918.
- He wrote a popular commentary on Charaka Samhita by name ‘Charakopaskara’.
• It was published in the year 1920 (incompletely).
• At present, it is going to be republished by Swami Lakshmi Ram Trust, Jaipur.
• In the year 1912, he was the president of All India Ayurveda Congress conducted at Kanpur.
• The commentary was written from the 1st chapter of *Sutrasthana* to the 13th chapter of *Chikitsa sthana* only.

**Kaviraj Jyotishchandra Saraswati**

• Kaviraj Jyotishchandra Saraswati wrote a commentary on *Charaka Samhita* by name ‘*Charaka Dipika*’.
• It was published only up to *Sutra sthana*.
• He also belonged to Bengal region.
• He used to contradict the modern views of Mahamahopadhyaya Kaviraj Gananath Sen.
• In his commentary, in a number of places, it can be seen that his views are contradictory to the views of Kaviraj Gananath Sen.

**Susruta Samhita**

• *Susruta Samhita* was one of the ancient and popular treatises of Ayurveda, and especially deals with surgery.
• Originally *Acharya* Susruta composed the text *Susruta Samhita* and later on, Nagarjuna redacted it.
• Originally it contains 120 chapters and were distributed in 5 divisions as under.

\[
\begin{align*}
Sutra Sthana & \quad 46 \text{ chapters} \\
Nidana Sthana & \quad 16 \text{ chapters} \\
Sareera Sthana & \quad 10 \text{ chapters} \\
Chikitsa Sthana & \quad 40 \text{ chapters} \\
Kalpa Sthana & \quad 8 \text{ chapters} \\
\end{align*}
\]

\[120 \text{ chapters} \quad & \quad \text{&} \quad \text{&} \quad 66 \text{ chapters} \]

• The sixth and the last division, *Uttara Tantra* is believed to be an addition to the original text by the redactor, Nagarjuna.
- **Sutra Sthana** (46 chapters) – Covers the fundamental principles of Ayurveda. Preliminary preparations for surgery, various types of surgical instruments, *Kshara, Agni, Jalouka*, Cauterization, collection and preservation of medicinal herbs, administration of emetics and purgatives, various types of liquid and solid food substances have been discussed.

- **Nidana Sthana** - contains 16 chapters and deals with etiology, signs & symptoms, pathogenesis of various disorders like *Vataroga, Ashmari, Arshas, Bhagandara*, Tumors, Fractures, Minor ailments etc.

- **Sareera Sthana** - contains 10 chapters and deals with the embryology and anatomy.

- **Chikitsa Sthana** (40 chapters) - deals with principles of treatment and *Panchakarma* techniques.

- **Kalpa Sthana** – 8 chapters deals with toxicology.

- **Uttara Tantra** (66 chapters) – covers the other subjects, which were not discussed in the earlier divisions.

- **Susruta Samhita** formulates the theory of cosmic evolution, which is a close parallel to that of *Sankhya*.

- Embryonic conception – Susruta clearly stated that the fertilization will take place by the union of spermatozoa and ova, but it is not sufficient for the creation of life. Then intervention of superior agent is necessary.

- Humoral theory – The Humoral theory of Ayurveda was dealt by Susruta in great detail and depth, in three different aspects such as physiological, pathological and therapeutic.

- Susruta explains the various aspects of sleep and also the dreams.

- Time is self-existent and is responsible for creation as well as dissolution of things. He states that life and death are also the functions of time.

- Susruta explained that the fetus takes a recognizable shape in the 2nd month of pregnancy. Spherical shape indicates male, elongated shape indicates female and a tumor like shape indicates a hermaphrodite creature to be born.

- Physiological process of blood circulation has been explained in detail.

- Formation of urine and urinary calculi is explained in a lucid way.

- Origin of diseases and their classification is mentioned as *Adhyatmika, Adhibhoutika* and *Adhidaivika*.

- Similar to Charaka, Acharya Susruta also explained a number of diseases, their diagnosis, symptoms and treatment. Susruta considers *Madhumeha* as the most serious of all infections of urinary tract.

- Susruta dealt with poisons and antidotes in the entire *Kalpa Sthana*.
Surgical procedures have been explained in a systematic way viz. pre-operative, operative and post-operative measures.

- It is declared that practical training is essential for even those who are well versed in theory.
  - Excisions are to be practiced on fruits & Vegetables like *Alabu*.
  - Incisions on bladders and internal organs of dead animals, leather bags etc.
  - Scraping on animal skin covered with hair.
  - Venesection on recently dead animals (or) stalks of water lily.
  - Extraction on the pulp of *Bilwa*.
  - Suturing on thick cloth or leather.
  - Bandaging on full sized human figures of clay.

- Preservation of dead body was also explained.
- Special surgical methods like cauterization (thermal & chemical), blood letting, venesection etc. have been explained.
- *Susruta* described various types of grafting operations (plastic surgery) according to the nature of deformity.
- Treatment for fractures and dislocations.
- Surgical treatment for piles and fistula.
- Surgery for cataract and other ophthalmic conditions.
- Extraction of tooth.
- Training and duties of physicians, surgeons and nurses etc. have been explained in detail.

**Commentators and Commentaries on Susruta Samhita**

1. Jejjata - N.A.
2. Gayadas - *Nyaya Chandrika*
3. Brahma Deva - *Tippani*
4. Bhaskaracharya (or) Bhaskara Bhatt - *Panjika*.
5. Chakrapani - *Bhanumati*
6. Dalhana - *Nibandha Sangraha*.
7. Harana Chandra Chakravarti - *Susrutardha Sandipani*.

**Jejjata**

- As per the available references ‘Jejjata’ was the first scholar who wrote a commentary on *Susruta Samhita*.
- He was the disciple of Vagbhata.
• He was the native of Kashmir region and belonged to 6th century AD.
• He also wrote a commentary on ‘Charaka Samhita’ by name “Nirantarapada Vyakhya”.

Gayadas

Nyaya Chandrika
• Gayadas wrote a commentary on Susruta Samhita by name Nyaya Chandrika.
• Nyaya Chandrika was also known as Naya Chandrika, Chandrika and Panjika.
• Gayadasa’s commentary on Nidana Sthana is available in Bikanir Raja and it was published by Nirmaya Sagar press, Bombay, along with the commentary of Dalhana.
• Gayadasa was the court physician of the king Mahipala in the kingdom of Gouds. (988-1035 AD).
• Gayadasa quoted Jejjata, several times in his commentary. Similarly Dalhana quoted many references from the commentary of Gayadasa. It suggests that he lived after Jejjata but before Dalhana.
• Hence Gayadasa’s period can be fixed as 11th century AD.

Brahmadeva

Tippani
• Brahmadeva wrote a commentary on Susruta Samhita by name Tippani. He belonged to 10th century AD.
• He also wrote a commentary on Charaka Samhita.
• Several references from the commentary of Brahmadeva were quoted by Chakrapanidutta, Dalhana, Shivadas Sen etc in their works.
• Dr. Hornel opined that Brahmadeva was the father of Maheswara, the author of ‘Viswaprakasa’.

Bhaskaracharya (or) Bhaskara Bhatt

Panjika
• Bhaskaracharya was also known as Bhaskara Bhatt.
• He wrote a commentary on Susruta Samhita by name Panjika.
• He belonged to the 11th century AD.
• He was honored by the name “Vidyapati” by Bhoja Raj.
• He also wrote a treatise on Anatomy by name ‘Sareera’.
Chakrapanidutta

Bhunumati

- Along with Charaka Samhita, Chakrapanidutta wrote a commentary on Susruta Samhita by name “Bhunumati”.
- The commentary only on Sutrasthana is available and published by Lakshman Swami Trust, Jaipur under the series of Ayurveda Grantha mala.
- Dr. D.N.P. Chatarji believed that the complete MSS of the commentary ‘Bhunumati’ was available some time back in the Saraswati library, Varanasi and was taken to the British Museum.
- “Blood Circulation” has been elaborately described by ‘Chakrapani’ in his commentary.

Dalhana

Nibandha Sangraha

- The best and the only available full length commentary on Susruta Samhita is Nibandha Sangraha.
- The author of Nibandha Sangraha was Dalhana.
- He was the native of Ankola, near Madhura of Madanka Kingdom.
- He belonged to a traditional Brahmin family and his ancestors were also experts in the field of medical science:
  - His forefathers: Govinda —> Jayapala —> Bharapala —> Dalhana
  - Dalhana was well known to the king Sahalapala Dev.
  - Dalhana stated that he revised the present work after referring the available commentaries on Susruta Samhita by Jejjata, Gayadasa, Bhaskara, Brahmadeva etc.
  - He also mentioned that his work would be useful for many Ayurveda scholars, because of the easier mode of presentation, compared with the others.
  - Dalhana’s use of Bengali words like – Bandhika, Banduke, Tarakshu, Aswataru, Paneeya, Bidala etc. in many places suggests that he belonged to Bengali region.
  - Dalhana did not quote Chakrapani in his commentary and Chakrapani did not quote Dalhana. Some scholars opine that both of them belonged to the same region and may be having professional rivalry.
  - His date can be fixed as 12th century AD.

Haranachandra Chakravarti

- Haranachandra Chakravarti wrote a commentary on Susruta Samhita by name “Susrutardha Sandipani”.

• He was the disciple of Gangadhar Rai.
• His commentary was published in Calcutta in the year 1908.
• He used to conduct surgery as per the procedure laid down in Susruta Samhita.
• He was the president for All India Ayurvedic Congress in the year 1920 conducted at Bombay. He died in the year 1934.

**Vagbhata**

• Vagbhata was the son of Simhagupta and the grandson of Vagbhata.
• He belonged to the region of river Sindhu. 
• His father and grandfather were great scholars of Ayurveda.
• He was the disciple of Avalokita – the chief monk of Mahayana Buddhism.
• He was the author of Ashtanga Sangraha and Ashtanga Hridaya also.
• The author himself says, “By churning the great ocean of medical science, a great store of nectar by name Ashtanga Sangraha was obtained. From that store of nectar has arisen Ashtanga Hridaya for the benefit of less intelligent persons”.
• In Ashtanga Sangraha the name of the author was specifically mentioned as Vagbhata. But later commentators, Jejjata and Indu used the term ‘Bahata” in place of Vagbhata. This is the Prakrit variant of the term Vagbhata,. So, both these terms were used for the same person.
• Tisata the author of ‘Chikitsakalika’, quoted in the colophon at the end of the book, that he was the son of Vagbhata.
• ‘Chandrata’, the son of ‘Tisata’ wrote commentary on Chikitsakalika, but he did not mention the name of Vagbhata in it.
• Based on the internal and external evidence, present day scholars have assigned ‘Tisata’ and ‘Chandrata’ to 10th and 11th century AD respectively. Hence it is impossible to believe that Tisata and Chandrata were the son and grandson of Vagbhata.
• Nilamegha, in his work Tantrayukti Vichara, stated that Jejjata and Indu were the disciples of Vagbhata.
• Plenty of references are found pertaining to Hinduism and Buddhism in Ashtanga Sangraha, which suggest that Vagbhata was born in a Hindu Brahmin family and adopted Buddhism in later life.
Basing on the available internal and external evidence the date of Vagbhata can be fixed between 4th, 5th century AD.

- Vagbhata stated that his work was based on Charaka Samhita, Susruta Samhita etc. It means that he belong to the later period of Charaka and Susruta.
- Ravi gupta, author of Suddhasara was assigned to a period later than Vagbhata. His date is fixed as 650 AD.

Ashtanga Sangraha

- Ashtanga Sangraha is one of the authentic texts on the science of life, and hence it has been grouped under “Bright Trayee” along with Charaka Samhita and Susruta Samhita.
- Acharya Vagbhata was the author of the text, Ashtanga Sangraha.
- The name of the treatise itself suggests that it is a compilation of the eight branches of Ayurveda such as – Kaya, Bala, Graha, Urdhwanga, Salya, Damshtra, Jara and Vrisha.
- The other two texts mentioned in greater trio i.e. Charaka Samhita and Susruta Samhita are called Akara Grandhas. That means they are self authentic where as Ashtanga Sangraha is Prakarana Grandha which means that it was written by quoting the references from the other texts.
- Out of all eight branches of Ayurveda, Acharya Charaka gave top priority to General Medicine, where as Susruta discussed the surgical aspects in detail in his treatise Susruta Samhita. Keeping this in view, Acharya Vagbhata gave equal importance to all eight branches and composed a treatise known as Ashtanga Sangraha.
- The text, Ashtanga Sangraha consists 6 Divisions and 150 Chapters as under.

1. Sutra Sthana - 40 chapters
2. Sareera Sthana - 12 chapters
3. Nidana Sthana - 16 chapters
4. Chikitsa Sthana - 24 chapters
5. Kalpa Sthana - 8 chapters
6. Uttara Tantra - 50 chapters

Reasons for writing the text

- Due to the short span of life in the present era, it is not possible for human beings to study various texts on Ayurvedic literature in detail.
- So, Vagbhata felt the dire necessity of the summarizing text book which caters needs of medical practitioners.
This can be the reason what made Vagbhata to compile a text book comprising of the subject of all the eight branches of Ayurveda collecting from *Charaka Samhita, Susruta Samhita* and other available literature namely *Ashtanga Sangraha*.

**Specialty of the text**

- The subject matter presented in the text by Vagbhata is devoid of irrelevant, elaborate, objectionable statements and repetitions.
- It has been composed by Vagbhata basing on the *Triskandha* viz.
  - *Hetu Skandha* - Causative factors
  - *Linga Skandha* - Signs & symptoms
  - *Oushadha Skandha* - Therapeutics.
- It is devoid of self-contradictory statements.
- *Ashtanga Sangraha* was composed by Acharya Vagbhata without adding or deleting anything to the ancient treatises of Ayurveda.
- But the only change made was altering the arrangement of the subject matter according to his own style.

1. **Sutra Sthana**: Basic principle of Ayurveda preventive measures, diet dietetics classification of diseases and methods of treatments etc.
2. **Sareera Sthana**: Embryology-Anatomy, physiology.
3. **Nidana Sthana**: Etiology, Pathology, Signs & Symptoms, Prognosis etc.
4. **Chikitsa Sthana**: Line of treatment, medicines, diet care of the patient etc.
5. **Kalpa Sthana**: Formulations and methods pertaining to elimination therapy. Principles of pharmacy, weights and measures etc.
6. **Uttara Tantra**: The last section has 50 chapters allotted to the remaining seven branches as follows.
   - **Bala Roga** – 5 chapters
   - **Graha** – 5 chapters
   - **Urdhwanga Chikitsa**
     - **Netra Roga** – 10 chapters
     - **Karna Roga** – 2 chapters
     - **Nasa Roga** – 2 chapters
     - **Mukha Roga** – 2 chapters
     - **Siro Roga** – 2 chapters
   - **Salya Chikitsa** – 11 chapters
   - **Damshtra Chikitsa** – 9 chapters
- Jara Chikitsa — 1 chapter
- Vrisha — 1 chapter.

Commentaries on Ashtanga Sangraha:

Sasilekha

- *Sasilekha* is the only available commentary on *Ashtanga Sangraha* which was written by Indu.
- It is quite elaborate and explains the text clearly and hence it helps to understand the subject matter very clearly.
- Though prior to Indu many commentaries were written, unfortunately none of them have survived.
- Indu also wrote a commentary on *Ashtanga Hridaya* by name “Indumati”.
- He did not furnish any information about himself.
- As he offered prayers to Hindu gods in the beginning of his treatise it can be inferred that he belongs to a Hindu Brahmin family.
- In the commentary, Indu furnished the names of plants and the names being known only in Kashmiri basing on this it can be inferred that he belongs to Kashmir region.
- Kshira Swami (11th century AD) in his commentary on *Amarkosha* quoted Indu. So, Indu’s time is definitely before Kshira Swami. He may belong to 9th or 10th century.

Ashtanga Hridaya

- Both *Ashtanga Sangraha* and *Ashtanga Hridaya* were written by Acharya Vagbhata.
- Some opine that the author of *Ashtanga Sangraha* was Vridhha Vagbhata and the author of *Ashtanga Hridaya* was Laghu Vagbhata.
- The author states that “by churning the great ocean of Ayurveda a great store of nectar, ‘Ashtanga Sangraha’ was obtained. From that store, *Ashtanga Hridaya* has arisen which is more useful to all (classes) categories of students, research scholars as well as practitioners.
- As it is one of the authentic texts on Ayurvedic Science it had attracted the attention of medical men not only within this country but also of neighboring countries such as Arabia, Persia, Tibet and Germany.
- *Ashtanga Hridaya* contains 6 sections and 120 chapters as under:
  1. Sutra Sthana — 30 chapters — Deals with the basic principles of Ayurveda, Daily regimen and seasonal regimen, diet & dietetics etc.
  2. Sharira Sthana — 6 chapters — Embryology, Anatomy, Physiology etc.
3. *Nidana Sthana* – 16 chapters – Etiology, Pathology etc.
6. *Uttara Tantra* – 40 chapters
   - *Bala Roga* - 3 chapters
   - *Graha Roga* - 4 chapters
   - *Urdhwanga* - 17 chapters
   - *Salya* - 10 chapters
   - *Damshtra* - 4 chapters
   - *Jara* - 1 chapter
   - *Vrisha* - 1 chapter

- *Ashtanga Hridaya* was translated into almost all Indian languages. It was also translated into Arabic during the reign of Harun-al-Rashid (773-808 AD);
- Into Tibetan language during the reign of king Krhrisron-dehu. (755-797 AD).
- Luise Hilgenberg and Willibald Kirfel translated it into German and it was published in the year 1941.

**Commentaries on Ashtanga Hridaya**

**Aruna Datta**

- Even though more than thirty commentaries were written on *Ashtanga Hridaya*, most of them are either lost, partly available or remaining M.S.S. in the libraries. Only six are available as on today in the printed form either partly or fully.
- The only available full and the best commentary on *Ashtanga Hridaya* is ‘*Sarvanga Sundari*’ by Arunadatta.
- He was the son of Mriganka Datta who belongs to Bengal region.
- Aruna Datta was a great scholar not only in Ayurveda but also in Sanskrit, grammar and other allied sciences.
- As he was quoted by Hemadri (13-14th century AD), his date may be fixed at 12th or early part of 13th century AD.
- ‘*Sarvanga Sundari*’ is fairly elaborate, explains the meanings with the help of grammar, quoting the references from other texts, provides the different names of the drugs and even common names for their identification. With these merits, it justifies its name and also reflects the knowledge of the author.
• Arunadatta also wrote a commentary on *Susruta Samhita*, but it is not available.
• Dr. Afroach stated in his catalogues catagorum that there were 3 persons in the name of Arunadatta.
  1. Grammarians & *Nighantu Karta*.
  2. Author of *Manushyalaya Chandrika*.
  3. Commentator on *Ashtanga Hridaya* and the son of Mriganka Datta.

**Hemadri**

**Ayurveda Rasayana**

• “*Ayurveda Rasayana*” was the commentary on “*Ashtanga Hridaya*” written by Hemadri.
• He was the son of Kamadeva.
• Hemadri belongs to Maharashtrian *Brahmin* family of *Vatsasa Gotra*.
• He was the chief minister and advisor to the king Mahadeva (1260-71) and his son Ramachandra (1271-1309 AD), the *Yadava* rulers of Devagiri.
• He was a great scholar in many branches of science, especially *Dharma Sastra*.
• He was the author of more than 14 treatises.
• “*Chaturvarga Chintamani*” was one of the best works of Hemadri on *Dharma Sastra*.
• “*Ayurveda Rasayana*, the commentary on *Ashtanga Hridaya* is not available completely. *Sutra Sthana, Nidana Sthana*, first 6 chapters of *Chikitsa Sthana* and *Kalpa Sthanas* are available in the form of Manuscript, and are printed.

**Chandranandana**

**Padardha Chandrika**

• “*Padardha Chandrika*”, a commentary on “*Ashtanga Hridaya*” was written by Chandranandana.
• He was the son of Ravinandana.
• He was a native of Kashmir.
• As per the instructions given by the king of Kashmir, Sakunadeva, Chandranandana composed this work, in the 10th cent AD.
• It was the oldest commentary on “*Ashtanga Hridaya*” and is available in full in the form of Manuscript.
• It was also translated into Tibetan language.
• He also wrote commentaries on “*Charaka Samhita*” and “*Susruta Samhita*” and also on “*Nighantu*”.
Sridasa Pandita

Hridaya Bodhika (or) Hridaya Bodhini

- "Hridaya Bodhika" or "Hridaya Bodhini" is a commentary on "Ashtanga Hridaya" written by Sridasa Pandita.
- He was a disciple of Vasudeva and belongs to Kerala.
- Only the first part of the work (Sutra, Sharira & Nidana Sthana) was printed.
- Sridasa Pandita quoted that another commentary by name ‘Vyakhyasara’ was written by his colleague.
- Both "Hridaya Bodhika" and "Vyakhyasara" have been provided with a short summary in Malayalam called ‘Alpa Buddhi Prabodhana’ written by Srikantha.
- Sridasa Pandita belongs to 14th century.

Shivadas Sen

Tatwa Bodha

- "Tatwa Bodha" is the commentary for the Uttara Tantra of “Ashtanga Hridaya” written by Shivadas Sen.
- He was the son of Ananta Sen.
- He was the court physician of Barbakshaw, Sultan of Bengal (1457-1474).
- Shivadas Sen wrote a commentary on
  
  Charaka Samhita – by name “Tatwa Pradipika”.

  Chakradutta – by name “Chikitsa Sangraha”.

Madhavakara (7th AD)

- Madhavakara belonged to Vanga Desa and was born in the 7th century AD. He was the son of Indukara.
- He was the author of ‘Rigvinishchaya’ and it was popularly known as ‘Madhavanidana’.
- Madhavanidana is primarily a compilation from the earlier works such as Charaka Samhita, Susruta Samhita, Ashtanga Hridaya, Ashtanga Sangraha and Ravigupta’s Suddhasara.
- Even though it is a compilation work, it is an important treatise. Verses on ‘Nidana’ found in several sections of the works of Charaka, Susruta, Vagbhata etc. are quoted in it. They are also arranged in a systematic manner.
- Major contribution of Madhava in his work is the order of arranging the names of diseases in his own style.
- Since the word ‘Kara’ was at the end of his name; he might have belonged to
the Bengal region. The work of Madhava was more popular in Vanga Desa and also most of the authors of the next generations of Bengal followed Madhavanidana.

- As Madhava quoted the verses of Charaka, Susruta and Vagbhata, it is inferred that Madhava definitely belonged to the later period of Vagbhata.
- As per the available references, it is known that Vagbhata belonged to Sindhu Desa. As the printing and transportation facilities were not so good in those days, it took not less than 150 to 200 years for the information to reach Vanga Desa from Sindhu Desa. Hence Madhavakara might have lived 200 years later to Vagbhata.
- Similarly Vrinda Madhava (8-9th AD) composed a treatise named Siddha Yoga Sangraha in which he followed the methodology of Madhavakara.
- In the 8th century AD Madhavanidana was translated in Arabic language by Harmul Rashid.
- Basing on the above facts it can be inferred that Madhavakara lived 150 to 200 years later to Vagbhata and at least 100 years prior to Vrinda Madhava and Harmul Rashid.
- Hence, Madhava’s period can be fixed as 7th century A.D.
- Madhavakara was the first person, who composed a treatise, subject wise.
- In his work, he composed the pathological aspects of a number of diseases pertaining to various branches of Ayurveda such as
  
  * Kaya Chikitsa (2-19, 22-37, 49-54)
  * Bhuta Vidya (20-21).
  * Salya Chikitsa (38 & 55)
  * Salakya Chikitsa (56-60)
  * Kaumarbhritya (61-68)
  * Agada Tantra (69)

- Nidana - (Causative Factors)
- Poorva Rupa - (Premonitory Symptoms)
- Rupa - (Signs & Symptoms)
- Upasaya / Anupasaya - (Wholesome and unwholesome substances used for differential diagnosis)
- Samprapti - (Pathogenesis)
- Upadrava - (Complications)
- Arista Lakshana - (Definite Signs of Death) of the diseases are described in a systematic manner.
• Madhava recognized *Sula* (colic pain) and *Vishpota* (Vesicles or blisters) as independent entities for the first time.

• The names of new diseases appeared for the first time in *Madhavanidana* are *Amaavata, Parinamasoola, Anmadravasula, Medoroga, Sitapitta, Amlapitta, Masurika, Pakshmasata,* and *Yonikanda.*

• Madhavakara probably also wrote the book ‘*Madhava Chikitsa*’ on the treatment of diseases discussed in *Madhavanidana* and the book ‘*Ratnamala*’ on *Dravyaguna.*

• Ayurveda is based on *Triskandha* viz. *Hetu, Linga & Oushadha.* To treat a disease perfectly, it should be properly diagnosed. Keeping this in view Madhava composed a treatise named ‘*Rigvinishchaya*’, in which he quoted the verses of Charaka, Susruta, Vagbhata etc. pertaining to *Nidana, Poorva Rupa, Rupa, Upasaya, Samprapti, Upadrava* and also *Arista Lakshanas* of various disorders.

• The new alignment of the diseases, which were arranged in the work of Madhavakara was followed by his successors like Vrinda Madhava, Chakrapanidutta, Govindadas in their treatises.

• In total 79 diseases have been described in *Madhavanidana.*

• The most important commentaries on *Madhavanidana* are –
  
  1. *Madhukosa* by Vijayarakhsha and Srikanthadatta
  2. *Atankadarpana* by Vachaspati

**Vijayarakhsha & Srikanthadatta**

• Srikanthadatta was the disciple of Vijayarakhsha and they belonged to 12th century.

• Vijayarakhsha wrote a famous commentary on *Madhavanidana* by name ‘*Madhukosa*’.

• He wrote the commentary up to ‘*Ashmari Nidana*’ and passed away.

• Then his disciple Srikanthadatta took the responsibility and completed the remaining part i.e. from *Prameha Nidana,* till the end.

• Except ‘*Madhukosa*’, no other book was in the name of Vijayarakhsha.

• Srikanthadatta also wrote a commentary by name ‘*Kusumavali*’ on Vrinda Madhava’s work – ‘*Siddhayoga Sangraha*’ and it was published by *Anandashram Grandha Mala,* Pune.

• Vijayarakhsha stated that he had taken the references from various works of his ancestors viz. Bhattara Harischandra, Gadadhara, Jejjata, Vangasena, Bhoja, Chakrapanidutta etc.

• Hemadri (13th-14th AD) quoted the references from ‘*Madhukosa*’ in his com-
mentary on *Ashtanga Hridaya*, this fact suggests that Vijayarakshita and Srikanthadatta belonged to 12th century AD.

**Vachaspati Vaidya (14th century AD)**

- Vachaspati Vaidya wrote a commentary on *Madhava Nidana* by name ‘Atankadarpana’.
- He was the son of Pramoda, the royal physician to Hammmera Prabhu.
- He belonged to a *Saiva Brahmin* family.
- His brother Rai Sharma, was a great scholar and he was in the court of the king Mohammed.
- On his brother’s encouragement he studied not only medicine but also philosophy, logic, *Upanishad* and other allied sciences and composed a commentary on ‘*Madhava Nidana*’ for the benefit of all the three categories of students.

**Sarangadhara (13-14 AD)**

- Sarangadhara wrote a popular treatise on medicine known as ‘*Sarangadhara Samhita*’. Along with *Madhavanidana* and *Bhavaprakasa* it has been categorized as ‘*Laghu Trayee*’.
- He also composed a treatise on ‘*Neeti Sastra*’ known as ‘*Sarangadhara Paddhati*’.
- In his work ‘*Sarangadhara Paddhati*’ he gave the particulars of his family as under:
  - He was the eldest son of Damodar and the grandson of Raghavadev.
  - Raghavadev was a great poet in the court of the king of Hammir, who ruled the country Sakambhari in the 13th century AD. Raghavadev was also the author of ‘*Mahaganapati Stotra*’.
- As on today ‘Sakambhari Devi Temple’ can be been which is situated in Ambala Mandal, Haryana State near Kurukshtera.

![The Family Tree](image-url)

---

**The Family Tree**

Raghava Dev

```
Gopal  Damodar  Devdas
```

```
Sarangadhara  Laxmidhar  Krishna
```
It was difficult for the general practitioners to study the voluminous works of Charaka, Susruta etc. Hence the authors and the scholars of Ayurvedic science felt that there was an acute need of short treatises to help them. Keeping this in view most of the authors tried to compose their treatises from 10th century onwards. Sarangadhara also adopted the same principle and wrote his work on medicine, ‘Sarangadhara Samhita’.

Sarangadhara was not only a great physician but also a good poet.

Sarangadhara Samhita

- *Sarangadhara Samhita* was one among *Laghu Trayee*.
- The author of ‘*Sarangadhara Samhita*’ was Sarangadhara the elder son of Damodara and the grandson of Raghavadev.
- The whole treatise consists of 3 divisions, 32 chapters and 2,600 verses.
  - 1st Division - *Poorva Khanda* - 7 chapters.
  - 2nd Division - *Madhyama Khanda* - 12 chapters.
  - 3rd Division - *Uttara Khanda* - 13 chapters.
- *Poorva Khanda* deals with the types of medicinal formulations, examination of the pulse, processing the food items, numerology of diseases, technical terminology, physiology, anatomy, physiology etc.
- *Uttara Khanda* contains 13 chapters and deals with *Panchakarma*, hygienic principles, external applications, ophthalmic treatments etc.
- As the style of presentation was different from that of the other treatises; many commentaries were written on this work by various scholars like Adhamalla, Kasiram Vaidya, Rudra Bhatt etc.

Specialty of this treatise

- Classification of the seasons according to constellations.
- Examination of the pulse.
- Definitions for various technical terms like *Deepana*, *Pachana* etc.
- Detailed classification of diseases.
- *Sodhana*, *Marana* procedures of mineral drugs.
- Importance of *Panchakarma* techniques in the treatment.
- Use of single drug formulations etc.
Commentaries and Commentators on “Sarangadhara Samhita”

<table>
<thead>
<tr>
<th>1. Dipika</th>
<th>Adhamalla</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Gudardha Dipika</td>
<td>Kasiram Vaidya</td>
</tr>
<tr>
<td>3. Ayurveda Dipika</td>
<td>Rudra Bhatt.</td>
</tr>
<tr>
<td>4. A Commentary</td>
<td>Vopadeva</td>
</tr>
</tbody>
</table>

Dipika by Adhamalla

- Adhamalla wrote a popular commentary on Sarangadhara Samhita by name ‘Dipika’.
- He was the court physician of ‘Jaitrasimha’ the king of Hastikantapura situated on the banks of Charmavati River.
- He was also a native of Sarangadhara i.e. Hammirapura in the Sakambhari kingdom.
- Adhamalla showed the unique specialty in presenting the matter. He had interpreted the verses of Sarangadhara in a different way.
  For Eg: “Hridayam Chetana Sthanam” — Sa. Sam. PU. 5/47-50, was quoted by Sarangadhara in the context of respiration.
  But it was interpreted for the functions of the central nervous system by ‘Adhamalla’ in his commentary.
- Adhamalla quoted many references from ‘Rasaratnasamucchaya’ and also from ‘Ratnaprabha’ of Nischalakara, who belonged to 13th century. It suggests that Adhamalla belongs to 14th century AD.

Gudardha Dipika by Kasiram Vaidya

- Kasiram Vaidya was one of the best commentators on Sarangadhara Samhita.
- The name of the commentary was ‘Gudardha Dipika’.
- As per the colophon the following particulars of the author are known:
  - He belonged to the period of the king Sahasa Lema son of Shershaw, who ruled approximately in the year 1550 AD. Hence it is believed that Kasiram Vaidya belongs to 16th century.
- As he quoted the references from
  - Madana Vinoda of 14th century AD.
  - Pathya Nighantu of 15th century AD.
  - Bhavaprakasa of 16th century AD. – The period of Kasiram Vaidya can be fixed during 17th century AD.
Ayurveda Dipika
by Rudra Bhatt

- Rudra Bhatt also wrote a commentary on Sarangadhara Samhita by name ‘Ayurveda Dipika’.
- He was the son of Kinnera Bhatt, the royal physician of Abdul Rahim.
- Unfortunately the work of Rudra Bhatt was not available in full. The M.S.S. up to Madhyama Khanda only was available with Vaidyaraj Yogeswara Sharma. It was not published.
- He also wrote a commentary on Vaidya Jivana by name ‘Dipika’. The author of ‘Vaidya Jivana’ was Lolamba Raja.
- Rudra Bhatt wrote a voluminous treatise on medicine also.
- Krishna Bhatt, the grand father of Rudra Bhatt wrote a commentary on Charaka Samhita.

Vopadeva

- Vopadeva was a great scholar of Ayurveda, Vyakarana, Jyotisha and allied subjects.
- He wrote a commentary on ‘Sarangadhara Samhita’.
- He was the son of ‘Kesava’, a great physician and also the best friend of Hemadri, the commentator on Ashtanga Hridaya.
- He was the disciple of “Pt. Dhanesa”.
- He was also the royal physician of Mahadev, the king of Devagiri.
- He also wrote a commentary on his father’s work – ‘Siddha Mantra’.
- He was the author of Satasloki and also wrote a commentary on his own work.
- Hemadri wrote commentaries on the other two works of Vopadeva named – ‘Muktaphala’ and ‘Harileela’.
- In total, the following number of works was on the name of Vopadeva in various subjects.

\[
\begin{array}{c|c}
Vyakarana & 10 \\
Ayurveda & 9 \\
Jyotisha & 9 \\
Sahitya & 3 \\
Bhagavata & 3 \\
\end{array}
\]

- He also composed a Nighantu by name ‘Hridaya Dipika’ which was edited and published by Acharya Priya Vrata Sharma.
- His native place was ‘Vedpur’ which was the capital of the king Simharaj. Vedpur was on the banks of River, ‘Varda’.
Bhavamishra

- Bhavamishra was the author of ‘Bhavaprakasa’ an important treatise on Ayurveda, being counted as one of the “Laghu Trayee”.
- His father’s name was ‘Latakamishra’.
- Hence it can be concluded that, he belonged to an orthodox Brahmin family, as Brahmins use the surname, ‘Mishra’.
- He is believed to belong to Magadha (lower and middle parts of Bihar), since he gave the names of various kinds of food substances known to the people of that region.
- Bhavamishra belonged to 16th century A.D.

His works

1. ‘Bhavaprakasa’ - Probably the only work available in full along with Sanskrit commentary.
2. Guna Ratnamala - MSS available.
4. Vaidya Nighantu - Not traced so far.

Bhavaprakasa

- It is an extensive work on Ayurveda, which covers all aspects of the life science.
- The author himself stated that he had collected all the available information and efficacious medical recipes from various ancient Ayurvedic texts and composed the treatise.
- In total it consists of 10268 verses, distributed in three sections (Khanda), 7 parts (Bhaga) and 80 chapters (Prakarana) as under.

I. Poorva Khanda (First section)
   - Pradhama Bhaga (Part I) - 6 chapters
   - Dwitiya Bhaga (Part II) - 1 chapter 4,307

II. Madhyama Khanda (Middle section)
   - Pradhama Bhaga (Part I) - 4
   - Dwitiya Bhaga (Part II) - 25
   - Tritiya Bhaga (Part III) - 19
   - Chaturdha Bhaga (Part IV) - 23 5,886
III.  Uttara Khanda (Last section) - 2 95
      ____________________________
      80 10,268
      ____________________________

- Poorva Khanda has 7 chapters and deals with origin of Ayurveda, and the basic principles of Ayurveda. Sareera Vignana, Dina Charya, Ritu Charya, Oushadha Dravyas, Ahara Dravyas etc.
- Madhyama Khanda has 71 chapters dealing with etiology, symptomatology, pathogenesis, prognosis and treatment of various diseases. Both herbal as well as mineral formulations have been mentioned by the author.
- Uttara Khanda has only 2 chapters dealing with Rasayana and Vajeekarana.
- Two Sanskrit commentaries on Bhavaprakasa are available as under:
  1. One which has no specific name is available in full and printed along with text. Most probably Bhavamishra himself is the author of the commentary also.
  2. Second one – ‘Sadvaidya Siddhanta Ratnakara’ by Jayadeva, son of Jaya Krishna has written on the orders of Maharaja Ranavira Simha, King of Kashmir. This is incomplete and the MSS is available in the library of Jammu.
- The first edition of ‘Bhavaprakasa’, full text together with its commentary, was edited and published by Sri Jivananda Vidyasagar Bhattacharya, Calcutta in the year 1875.
- Bhavamishra was the first man who had given the details about ‘Phiranga Roja’, its pathology, signs and symptoms along with the treatment. Rasa Karpura and other formulations were indicated for Phiranga Roja.
- Bhavamishra incorporated one new drug namely Madhusmuhi – Chopchini / Phirangi Chakka (in Telugu) (or) Dweepantara Vacha in his treatise and explained its Rasa, Guna, Virya, Vipaka and Prabhava according to the principles laid down in the science of life.

Vrinda Madhava

- Vrinda was the author of a famous Ayurvedic treatise named Siddhayoga (Collection of formulae of proven efficiency).
- Vrinda stated that the book was written according to the index of ‘Rigvinishchaya’ of Madhavakara, which was more popular as ‘Madhava Nidana’. Similarly ‘Siddhayoga’ also became more popular as ‘Vrinda Madhava’.
Presently, the book is available in full and it was published by *Anandashram Grandha mala*, Poona (2nd Edn. 1943) along with the commentary, ‘Vyakhyana Kusumavali’.

Except the name of the author, no other information pertaining to the date, place, parents and other works is available. The later authors also have not furnished any information.


The term ‘Kunda’ / ‘Kantha’ appears as the name of a family of reputed physicians of Bengal. Hence, he should belong to the region of Bengal.

He offered prayers to Lord Siva, Chandī, Ganesh, Dhanvantari etc. in his treatise. It indicates that he belonged to *Hindu Brahmin* family devoted to the workshop of Siva.

He was a great scholar of Ayurveda and a practicing physician.

Except ‘Siddha Yoga’, no other work of Vrinda is available now.

Vrinda stated that he followed the pattern of *Rigvinishchaya*. It suggests that he belonged to the later times of Madhavakara i.e. after 7th century AD.

Brahma Deva who belonged to 900 AD to 1000AD wrote commentary on ‘Siddhayoga’. It means that Vrinda lived before him.

The Arabian historian lb-wadih-al-yaquibi, who lived in the second half of the 9th century AD, mentioned an Indian medical treatise named ‘Siddhayoga’.

Absence of metallic preparations also suggests that Vrinda lived before 11th AD. Basing on the above available information the date of Vrinda may be fixed that he belonged to 9th century AD.

‘Siddhayoga’ mainly dealt with the treatment of diseases. In every chapter it was mentioned as under:

- Kinds of therapies required
- Description of formulae along with the ingredients
- Their proportion
- Mode of preparation and administration
- Dosage, actions and indications
- Suitable and unsuitable foods and activities

In addition to the above, different kinds of therapies required in specific diseases are also described, such as *Kshara, Agni, Sastrakarma, Raktamokshana, Oshadhi Dharana, Mani Dharana* etc.
• In ‘Siddha Yoga’, Vrinda described all herbal formulations and, none belonged to the metals and minerals.

• The formulation comprised of Swarasa, Kalka, Hima, Phanta, Quatha, Vati, Choorna, Ghrita, Taila, Asava, Arista etc.

• By the above features, ‘Siddhayoga’ became more popular with in a short period, and the great scholars like Brahma Deva and Srikanthadatta and others wrote commentaries on it.

Vyakhyana Kusumavali

• As on today ‘Vyakhyana Kusumavali’ is the only available commentary on ‘Siddha Yoga’.

• It is available in full, which was written by Srikanthadatta originally.

• But it was revised and enlarged by another scholar by name, Narayana.

• The other commentaries on ‘Siddhayoga’ are
  1. Vrinda Tippani by Vrinda
  2. Brahma Deva’s Commentary by Brahma Deva
  3. Soma Tippani
  4. Lakshmana Tippani

Chikitsakalika by Tisata

• ‘Chikitsakalika’ is a well-known work on medicine composed by Tisata, the son of Vagbhata.

• It is a collection of simple and efficacious formulations for various diseases.

• The whole treatise contains 400 verses only.

• About 25% of the work has been allocated to the basic principles of Ayurveda and 50% to the general medicine and the rest 25% is devoted to other seven branches of Ayurveda.

• Right from the times of Vagbhata, acute need for short treatises or Hand books was felt by medical practitioners.

• Tisata’s work ‘Chikitsakalika’ is also belongs to the same category and it is meant for general practitioners to equip them with the principles of Ayurveda in brief.

• He succeeded in his effort and his work became more popular.

• Chandrata, the son of Tisata wrote a commentary on ‘Chikitsakalika’.

Tisata

• Tisata was the son of Vagbhata and wrote a treatise on general medicine by name ‘Chikitsakalika’ (The bud of medicine).
Bhaishajyaratnavali by Govindadas (18th Century)

- ‘Bhaishajyaratnavali’ was composed by Sri Govindadas, who belonged to Bengal region.
- His father’s name was Chandrachuda and mother’s name was Ambica.
- In the year 1893 it was revised by Bhashagrata Brahma Sankar.
- Kaviraj Ambikadatta Shastry wrote a commentary on ‘Bhaishajyaratnavali’ in Hindi by name ‘Vidyodhini’ and it was published by Chaukhambha Sanskrit series, Varanasi.

- The MSS of Bhaishajyaratnavali is available in the Royal Asiatic Society Library, Calcutta.
- The work of Govindadas became very popular in the world of Ayurveda. Hence all the students, research scholars, practitioners, pharmaceutical industrialists and others are also following the text ‘Bhaishajyaratnavali’ in their daily work.
- It is a specialized textbook on medicine.
- It has some similarities with ‘Yogaratnakara’ and ‘Madhavanidana’ in presenting the formulations and the order of describing the diseases.
- In the text ‘Bhaishajyaratnavali’, the author arranged the subject matter as follows.
  - Line of treatment
  - Wholesome and unwholesome diet for those particular diseases
  - Various types of useful formulations like Churna, Gulika, Avaleha, Modaka, Panaka, Asava, Arista, Ghrita, Taila, Rasa Rasayana etc.
- He belonged to 18th century AD.

Yogaratnakara (16th century AD):

- Yogaratnakara means the gems of the formulations which have been collected from the ocean of Ayurvedic literature and are useful to fulfill the aims and objectives of the science of life.
- As the author didn’t reveal anything about his personal, nobody knows about the period and other particulars.
- Description of so many new drugs like
Satapatra (rose), Tambaku (tobacco), Kshupaja Maricha (capsicum), Sevaphala (apple), Ahiphena, Parasika Yavani, Kabab, Khus Khus etc. are incorporated in this text, which are not available in Brihat Trayee.

- Though most of the above drugs are seen in Bhavaprakasa Nighantu, description of Phirangiroya is not mentioned in Yogaratnakara suggests that this text might have been written prior to Bhavaprakasa.
- Trimallabhata, the author of Brihadyogatarangini quoted that this work has gained the guidance in the presentation of subject from Yogaratnakara only.
- In the preface of the book entitled ‘Hindu Chemistry’, the author Prafulla Chandra Roy mentioned that Yogaratnakara has been written by Vd. Kesava Deva during 17th Century AD, but no evidences are available.
- The author has incorporated the food preparations like Bharittham (lemon pickle), Khevar (one type of food preparation), Kokamban, Markondi, Aramasitalika, which are much more familiar in the Maharashtra region. Basing on that Acharya Yadavji opined that the author of Yogaratnakara belongs to Maharashtra state.
- Some scholars opined that Lingabhatt was the author of this work and the incorporation of Saram (Rasam), Indari (Idli), Kshupaja Maricha (Capsicum), Tambaku (Tobacco) etc. suggests that he belongs to South India.
- Ayurveda Shastri Vidyadhara Vidyalankar, Hindi commentator on this text also opined that the author belongs to South India as it is more familiar in that region.
- Descriptions of Ashta Sthana Pariksha, Rasoushadhis, Taila, Lehya formulations, traditions of Andhra region suggests that the author belongs to Andhra region.
- In this book Tridosha Siddhanta and Ashtangas of Ayurveda have been described in a lucid manner.

Yogaratnakara is the compilation of various formulations and has been written by referring vast Ayurvedic literature which is available on those days, such as – Brihat Trayee, Kasyapa Samhita, Harita Samhita, Bhela Samhita, Madhava Nidana, Sarangadhara Samhita, Vangasena, Vrinda Madhava, Chakradutta, Yogaratnavali, Yogaratnasamucchaya, Yoga Tarangini, Gadanigraha, Rasarnava, Krishnatreya Tantra, Aswani Tantra, Bhoja Tantra etc.

- Yogaratnakara the text has been divided into 3 parts such as Poorva Khandha, Madhyama Khandha and Uttara Khandha.
- Poorva Khandha mainly deals Swasthavritta, Pancha Lakshana Nidana, Ashta Sthana Pariksha, Mana Paribhasha, Drava Dravya Vignan, Anna Swarupa Vignan, Description of herbs and their attributes and actions,
Panchavidha Kashaya Kalpanas, Dhatu, Rasa, Uparasa, Visha, Upa visha, Ratna etc., Sodhana, Marana, Satwapatana procedures, Vamana, Virechana and other Sodhana techniques.

- Madhyama Khandā deals with the Nidana, Lakshana and Chikitsa of different diseases like Jwara, Atisara, Vishuchika, Bhagandara, Nadivrana, Mukharoga, Karnaroga, Nasaroga, Sirohoga, Netraroga, Stri roga, Balaroga, Visha dosha.
- Uttara Khandā deals Rasayana and Vajeekarana.
- In the year 1939 Yogaratnakara has been translated into Telugu language by Yeturi Srinivasacharyulu, Nellore District of Andhra Pradesh.
- In the year 1998 Dr. Indradev Tripathi and Dr. Dayashankar Tripathi wrote a Hindi commentary entitled Vaidya Prabha on Yogaratnakara and it was published by Chowkhamba Krishnadas Academy, Varanasi.

Basawarajeyam by Basava Raju (16th century AD)

- The author of Basawarajeyam was Kotthur Basava Raju.
- He was the son of Namassivaya.
- He was the native of Andhra Desa and belonged to the caste ‘Jangama’ and Veera Saiva religion.
- The text “Basawarajeyam” was written by the author after referring a number of treatises like Charaka Samhita, Susruta Samhita, Madhava Nidana, Vagbhata Samhita, Bhairava Kalpa, Rasarnava, Bhaishajya Kalpa, Kasi Khandā, Revathi Kalpa, Karma Vipaka etc.
- Use of Ahiphena, Rasakarpura and many a number of mineral preparations are mentioned in his work.
- Basawarajeyam became so much popular in Andhra Desa as Bhaishajya Ratnavali in Bengal, Yogaratnakara in Maharashtra, Sarangadhara Samhita in Gujarat. Examination of the pulse was described in the text.

Chakradutta

- Chakrapanidutta composed a text on medicine entitled as ‘Chikita Sangraha’ commonly known as Chakradutta.
- This work set a historical landmark in the development of medical principles and practices in India.
- Nischalakara (13th Century AD) wrote an exhaustive and scholarly commentary on Chakradutta entitled Ratnaprabha. Unfortu-
nately it lost its popularity gradually due to the abridged commentary on this work written by Shivadas Sen in the 15th Century AD.

- Chakrapanidutta followed the text Siddhayoga of Vrinda while writing Chakradutta by making number of additions.
- Chakrapanidutta incorporates the advance in medicine made during two centuries after Vrinda’s Siddhayoga. This period is characterized mainly by the evolution of Rasasastra and for the first time Chakrapani prescribed mercurial preparations in the treatment of various disorders. Rasa Parpati is said that it is described (first) by Chakrapani. Similarly use of iron and other minerals are seen in advanced form.
- Tantric practices are also prescribed in certain disorders such as in case of difficult labour, seminal retention, epilepsy etc.
- Application of Kshara Sutra for sinus and fistula in ano is vividly described in Chakradutta which is not seen in Siddhayoga.
- Thus Chakradutta stood as the first representative work of medieval era and accepted as Hand Book of Medicine in Ayurvedic profession even now.

Rajamartanda:

A careful review of the Ayurvedic works compiled during medieval India clearly indicates that the subject was dealt under two headings.

1. Formulations according to different varieties of pharmaceutical processes (Kalpanusara Yogasangraha)
2. Disease oriented classification of formulations (Roganusara Yogasangraha)

- Rajamartanda which is also known as Yogasarasangraha or Nanavidhayogasangraha was written by King Bhoja (11th Century) which belongs to the second category of compilation i.e. Disease oriented classification of formulations (Roganusara Yogasangraha).
- The enumeration of Yogas in 34 chapters started with Sirorogadhikara and the work was completed with the mention of Pasuroghadikara (veterinary medicine).
- The indication of Asthisamharika in Asthibhagna and Vataroga was first reported by Bhoja.
- In total 250 herbs, 20 minerals and 48 numbers of animal substances were incorporated in different formulations.
It is also noted that the main diseases are classified into 33 chapters and included 166 signs or symptoms along with simple herbal recipes.

A separate chapter consisting of herbal recipes useful in veterinary medicine is also included in the last chapter of the book.

Acharya Yadavji Trikamji has published this work in 1924.

As this book contains easily adoptable and equally efficacious herbal and herbo-mineral formulations in different clinical conditions, the students as well as practitioners can utilize the information in the current clinical practice.

The review so far made about the compilations on Ayurvedic formulations indicates Rajamartanda written during 11th century created such an impact on the authors of later period to carefully adopt the Bhoja’s style of lucid expression about therapeutic formulations.

Recently Rajamartanda has been translated into English by Dr. K. Nishteswar & Dr. R. Vidyanath and was published by Chowkhamba Orientalia, Varanasi in the year 2007.

Sahasrayogam:

Sahasrayogam was originally written in Sanskrit language and translated into Malayalam. Some of the Slokas in the text consists of Malayalam vernacular names of the descriptions of certain herbs.

Sahasrayogam is enjoying the status of Ayurvedic Practical Prescriber among Kerala Ayurvedic Physicians,

The public also keeps this book with them and considers it as the book of Ayurvedic home remedies.

Sahasrayogam means one thousand formulations and on a rough estimate the number of formulations may vary from 700 to 1200 in various versions.

It also appears that some more formulations have been added periodically to the original text based on their practical experiences.

The formulations described in this book consisting of different Kalpanas like Kashaya, Churna, Ghrita, Taila, Vati, Gutika, Asava, Arishta and Lehyas.

In addition to the classical formulations some of the traditionally useful simple herbal recipes are also included in this text.

It is customary in Kerala that one has to study thoroughly Ashtanga Hridaya
initially, followed by *Sahasrayogam* to practice Ayurveda. It is quite apt to assert that *Ashtanga Hridaya* and *Sahasrayogam* are the two eyes to Kerala Ayurvedic physicians.

- C.C.R.A.S. has edited and published the Hindi version of *Sahasrayogam* by consulting various versions.
- Recently it was translated into English by Nishteswar & Vidyanath and was published by Chowkhamba Sanskrit Series, Varanasi in the year 2006.

*****
9th Chapter

The origin and development of ‘Rasasastra’

The word ‘Rasa’ is having several meanings as follows

1. *Rasa Dhatu* mentioned in *Sareera Kriya* - First one among *Sapta Dhatus Rasa, Rakta, Mamsa, Medas, Asthi, Majja & Sukra.*

2. *Rasa-Swarasa* Used in *Bhaishajya Kalpana* - Fresh juice – one among *Pancha Vidha Kashaya Kalpanas, Swarasa, Kalka, Quatha, Seeta, Phanta.*

3. *Rasa-Nava Rasa* Used in Literature - Such as *Hasya Rasa, Karuna Rasa etc.*

4. *Rasa – Rasam* - One of the food items such as *Rasam, Sambar etc.*

5. ‘Rasa’ means *Parada* - Metal useful in therapeutics. or mercury.

In the context of ‘Rasasastra’, one can take the meaning of *Rasa* as mercury only. *Rasasastra* means the science dealing with mercury and other metallic substances, and their utilization in the medicine.

- Man started using the metals gradually after Neolithic age i.e. since metallic age, for different purposes.
- At first he used the metals bronze and copper, for making vessels and other instruments used for hunting animals, cultivation, fishing etc.
- Gradually he learned to utilize the metallic substances for the external medi-
cine. After some thousands of years, man learned the techniques of using metals as internal medicine.

- Excavations at Harappa and Mohenjodaro discovered a prehistoric city culture known as Indus valley civilization. Gold, silver, copper, tin, lead and bronze were known in the Indus civilization. Copper and bronze probably replaced stone as the material for household implements. Shilajatu was being used as strength promoting agent in those days.

- During Vedic period along with herbs, some mineral substances also were mentioned, in ‘Rigveda’ and ‘Adharvana Veda’.

- In ‘Upanishads’ and other ‘Brahmanas’ also certain references are available pertaining to mineral substances, such as gold, iron, lead, silver.

- Lead was not mentioned in ‘Rigveda’, where as in ‘Adharvana Veda’ one complete ‘Sukta’ was allocated for lead. It was used to kill the parasites.

- These metals were used for preparing vessels and other purposes such as external use in medicine. Eg. Collyrium, bracelets etc.

- Conch shell was described in Satapatha Brahmana.

- Iron was mentioned in Kathopanishad and was used for making vessels.

- In Koutilya’s Ardha Sastra, gold, silver and other metals were mentioned. By that time, they knew about Parada and Hingula.

- They used mercury for the preparation of gold from base metals. Details about the identification of gems and the knowledge of pearls, corals, conch shell etc. are available in Ardhasastra.

- During the period of Kushans, they had the trade relations with Rome. Indians had export and import business not only with Rome but also with Farsi. Indians imported gold from Rome and exported various precious gems. Indians also exported copper to Farsi.

- During the period of Mahabharata certain regions were called Parada (Mercury), Darad (Hingula) etc where those metals were abundantly available.

- Since prehistoric period, till 8th century AD, it was known that Indians were aware of metals, and gradually developed the knowledge of utilizing those metals for various purposes.

In the Samhitas like Charaka and Susruta references made about mercury are very limited. During Samhita period more stress was given to the herbal drugs.

Few metallic formulations are available in Samhitas. Metals were used as fine powders (ref. ‘Ayaskriti’). They don’t know the process of ‘Bhasmikarana’.

In Charaka Samhita - Loha, Mandura, Tuatha etc. were mentioned. Three types of drugs were seen in Charaka Samhita such as Sthavara, Jangama and Pardhiva.
Six metals such as Gold, Copper, Silver, Tin, Lead & Iron; Shiilajatu, Talaka, Manahshila, Gairika, Anjana etc. were also described in Charaka Samhita. In Susruti Samhita, the method of application of Anjana was described.

Gold was used as Rasayana to improve intelligence as well as to reduce aging. Surgical instruments have been prepared by various metals, during the period of Susruta. In Ashtanga Sangraha, the properties of various metals were described in terms of Rasa, Guna, Virya, Vipaka and Prabhava.

Loha was classified as Krishna Loha & Tikshna Loha. Along with metals, the precious gems like Padmaraga, Mahanila, Pushparaga, Mukta, Vidruma and their uses were mentioned. References regarding Sankha, Samudraphena, Tuttha, Talaka, Manahshila, and Shiilajatu are also available in Ashtanga Sangraha.

During the Samhita period metals were used for external medication and few references indicate that they were used for internal administration.

The process of making the metals into Bhasmas was not known at the time of Samhita period. During the 6th century AD Rasa Siddhas had demonstrated some miracles with metals, to show their specialty in the society. Hence the people were attracted by them and they showed interest for the development of Alchemy.

In the 7th century AD, ‘Bana’ in his Harsha Charitra described that the people did not know the internal administration of mercury till his time.

It was known from the works of 8th, 9th and 10th century AD authors, that the metals were used internally. By that time people knew the techniques of Sodhana and Marana of different metals.

Various formulations pertaining to mercury and other metals are seen in Siddhayoga Sangraha, Chakradutta etc. Application of Netra Varti was also seen in Chakradutta. Some opine that Acharya Nagarjuna belonged to 8-9th century AD and he was one among 84 Rasa Siddhas. He was the founder of ‘Rasasastra’. Rasa Siddhas started practicing these metals for internal medication along with some herbs, in which mercury was used in almost all formulations. Hence it was called ‘Rasasastra’ or ‘Rasa Chikitsa’.

In Charaka Samhita two types of Rasayana Therapies were mentioned such as Kuti Pravesika and Vatatapika. It is not so easy for everybody to follow the rules and regulations laid down in the process of Kuti Pravesika Rasayana.

Compared with the above process, getting Rasayana effect to body becomes much easier by the internal administration of mercurial preparations. Hence, it became more popular in the society of those days.

Later on many treatises on Rasasastra were composed by various authors as follows:
2. *Rasendra Mangala*
3. *Kakshaputa Tantra*
4. *Rasa Ratnakara*... By Nagarjuna
5. *Rasarnava* was composed in the 12th century AD
6. *Raseswara Darshana* was composed by Sayana Madhavacharya

In this way development of *Rasasastra* was started in the 8th-9th century and was fully established by the end of 12th century AD.

**The importance and the specialty of Rasasastra**

- Similar to Ayurveda, the aims and objectives of *Rasasastra* is to reduce aging and make the individual to lead a healthy, happy and long life.
- To achieve the goals of the science, 2 types of traditions were mentioned viz.
  1. *Brahmi Sampradaya*
  2. *Saivi Sampradaya*
- Lord Brahma was the propounder of *Brahmi Sampradaya*, where as Lord Siva or Rudra propounded *Saivi Sampradaya*.
- *Rasa Siddhas* belonged to *Saivi Sampradaya*. Buddhists belonging to Mahayana group also had relationship with the tradition of *Saivi Sampradaya*.
- *Saivi Sampradaya* is again of 2 types as *Daivi* and *Asuri*.
- *Asuri* group of *Siddhas* did miracles like jumping into the fire, changing their appearance according to their will, becoming invisible, making the base metals into gold etc.
- *Rasa Siddhas* used to perform *Puja* to ‘*Rasa Linga*’. *Rasa Linga* can be made by pounding the mercury with certain herbs and minerals. They believed that *Rasa* or mercury is nothing but the *Virya* (Semen) of Lord Siva and the Sulphur means the *Rajas* (*Artava*) of Goddess Parvathi.
- While administrating *Rasa Oushadha* (Mercurial preparations), there is no need for observing the aspects as *Doshas, Dushyas, Desa* and *Kala*. Hence it is much more advantageous compared with herbal formulations.
Due to *Rasa Siddhi* one can attain health, happiness and long life and also can reduce aging. It will be useful for humanity, not only to get relief from diseases but also to find the path for salvation. Poverty also can be eradicated from this world.

*Kuti Pravesika Rasayana* is not so easy for everyone. So many restrictions are there. After having completed *Sodhana* therapy only, one should undergo *Kutipravesa*. Without any restrictions one can consume *Rasa Rasayana* drugs. Without spending any time also the same *Rasayana* effect can be attained with the help of mercurial preparation.

One more advantage of mercurial preparations is described as under.

- In comparison with herbal drugs, the dosages of mercurial preparations are very minute. Hence, the question of non palatability doesn’t arise while administering these drugs.

- As the mineral drugs have been used in the form of *Bhasmas*, they penetrate deep into the body tissues very fast and also give quick relief in comparison with herbs.

The herbs cannot be available in all the seasons. Though the herbal formulations have been prepared in the seasons of their availability, they cannot maintain their potency for a longer period. The question of losing potency doesn’t arise with the mineral drugs.

*Highest Dosage* is to be required for herbal drugs for Ex:

- **Powders**
  - 6-12 gm
- **Decoctions**
  - 20-40 ml
- **Asava, Aristas**
  - 15-20 ml

Where as the mineral drugs can effectively work even in the smaller dose such as 125 to 250 mg.

Taste problem also doesn’t arise with mineral drugs. Hence, healthy and delicate personalities, children, the aged, women do not have any hesitation. These drugs act quickly and can be administered in acute conditions also. In certain medical emergencies also these drugs yield better results. Eg: *Suchikabharana Ras*.
Works on Rasasastra

Rasa Ratnakara – Rasendra Mangala (10th Century AD)

- As per the available references ‘Rasa Ratnakara’ has been considered as the first work on Rasasastra.
- The author of ‘Rasa Ratnakara’ was Siddha Nagarjuna.
- The MSS of ‘Rasa Ratnakara’ and ‘Rasendra Mangala’ are available with Dr. P.C. Roy and Tanmukha Ram Tripathi respectively. The matter in both the works is same and the name of the author was mentioned as Nagarjuna for both the works. It suggests that ‘Rasa Ratnakara’ and ‘Rasendra Mangala’ are one and the same.
- Jivaram Kalidas the publisher of ‘Rasendra Mangala’ also opines that ‘Rasa Ratnakara’ was another name of ‘Rasendra Mangala’.
- Various types of instruments and the techniques of preparing copper from Makshika and Jasada from Kharpara are described in this text.
- Preparation of gold is also described.
- Sodhana and Marana of Rasa, Uparasa and other metals, Satwapatana of Abhraka, Makshika etc. are described.
- As per the style of presentation the work may be said to belong to 8th-10th century AD.
- In total the text consists 8 chapters and presently only four chapters are available.
- In this text, 18 types of Parada Samskara, preparation of gold from base metals etc. are described.
- Some more medicinal formulations like ‘Mandhana Bhairava Ras’ and ‘Dasa Moola quath’ also are available in this text.
- In the text ‘Rasa Ratnakara’ or ‘Rasendra Mangala’ the discussion among Nagarjuna, Salivahana, Mandavya, Vatvakshini and Ratnagosh are recorded in the context of Rasayana Vidhi.

Kakshaputa Tantra (10th century AD)

- ‘Kakshaputa Tantra’ was also written by Siddha Nagarjuna in the 10th century AD.
- The MSS of Kakshaputa Tantra is available with the Royal Asiatic Society Library, Mumbai.
- In total it consists of 106 queries and 20 Patalas.
- Mainly it deals with Agni Sthambhana, Gati Sthambhana, Jala Sthambhana, Indrajala etc.
During Kurukshetra war Duryodhana stayed in the water pond with the help of Jala Stambhana technique only.

Rasa Hridaya Tantra (12-13\textsuperscript{th} cent AD)

- ‘Rasa Hridaya Tantra’ was written by Paramahamsa Parivrajaka Govinda Bhagavatpadacharya.
- He cannot be considered the preceptor of Adi Sankaracharya who belonged to 8\textsuperscript{th} century AD. The author of ‘Sarvadarsana Sangraha’, who belonged to 14\textsuperscript{th} century AD Sayana Madhavacharya quoted some references from ‘Rasa Hridaya Tantra’.
- The authors of 11\textsuperscript{th} century AD did not quote any references from ‘Rasa Hridaya Tantra’. It suggests that it might have been written in the 12\textsuperscript{th}-13\textsuperscript{th} century AD. In ‘Rasaratnasamuccaya’, it was mentioned that Govinda as one of the names of Rasa Siddhas. Hence, the author of ‘Rasa Hridaya Tantra’ was Govindacharya of 13th Century AD but not the preceptor of Sankaracharya of 8\textsuperscript{th} century AD.
- In this text, 18 Parada Samskaras, Abhraka Satwapatana, Grasana, several mineral formulations, mode of administration, process of preparation of Khecharagati etc. were described, which suggest that the book was written after the development of Rasasastra.
- In total it contains 19 Avabodhakas. Mainly it deals with salvation techniques along with the measures to be taken to relieve from diseases as well as to eradicate poverty from this universe.
- It was published by Krishna Gopala Ayurveda Bhavan, Ajmir and also by Motilal Banarsi Das & Co. under the editorial ship of Acharya Yadavji Trikamji.

Rasarnava (12-13 century AD)

- The author of ‘Rasarnava’ was Bhairava.
- Sayana Madhavacharya of 14\textsuperscript{th} century AD quoted the references from ‘Rasarnava’, in his work ‘Sarva Darshana Sangraha’. It suggests that Rasarnava might have been written prior to him i.e. either in 12\textsuperscript{th} or 13\textsuperscript{th} century AD.
- Description of the required equipment and instruments for the preparation of various formulations was available in ‘Rasarnava’.
- The total text is in the form of conversation between Lord Shiva and Goddess Parvathi.
- It contains 14 Patalas.
- Different types of measurements were also available.
The types of colors found after putting various metals into the fire were also described in this text.

Preparation of metals from their ores also was described.

The procedure for obtaining ‘Abhraka Satwapatana’ was also available in ‘Rasarnava’.

**Rasendra Chudamani (12-13th century AD)**

- Somadeva was the author of ‘Rasendra Chudamani’.
- According to the opinion of Dr. P.C. Roy the book, ‘Rasendra Chudamani’ might have been written in between 12th and 13th century AD.
- ‘Rasendra Chudamani’ might have been written after ‘Rasa Hridaya Tantra’ (Govinda Bhagavatpada) and before ‘Rasaratnasamucchaya’ (Vagbhata). Because Somadeva mentioned the names of Govinda Bhagavatpada, Mandhana Bhairava, Nandi, Bhasuki, Bhaskara etc.
- This book contains
  - Procedure of Rasa Puja.
  - Construction of Rasa Sala.
  - Equipment and instruments to be procured in Rasa Sala.
  - Definitions for the technical terms.
  - Different types of Yantras, Mushas and Putas.
  - Classification of Maharasa, Uparasa, Sadharana Rasa.
  - Precious Gems, Gold, Silver and other metals.
  - 18 Parada Samskaras.
  - Various formulations etc.
- It was published in the year 1929, from Lahore.

**Rasaprakasa Sudhakara (13th century AD)**

- ‘Rasaprakasa Sudhakara’ was written by Yasodara Bhatt, who belonged to Junaghad of Gujarat State.
- As per the opinion of Maheshwara Jivaram the book might have been written in the 13th century AD.
- Many references from ‘Rasa Ratnakara’ were quoted by the author in this work.
- 18 Parada Samskaras, preparation of Rasa Karpoora, preparing Jasuda from Kharpbara and others were mentioned in this book.
It contains 13 chapters.

As Yasodara Bhatt quoted Somadeva, the author of ‘Rasendra Chudamani’, it can be inferred that ‘Rasaprakasa Sudhakara’ was written after ‘Rasendra Chudamani’.

It was also clear that by the time of Yasodara Bhatt, Rasasastra was fully established.

Rasaratnasamucchaya (13th century)

- The author of ‘Rasaratnasamucchaya’ was Vagbhata, son of Simhagupta, who was different from the author of Ashtanga Sangraha, because of the long gap in the periods of their existence.
- Hence, he was identified as Rasa Vagbhata, belonging to 13th century AD.
- ‘Rasaratnasamucchaya’ contains 30 chapters and was divided into 2 parts viz. (a) Poorva Khanda (b) Uttara Khanda.
- Poorva Khanda consists 1-11 chapters, in which the description of the origin of Rasa, classification of Maharasa, Uparasa and Sadharana Rasa and procedures of Sodhana, Marana, Satwapatana etc. were available.
- Uttara Khanda consists 12th to 30th chapters, in which various types of diseases, etiological factors, line of treatment and various mineral formulations were described.
- 27 Rasa Siddhas were mentioned in the first chapter, along with the procedure of constructing Rasa Sala.
- Certain references from ‘Bhaluki Tantra’, ‘Rasendra Mangala’, ‘Vasudevadi Tantras’ were quoted by the author.
- Mineral drugs were classified into 5 groups such as Rasa, Uparasa, Sadharana Rasa, Rainta and Loha.
- Each group of Rasa, Uparasa and Sadharana Ras consists eight drugs.
- In total 125 drugs were described in this text.
- ‘Rasaratnasamucchaya’ was one of the best works on Rasasastra in which the subject matter was composed systematically.
- Hence, it is being appreciated by the students, practitioners and the scholars of Ayurveda.
- It was translated into Hindi and was published by Sri Ambica Datta Shastry.
- Chivukula Satyanaraya Shastry gendered Telugu translation to the Purva Khandha and I.V. Sharma translated Uttara Khandha into Telugu language.

Rasa Rajyalakshmi (14th century AD)

- ‘Rasa Rajyalakshmi’ was written by Sri Vishnudev Pandit, who was the son of Mahadeva.
Vishnudev Pandit was the Royal Physician in the court of the king Bukkaraya of Vijayanagara Empire during 14th century AD.

Vishnudev Pandit quoted Charaka, Susruta, Vrinda, Harita, Vagbhata, Atreya along with Nagarjuna, Govinda Bhagavatpada and other Rasa Siddhas in his work.

**Rasa Sara (13th century AD)**

- Govindacharya was the author of ‘Rasa Sara’.
- In this text, along with 18 Parada Samskaras, description of Ahiphena was also available.
- The author was a Buddhist and belonged to Tibetan region.
- Dr. P.C. Roy believed that Ahiphena had been used since 13th century AD and the fact was known by the text “Rasa Sara” only.
- It was also known that Rasasastra was more popular among Buddhist monks of Tibet.

**Rasaratna Pradeepa (15th century AD)**

- ‘Rasaratna Pradeepa’ was written by Rama Raju.
- It consisted of 5 Adhikaranas.
- In the year 1925 AD the complete text was published by Pandit Takur Dutt Multani from Lahore.
- The author quoted ‘Madanapala Nighantu’ the 14th century work. It suggests that ‘Rasaratna Pradipika’ might have been written in the 15th century AD.

**Rasa Paddhati (16-17th century AD)**

- Bindu was the author of ‘Rasa Paddhati’.
- A commentary was also written on ‘Rasa Paddhati’ by his son Mahadev.
- It was written after ‘Rasa Ratnakara’, ‘Rasa Rajalakshmi’ and ‘Rasaratnasamucchaya’. Some of the formulations from Rasa Paddhati have been quoted in Ayurveda Prakasa (18th century AD) and Rasa Kamadhenu. Hence, Rasa Paddhati might have been written in the 16th-17th century AD.
- In the year 1925, it was published by Yadavji Trikamji Acharya. Yadavji believes that the author belonged to Maharashtra region.

**Rasa Ratnakara (14th century AD)**

- ‘Rasa Ratnakara’ was written by Nityanatha Siddha son of Parvathi in the 14th century AD.
- It consists of 5 Khandas as under.
1. Rasa Khanda 2. Rasendra Khanda
3. Rasayana Khanda 4. Vadi Khanda
5. Mantra Khanda

- Except Vadi Khanda and Mantra Khanda, the remaining three are related to Ayurveda and Rasasastra.
- In ‘Rasaratnasamuccaya’ it was mentioned that Nityanatha was one of the Rasa Siddhas. It infers that ‘Rasa Ratnakara’ was written prior to ‘Rasaratnasamuccaya’.
- Nityanatha Siddha was the contemporary of Vidyaranya Swami.
- Some of the Unani drugs were quoted in ‘Rasa Ratnakara’ by the author. It suggests that Unani medicines were already established in India by his time.
- Rasa Sodhana, Marana etc. was discussed in the beginning of Rasa Khanda and the treatment of various diseases was described in the later part.
- Rasasastra was fully established by the time of Nityanadha Siddha.

Rasa Tarangini (20th century AD)

- Kaviraj Sadanand was the author of ‘Rasa Tarangini’.
- Though it was a compilation work, some of the experiences of the author were included.
- Along with the ancient formulations, some new formulations like Mugdha Rasa, Souraka, Sankha Dravaka were incorporated
- Required ingredients, mode of preparation, method of administration along with their benefits were described in detail.
- In the year 1935, it was published by Narendra Mitra.

Rasajalanidhi (20th Century AD)

- ‘Rasajalanidhi’ was one of the best works on Rasasastra of recent days.
- It was written by Bhudeva Mukhopadhyaya.
- He wrote this work in Sanskrit and then he translated it, into English between 1926 to 1938 A.D. and it was published from Calcutta.
- The author was a great scholar of Ayurveda and he worked as a principal of Ayurveda college. He was well versed in Sankhya and Vedanta Darshanas.
- ‘Rasajalanidhi’ was divided into 5 divisions.
- As the subject belonged to Saivi Sampradaya, the au-
Author started writing the text after praying to Lord Shiva. Ideal qualities of a preceptor as well as the disciple were detailed in the first chapter.

- Parada Guna, Dosha, Sodhana, Marana, 18 Parada Samskaras, various mercurial preparations and their uses were discussed in the first division.
- The second and third divisions dealt with the types of Abhraka-Sodhana, Marana. Similarly the other Maharasa, Uparasa and Sadharana Rasa
- In the fourth division – various types of liquid and solid food substances, different times of Administration of medicine, dosage. wholesome and un-wholesome diet etc. were mentioned.
- In the fifth and the last division different types of diseases and their treatment were discussed.

*****
10th Chapter

Vrikshayurveda & Pasu Ayurveda
(The science of flora and Veterinary Science)

In the pre-historic period man used to wander like animals and live by hunting animals and birds. Gradually man changed his life style and developed close association with the animals and birds, so that many of them became pets. Animals became the wealth of ancient Aryans and they were used for farm work and also to pull vehicles. Animals gave milk and also food to the human beings. Elephants and horses formed important organs in the warfare. In the day-to-day life animals, birds and plants became part and parcel of their life. Hence special care was taken regarding their health and man developed Pasu Ayurveda and Vrikshayurveda.

- **Pasu Ayurveda** has special branches like Aswa Ayurveda, Gaja Ayurveda and Go Ayurveda etc.
- Similarly knowledge pertaining to herbs, their identification, cultivation, properties and the influence of the types of land / soil, time and the influence of pests over the potentialities of herbs was also studied.
- Man also knew the plants, which gave food as well as medicines, and he tried to protect them from pests and developed the science known as Vrikshayurveda.
- During the Vedic period Maharshis observed the importance of healthy animals, birds and the sacred herbs for the sacrificial rituals. Hence they also developed the knowledge regarding the protection of the health of animals, birds and plants.
- Medical science had developed in the following 3 categories.
  1. Ayurveda for the mankind.
  2. Pasu Ayurveda - for animal welfare
  3. Vrikshayurveda - for plants
- **Pasu Ayurveda** also had an equal status in the Medical science because the animals are useful to the human beings in various aspects such as
1. Agriculture
2. Supply of food and milk
3. Transportation
4. Sacrificial rituals etc.

- Hence *Pasu Ayurveda* was developed in various branches like *Aswa Ayurveda*, *Gaja Ayurveda*, and *Go Ayurveda* etc.
- Description regarding *Gaja Sastra*, *Aswa Sastra* and *Go Sastra* is also seen in *Kalpa Sutras*.
- In *Charaka Samhita*, *Siddhi Sthana* 11th chapter references pertaining to the *Vasti* treatment for goats, cows, horses, camels and elephants is available.
- Matter related to veterinary science is also seen in *Matsya Purana* and *Garuda Purana*.
- Koutilya has described treatment for animals and birds in *Ardhasastra*.
- Ashoka’s rock edicts also give ample evidence of the development of veterinary science of those days.
- Historical evidence shows that many therapies pertaining to veterinary science have been translated from Sanskrit to Arab language in the medieval period.
- References regarding veterinary science are also available in the epics like *Maha Bharata*. Nakula and Sahadeva were described as the specialists in treating horses and cows.

**Aswa Ayurveda**

**Salihotra:**

- He was the son of Aswaghosha.
- He was born in Shalatur (Native place of Panini, famous Sanskrit grammarian), near by Kandhahar (Gandhara) of Afghanistan and belonged to 1st century BC.
- He wrote a treatise titled ‘*Salihotra Samhita*’ which is also known as ‘*Haya Ayurveda*’, ‘*Turanga Ayurveda*’, ‘*Aswa Ayurveda*’ etc.
- Salihotra was also called the father of Veterinary science.
- The complete text of *Salihotra Samhita* is available now.
- It has 8 divisions and contains 12000 Slokas.
- First division deals with the nature of the horses, varieties of the races and colors, identification features of the age of the horses, methods to control the horses, features of the horses useful for the Royal families and the kings, rules and regulations framed in the transaction of horses etc. were discussed.
- Second division contains the description of various diseases like *Jwara, Soola, Akshi roga, Atisara, Hicca, Swasa, Kamala* and *Visha Vignana* etc.
- The 3rd division dealt with the formation and the development of fetus, details about parturition and the disorders pertaining to the reproductive organs.
- In 4th division, the disorders of the oral cavity, tongue and their management and also the digestive problems were discussed.
- Demonology, fractures and their management were discussed in the 5th division.
- The 6th division mainly dealt with the influence of *Nava Grahas* over the health.
- The knowledge regarding *Vasti* has been discussed in 7th division.
- In the 8th division prognostic signs and symptoms, description of several herbs like *Triphala, Guggulu, Haritaki, Ardraka, Sarshapa, Laksha* etc. were discussed.

*Salihotra Manuscript*

- Salihotra mentioned the life span of different animals as follows
  - Elephant - 120 years
  - Horse - 32 yrs
  - Cow - 24 yrs
  - Camel - 25 yrs
  - Donkey - 25 yrs
  - Dog - 16 yrs

- *Salihotra Samhita* was translated into many languages like Farsi, Arabic and Tibetan
• The name of the Farsi translation was “Kutub Ulmulk” and it was done in the year 1381 AD.

• A Sanskrit book named ‘Aswasala’ by Salihotra is available in the Madras library and the Mss of Gana can be seen in Nepal.

• Some other Mss. of Pasu Ayurveda named
  1. Aswa Vaidyaka Sastra  -  by  Deepankara
  2. Salihotra  -  by  Bhoja
  3. Salihotra Samucchaya  -  by  Kalhana …  were also available.

• Royal Asiatic Society, Bengal published two works on Pasu Ayurveda.
  1. Aswa Vaidyaka  -  by  Jaya Datta Suri
  2. Aswa Chikitsa  -  by  Nakula

• ‘Aswa Chikitsa’ by Nakula is also available.

• ‘Yukti Kalpa Taru’ by Bhoja was published by Calcutta Orientalia series, in which a number of diseases of the animals like horse, ox etc. and their treatment was also described.

• S. Gopalan was the editor for Aswa Sastra by Nakula, which was published by Saraswati Mahal Library, Tanjore in the year 1952.

Gajayurveda

Palakapya:

• Gaja Ayurveda or Hasti Ayurveda is also one of the important branches of Pasu Ayurveda.

• The popular treatises on Gaja Ayurveda are Hasti Ayurveda and Gaja Sastra written by Palakapya Rishi, the son of Sanagayana

• He was an expert in domesticating the wild elephants in the court of Raja Romapada (Lomapada), the king of Anga Desa.

• He belonged to 1st century BC.

• Anandashram Sanskrit Series, Pune, published Hasti Ayurveda in the year 1849.

• Saraswati Mahal Library, Tanjore, published Gaja Ayurveda in the year 1958, for which Sri K.S. Subrahmanya Shastry was the editor.

• Hasti Ayurveda consists 160 chapters and was divided into 4 parts such as
  a) Maha Roga Sthana  b) Kshudra Roga Sthana
  c) Salya Sthana  d) Uttara Sthana
Characteristic features of different types of elephants, various types of diseases and their treatment (Medical as well as Surgical), Methods to domesticate the wild elephants etc. were detailed. More than 180 diseases were described.

In *Maha Roga Sthana* 9th chapter Palakapya describes the nomenclature of fever in different animals as follows.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the Animal</th>
<th>Jwara (Fever)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Horse</td>
<td>Amitapya</td>
</tr>
<tr>
<td>2.</td>
<td>Cow</td>
<td>Eswara</td>
</tr>
<tr>
<td>3.</td>
<td>Elephant</td>
<td>Palaka</td>
</tr>
<tr>
<td>4.</td>
<td>Donkey</td>
<td>Ghoraka</td>
</tr>
<tr>
<td>5.</td>
<td>Camel</td>
<td>Alasaka</td>
</tr>
<tr>
<td>6.</td>
<td>Goat</td>
<td>Prlapaka</td>
</tr>
<tr>
<td>7.</td>
<td>Reptiles</td>
<td>Kashmisha</td>
</tr>
<tr>
<td>8.</td>
<td>Buffalo</td>
<td>Haridraka</td>
</tr>
<tr>
<td>9.</td>
<td>Dog</td>
<td>Alarka</td>
</tr>
<tr>
<td>10.</td>
<td>Fish</td>
<td>Indramada</td>
</tr>
<tr>
<td>11.</td>
<td>Deer</td>
<td>Mriga</td>
</tr>
<tr>
<td>12.</td>
<td>Birds</td>
<td>Abhitapa</td>
</tr>
</tbody>
</table>

The other available works on *Gaja Ayurveda* are

1. *Gaja Lakshana* .......... By Brihaspati
2. *Matanga leela*          By Neelakantha
3. *Gaja Darpan.*            By Hemadri

**Gavayurveda**

Similar to *Gaja Ayurveda* and *Aswa Ayurveda* no specific treatises are available on *Gavayurveda*.

But some descriptions pertaining to the diseases and their treatment of goats and cows are available in *‘Sarangadhara Paddhati’*

In *Mahabharata* it can be seen that Sahadeva was famous as a specialist in *Gavayurveda*.

Most probably he might have written a treatise on *Gavayurveda*, but it is not available.
- Hansadev, a Jain Pandit, in his exposition detailed about the animals and birds.
- Someswar in his treatise titled ‘Manasollasa’ mentioned about various types of treatments such as Medicine for mankind, Gaja Ayurveda, Aswa Ayurveda, Gavayurveda and also the treatment of birds and other animals.

**Vrikshayurveda**

“Antah Sangna Bhavantyete Sukha Dukkha Samanvitaḥ”

As plants have life, they also experience happiness and misery.

- That means the healthy plants look pleasant and yield the products having highest potency. Where as the plants affected by the pests don’t grow properly and can’t possess the required potency.
- *Vrikshayurveda* in essence is *Vanaspathika Jivana Vigana* — the science of growing trees. It is a discipline said to have been well-established even before sixth Century A.D.
- In Vatsayana’s *Kamasutra*, ‘Vrikshayurveda’ is mentioned as one of 64 *Kalas* or arts recognized in ancient India. It included the construction and maintenance of gardens and parks for health, recreation and enjoyment.
- Texts such as *Garuda Purana* also dealt with the laying out of pleasure gardens and pavilions along with notes on construction of religious, military and residential buildings.
- In Koutilya’s time there was a separate department entrusted with the care of gardens and forests.
- To protect the plants from pests, the plant science was developed, which provided the knowledge of Physiology, Pathology, Horticulture and the treatment of the plants.
- Along with the horticultural practices, management and maintenance practices for parks and gardens too came to be formulated.
- Surapala wrote a book on ‘Vrikshayurveda’. In the preface the author refers to the contents of Varahamihira’s *Brihat Samhita*, sixth Century and Sarangadhara’s *Sarangadhara Paddhati*, 13th Century.
- In the text ‘*Sarangadhara Paddhati*’, nearly 236 *Slokas* were written regarding the plant science.
- Sri Girija Prapanna Majumdar wrote a book on plant science entitled ‘Upavana Vinoda’
Raghava Bhatt in his treatise, ‘Vrikshayurveda’ described many plants, the pests, line of treatment and also the useful herbs in a systematic way.

Vavilla Ramaswamy Sastrulu & Sons published a book in Telugu by name ‘Vrikshayurveda’

Late Sri Achanta Lakshmipati also published a book on plant science through Ayurveda Siksha Series, Madras.

**Nakula:**

- One of the exciting characters in the epic Mahabharata is Nakula, the fourth of the Pandava brothers. He is the son of king Pandu and queen Madri.
- He and his twin brother Sahadeva are in the image of the Aswin Gods.
- Nakula is described as extremely attractive.
- According to record, the twins have special abilities of caring for horses and cows.
- Nakula has special ability to travel in rain riding on a horse, without getting wet. Generally speaking, not everyone is aware of this great skill of Nakula as against the common knowledge that he could tame and train any kind of horse to any degree of perfection.
- He wrote a book entitled ‘Aswa Chikitsa’. It was edited by S. Gopalan and was published by Saraswati Mahal Library, Tanjore in the year 1952.

**Sarangadhara:**

- In the post Vedic literature there is evidence to show that botany developed as an independent science known as
  - Vrikshayurveda which served as the basis for development of science of medicine (as embodied in the Charaka and Susruta Samhitas),
  - The science of agriculture (as embodied in the Krishi Prasara) and
  - The science of horticulture (as illustrated in the Upavana vinoda).
- While there are no treatises so far discovered on the subject of ancient horticulture as such, there is a small chapter, the Upavana vinoda as a branch of Vrikshayurveda, in Sarangadhara’s encyclopedic work, the Sarangadhara Paddhati of the 13th Century, which is a compilation of relevant material from earlier classical sources.
- Sarangadhara was the eldest son of Damodar and the grand son of Raghavadev.
- Raghavadev was a great poet in the court of the king of Hammir, who ruled the country Sakambhari in the 13th century AD.
- Sarangadhara was the author of a popular treatise Sarangadhara Samhita.
- He compiled the treatise at the command of his king for the benefit of his subjects. He also wrote *Sarangadhara Paddhati*.
- The chapter "Upavarna vinoda" among other things discusses the selection of soil for planting of trees, the classification of plants, the sowing of seeds and methods of their propagation, the process of planting, the rules of protection of plants, construction of garden house, details of nutrient solutions, treatment of plants in disease, botanical marvels and experimental results.

**Varahamihira**
- Varahamihira was a great astronomer and a polymath. He was born in the last quarter of the 5th Century AD.
- At the end of the *Brihajjataka*, Varahamihira gives us information about himself that he was a *Brahmin* and the follower of the *Vedas*.

*Varahamihira 505 – 587 AD*
- He was the son of Adityadasa and belonged to Avanti (Ujjain) and studied *Jyotisha* from his father. He was a loving devotee of the Sun. The names of both the father and the son, viz., Adityadasa and Mihira, shows that not only the son, but the father also was a worshipper of the Sun.
- In his *Panchasiddhantika* Varahamihira uses *Saka* 427 (A.D. 505) for *Aharagana*. From this we can presume that he was born in or about the last quarter of the 5th century. Amaraja in his *Khandakhadya Karanatika* tells us that Varahamihira passed away in Saka 509, i.e., 587 A.D., thus living a long life.
- He is considered to be one of the nine jewels (*Navaratnas*) of the court of legendary king Vikramaditya
- *Jyotisha* holds both astronomy and astrology and is one of the six *Vedangas*. It is the most important *Vedanga* being described as the eye among the *angas* (limbs) of the *Veda*.
- The systematisation of this branch of learning probably started with the treatise called the *Vedanga-Jyotisha*, which consists of three main branches: *Siddhanta, Samhita* and *Hora*. Varahamihira is famous for his *Brihat Samhita*
- While the *Siddhanta* deals with the calculation, etc., of planets, i.e., the astronomical part, the *Hora* deals with individual horoscopes, auspicious and inauspicious times for doing a particular thing and other matters of this nature. *Prasna* or Horary astrology comes under this latter branch, *Samhita*. 
- Included in it are a variety of subjects, the auspicious and inauspicious physical characteristics of men and animals (elephants, horses, etc.), science of precious stones, iconography, *Vrikshayurveda*, etc.
- Varahamihira enumerates them in his *Brihat Samhita* (I. 9).
- In the long history of Indian *Jyotisha*, Varahamihira's name is as famous as that of Bhaskara, his brilliant twelfth-century successor, who successfully emulated him in introducing poetical excellence in the presentation of the dry subject of astronomy.
- Varahamihira is still considered the greatest name among all the authors on *Jyotisha*, as he enriched all the three branches of the science, *Ganita, Hora* and *Samhita*.
- What make Varahamihira unique among ancient scientists are his versatility, encyclopaedic knowledge, poetic talent, and his deep grounding in Sanskrit grammar and the science of metres.
- Varahamihira refers to Aryabhatta in his *Panchasiddhantika*. He, therefore, lived a little later than Aryabhatta or was probably a younger contemporary of the latter. Aryabhatta gives us information regarding his date:
  - Each one of his works is written after a deep study of the entire relevant earlier literature on the subject, presented with his own views, in a brief but attractive style, often embellished with poetic and metrical flourishes.
  - He says that the science of *Jyotisha* is a safe boat in a vast ocean. He repeatedly mentions that he is writing the particular work after consulting all the previous authors.
  - An intellectual with a broad outlook, he respected learning wherever it was found. He had an intimate acquaintance with the astrological literature of the Greeks and, a good many Greek astrological terms are found in the *Brihajjataka*.
  - In a spirit of humbleness, Varahamihira requests his successors in the field to make good the deficiencies that may be found in his works and also cautions them against textual corruptions that may creep in the course of time.
  - The exact number of his works is not yet certain. The main known works are *Panchasiddhantika, Vivahapatala, Brihajjataka, Laghujjataka, Yatra* and *Brihat Samhita*.
- *Brihat Samhita* consists of 106 chapters with a total of nearly 4000 *Slokas*. The range of subjects dealt with here is very large, including:
  1. The effect of movements of planets and natural phenomena on human life
2. Geography
3. Characteristics of Khadga (sword),
4. Angavidya (Samudrika),
5. Architecture,
6. Iconography,
7. Auspicious and inauspicious characteristics of men and animals (e.g., elephant, horse, dog, goat, etc.),
8. Omens
9. Manufacture of cosmetics,
10. Vrikshayurveda (Botany),
11. Science of precious stones
12. Chapter in praise of women etc

- The Brihat Samhita must have been of immense use to people, particularly to kings of ancient India, providing guidance in their daily life in respect of many things.
- A critical study of this work is very important from the point of view of our cultural history. It shows the range and wide sweep of Varahamihira's mind.
- By enriching and preserving all the branches of Jyotish, Varahamihira acquired for himself not only the eminent position of the greatest author on the subject, but he kept the lamp of knowledge alight for posterity. No wonder that the tradition puts him on the same pedestal as Dhanvantari and Kalidasa.

*****
11th Chapter

*The contemporary authors in the modern period*

### Kaviraj Gananath Sen

- Kaviraj Gananath Sen was born in the year 1877 in Benarus.
- His father’s name was Kaviraj Viswanath Sen, who was a disciple of Kaviraj Gangadhar Rai.
- Gananath Sen was a brilliant student and studied M.A. Sanskrit.

![Kaviraj Gananath Sen](image)

- In the year 1898 he joined in the medical college and completed L.M.S. by the end of 1903.
- Later on he learned Ayurveda from his father and also from Acharya Kaliprasanna Sen, and became a popular physician at the age of thirty.
- He used to diagnose the patients on modern lines and give treatment according to Ayurvedic principles.
- In the year 1912 he wrote a voluminous treatise on anatomy (with diagrams) by name ‘Pratyaksha Sareera’ in Sanskrit language.
- It became very popular throughout the country within a short period and it was prescribed as a text book for the students of Ayurveda for the last 50 years.
- It was translated into Hindi also.
- Some of the scholars of Ayurveda differed with the views of Gananath Sen. For e.g.: Jyotish Chandra Saraswati, P.B. Krishnamacharya Mukkamala Venkata Shastry etc.
• Similarly Gananath Sen composed a text on pathology in Sanskrit and named it ‘Siddhanta Nidana’.
• On 7-12-1916 he presented a scientific paper titled ‘Hindu Medicine’ in Benarus Hindu University. Later on it was published in English, Tamil, Malayalam, and Hindi. The English edition was reprinted 7 or 8 times.
• In reply to the controversies raised on the technical terms mentioned in ‘Pratyaksha Sareera’, Kaviraj composed a booklet titled ‘Sangna Panchaka’ in Sanskrit and English.
• Similarly he also composed a dictionary by name ‘Sareeraka Paribhasha’ to give the exact meanings of the technical terms used in ‘Pratyaksha Sareera’.
• He was the President of the annual conferences of Akhila Bharata Varshiya Ayurveda Mahasammelan conducted at Allahabad in the year 1911, Indore in the year 1920 and at Mysore in the year 1931.
• He was also the President of Nikhila Bharata Ayurveda Vidyapeeth for many years.
• He worked as the head of the Institute of Astanga Ayurveda College and Hospital, Calcutta.
• He was the founder principal of Viswanatha Ayurveda Maha Vidyalaya and Chikitalsalya.
• Kalpataru Ayurveda Pharmacy was established by Kaviraj Gananath Sen.
• He was the Dean, Faculty of Ayurveda, Benarus Hindu University in the year 1935.
• He was honored by the Government of India, with the title ‘Maha Mahopadhyaya’.
• The other titles given by various organizations are Vidya Sagara, Pranacharya, Ayurveda Vachaspati etc.

Yamini Bhushana Roy
• Kaviraj Yamini Bhushana Roy was born in the year 1879 in a small village named Sama, Khulna District, Bengal State.
• His father’s name was Kaviraj Panchanana.
• Yamini Bhushan studied M.A. Sanskrit and later on he did M.B.B.S. course from Calcutta Medical College.
• He learned Ayurveda from his father and later he became a disciple of Vijayaratna Sen.
• He started medical practice in 1906 and strictly practiced Ayurveda only, though he studied M.B.B.S.
In the year 1916 he established *Ashtanga Ayurveda College* as well as Hospital in Calcutta, by the inspiration of Pt. D. Gopalacharyulu.

- The foundation stone was laid by Mahatma Gandhiji.
- Yamini Bhushan Roy was the founder Principal of the college, and was also the first Superintendent of the attached hospital.
- He was the president of the annual celebrations of *Akhila Bharata Varshiya Ayurveda Maha Sammelan* conducted at Madras in the year 1915.
- He wrote the following books in Sanskrit.
  
  1. *Roga Vinischaya.*
  2. *Salakya Tantra.*
  4. *Visha Vignana.*

- The credit of being the first person started writing Ayurvedic books on the modern lines goes to Kaviraj Yamini Bhushan Roy.
- Unfortunately in the year 1926 he passed away in his 47th year.
- Afterwards the college and hospital were named after *Yamini Bhushan Roy Ashtanga Ayurveda College & Hospital.*
- He was inspired by Pt. D. Gopalacharyulu and established the college and hospital.
- He was a great scholar in Sanskrit, Allopathy and Ayurveda and served the Ayurvedic world in various ways till his last breath.

**Shri Yadavji Trikamji Acharya**

- He was born in the year 1881 at Porbandar, Gujarat State. His father Shri Trikamji was the Royal physician to the king of Porbandar, Rana Saheb.
- He did early education at Porbandar.
- In the year 1888 he left for Bombay and learned *Vyakarana, Darshana, Arabic, Farsi* from different teachers. He learned Unani medicine from Hakim Ramnarayanji. Pt. Gowri Sankar taught him Ayurveda. Basics were learned from his father.
- In his 18th year, his father passed away, so he took the family responsibility.
- In the year 1899, *Madhava Nidana* was translated into Hindi with the commentary ‘*Madhukosa*’ and it was published by Nirmaya Sagar Press, Bombay in the year 1901. This was the first attempt made by him in writing Ayurvedic books and it was continued till his last breath.
• ‘Charaka Samhita’ along with the commentary ‘Ayurveda Dipika’, ‘Susruta Samhita’ along with ‘Nibandha Sangraha’ etc. were published by Nirmaya Sagara Press under his editorial ship.

• Rasa Hridaya Tantra, Rasa Prakasa Sudhakara, Gadanigraha, Rajamartanda, Nadi Pariksha, Vaidya Manorama, Dhara Paddhati, Rasayana Khanda, Rasa Paddhati, Louha Sarvaswa, Rasasara, Rasasanketa Kalika, Rasa Kamadhenu, Kshemakutuhala etc. were the books edited and published by him.

• He translated ‘Pratyaksha Sareeram’ of Gananath Sen in Gujarati and published it with the help of Jugatram Bhai. By incorporating the practical experiences, he wrote a book namely ‘Siddhayoga Sangraha’.

• He served the poor by dispensing medicines freely and without taking any consultancy. Similarly he encouraged the Ayurvedic scholars to write books and taken up publication of those books.

• He worked as a Professor at Gujarat Ayurved University, Jamnagar.

• He wrote a book on Unani system named ‘Unani Dravya Guna Vignan’ and published it in Hindi.

• His death in the year 1956, was a big blow to the Ayurveda movement.

Shri Sankardaji Shastri Pade

Born in the year 1866 in Bombay

Father: Pandit Daji Shastri Pade. He was a great Scholar in Astrology

Education: Learned Ayurveda from Shri Bhanu Vaidya Kulakarni.

Publications

• After starting Ayurvedic practice he began publishing the monthly journal named ‘Raja Vaidya’. In that journal he gave a list of more than 800 books pertaining to Ayurvedic Literature. He gave separate lists of the published and unpublished books.

• In the year 1888, he replaced it with another monthly magazine named ‘Arya Bhishak’ and continued it till his death. Vagbhata, Charaka, Brihat Nighantu, Oushadhi Guna Dosha, Nighantu Siromani, Vanoushadhi Gunadarsa etc. were the books published by him in Marathi. He was given financial assistance by the king of Baroda, Shri Sayajirao Gaekwad for pub-
lishing the above books. At the same time ‘Arya Bhisak’ in Gujarati was started and it was continued till the publication of ‘Vaidya Kalpataru’ (Gujarati) by Jatashankar Leeladhar.

- In the year 1903 he started publishing ‘Sadvaidya Kaustubha’ in Hindi. For Gujarati Publications, he established office at Ahmedabad.

- For the awareness and development of the system of Ayurveda, Ayurvedic Medical Practitioners’ Conference was held at Bombay for the first time in the year 1903. Later with the help of ‘Prabhu Ramji’, Ayurvedic College was established. Later on two more colleges were started at Nasik and Nagpur.

- In 1906: ‘Vidya Peeth’ was established

- In 1907: ‘Vaidya Sammelan’ was conducted. 1st conference was held at Nasik. 2nd conference was held at Panvel (Bombay).

- Gradually ‘Vidya Peeth’ has gained the popularity throughout India. In the year 1908 ‘Vidya Peeth’ was shifted to Prayaga and Shri Jagannath Prasad Shuklaji was invited from Nagpur to be in charge of that ‘Vidya Peeth’.

- He wanted to conduct the 3rd conference at Benarus. But in the year 1909 he left this world.

- Shri Shankara Daji Shastri Pade, a great scholar of Ayurveda, belonged to Marathi region. He worked till his last breath for the development of Ayurvedic Medical System.

**Capt. G. Srinivasa Murthy**

- He was born in the year 1887 in a small village named ‘Gorur’ in Mysore State.

- He studied B.A. and then he joined medicine at Madras Medical College. After that he taught Biology and medical jurisprudence in the same college for some time.

- In the year 1917, at the time of 1st world war he joined as a Doctor in the Military service. In the year 1921 he left the job and joined as a Professor of Surgery in Royapuram Medical School and was also appointed as a surgeon in the attached hospital.

- At that time Madras Government appointed a committee named ‘Usman Committee’, to submit a report for taking necessary steps for the develop-
ment of Indian Systems of Medicine. Sir Mohd. Usman was the President of the committee and Capt. G. Srinivasa Murthy was the Secretary.

- In this way, he got the opportunity to study the merits of Ayurveda and also the status of Ayurveda in various parts of our country.
- After receiving their report, Govt. of Madras decided to establish a Govt. School of Indian Medicine at Madras and the responsibility of preparing the syllabus and curriculum was entrusted to Srinivasa Murthy.
- In the year 1925 the school was opened and he was appointed as the first principal of that college.
- He was also appointed as President, Central Board of Medicine by the Govt. of Madras in the year 1932.
- He wrote a book in English on Infant Mortality.

Dr. Nori Rama Shastry

Birth: in Feb 1882.

Place of Birth: Sayapuram, Krishna (Dt.) A.P.
- His uncle Sri Nori Naga Bhushanam adopted him. Afterwards he stayed at Poranki.

Education
- His adopted father Sri Naga Bhushanam gave early education. As his adopted father was an Ayurvedic Practitioner, Dr. Rama Shastry shown interest towards Ayurveda.
- In the year 1902 he joined as a student of Sri Kanyaka Parameswari Ayurvedic College, Madras, which was established by Pt. D. Gopalacharyulu. Dr. Nori Rama Shastry was a student of the first batch of that college.
- In the year 1906 he passed the course in first division and obtained ‘Ayurveda Bhushana’ certificate.
- In 1907 he started private practice by establishing a clinic named Ayurveda Nilayam.
- Later on he established a Pharmacy attached to the hospital for manufacturing genuine Ayurvedic Medicines.
- ‘Kshira Vardhini’, ‘Jivana Vati’, ‘Vishuchika Nivarani’ etc. are the popular medicines manufactured by his pharmacy.
- He exhibited the medicines prepared by him. Eg: ‘Ksheera Vardhini’, in the year 1915 at ‘7th Akhila Bharata Ayurveda Vaidya Sammelan’ at Madras, in
the year 1917 at Poona, in 1918 at Lahore, in 1924 at Colombo, in 1945 at Vijayawada Industrial Exhibition and got Gold Medals and Appreciation Certificates.

- In recognition of his services at Vijayawada, the then District Judge Diwan Bahaddur Y. Janaki Ramaiah Pantulu presented a gold medal.
- He was a specialist in curing the pulmonary T.B. and bone T.B. with Ayurvedic medicines before the invention of streptomycin.
- He served as Hon. President for *Nikhila Bharata Ayurveda Vaidya Sammelan* for several years.
- He was the examiner for 'Ayurveda Bhishak', *Ayurveda Visarada*, *Ayurvedacharya*, L.I.M, G.C.I.M. examinations.
- During 1916-17 he established 'Andhra Ayurveda Peetham' which was affiliated to 'Nikhila Bharata Ayurveda Peetham' and he acted as it’s President and Secretary for several years, and conducted examinations.
- In the year 1908 he lost his first wife and married Parvatamma in the year 1909, and they were blessed with 2 sons and 3 daughters.
- As per the instructions of his preceptor Pt. D. Gopalacharyulu, Dr. Nori Rama Shastry established Venkateswara Ayurvedic College in the year 1922 at Vijayawada, in their own house, and gave free boarding & lodging to the students who came from far off places.
- In the year 1928 the college building and hostel was constructed. Later on the college was taken over by the government in the year 1968.
- The elder son, Dr. Nori Venkateswara Shastry became the principal of Ayurveda college after his father and served up to 1972. The second son Dr. Laxmikantha Shastry worked as a professor in the same college and taught *Sareera Rachana* and *Kriya*.
- Dr. Nori Rama Shastry was praised by students, teachers and the community of Ayurveda for the services rendered by him to the science.
- On 20th April 1956 he left this world.

**Prof. C. Dwarakanath**

**Birth:** He was born on 6-8-1896

**Place of Birth:** Visakhapatnam, Andhra Pradesh.

**Education:**

- Studied in St. Joseph’s High School, Tiruchirapalli, Pachayappa’s College, Madras.

*Prof. C. Dwarakanath*
• In 1928 he took Diploma in Indian Medicine from Govt. School of Indian Medicine, Madras.
• In 1934 received a fellowship of the Alexander Von Humboldt foundation Germany, with which he pursued advanced studies in medicine.
• During 1935-37, he completed his research in Chemistry, Pharmacology and Therapeutics about ‘Ayurvedic Swarna Bhasma’ at the faculty of medicine, Hamburg University, Germany.
• During 1938-43, after returning from Germany, he continued the research at Govt. School of Indian Medicine, Madras under the guidance of Vaidya Ratna Capt. G. Srinivasa Murthy. He published a Monograph on Gold therapy in tuberculosis. Then he served as Asst. Director, Ashtanga Polyclinic Adayar, Madras under the Directorship Capt. G. Srinivasa Murthy.
• In 1945 he joined as Research Officer at Sri Jaya Chama Rajendra Institute of Indian Medicine, Bangalore.
• In 1946 he acted as the Secretary for Committee for indigenous systems of medicine (Chopra Committee).
• In 1948 he became the Principal, Govt. of Indian Medicine, Madras. During this period he, reorganized the college and courses of studies.

Publications

1. Fundamental Principles of Ayurveda – 3 parts.
   1st part - outlines of Nyaya, Vaiseshika Philosophy.
   2nd part - Sankhya, Patanjali System.
   3rd part - Ayushkameeya, Dravyadi Vignaniya.
2. Introduction to Kaya Chikitsa (1959)
• He worked as Prof. and H.O.D. of K.C. at IPGT&R, Jamnagar and guided 9 P.G. theses on different aspects of Ayurveda.
• In 1959 he became the Advisor to Govt. of India in Indian Systems of Medicine, launched many research projects and established P.G. Institute of Indian Medicine at B.H.U., Varanasi.
• In 1962 he was appointed as Member Secretary of the first Ayurvedic Pharmacopoeia Committee.
• After his retirement in 1967 he was appointed as officer on special duty at ICMR. He was the architect of composite drug research scheme implemented by ICMR, New Delhi. Phytochemists, Pharmacognosists, Pharmacologists and Clinicians formed a circuit and evolved collaborative research programme at each centre.
In 1966 he became Vice Chairman for ‘Journal of Research in Indian Medicine’ and started publishing it in 1966 from B.H.U. Simultaneously he promoted Ayurveda abroad. In 1966 he was invited to Soviet Union to start Ayurvedic Department and Center of Medical Research.

In 1967 he made a trip to Western Europe. Medical experts were interested in the possible applications of Ayurveda in the ‘Stress Management’, contributions in the intestinal ecology and enema (Vasti Therapy).

In 1973 he was appointed as a Visiting Professor, IMS, BHU Varanasi.

His 13 lectures were published in German. He wrote a monograph on ‘Sarangadhara Samhita’.

He died on 11-9-1978.

Pandit Shiva Sharma

Birth: He was born on 12-3-1906.

Place of birth: Taksal (Sub Himalayan Village)

Parents: Pt. Ram Prasad Sharma, Smt. Krishna Devi
(First wife of Ramprasad Sharma)

Brothers:

- Only one brother named Hari Sharma.

- Hari Sharma was sharp and very much disciplined. He was exceptionally brilliant in his studies and attained conspicuous mastery over Sanskrit, English, Law, Administration and Politics. He won McLeod Gold medal and purse for securing a “First class first’ in his P.G. Degree Examinations.

Father:


- After the death of his first wife, he married again and shifted his family to Patiyala under the orders of Maha Raja Bhupendra Singh of Patiyala and established an Ayurvedic school.

- His method of teaching was based on ‘Guru Sishya Parampara’, the direct intensive contact between preceptor and disciple.

- Among his disciples were the Raj Vaidya of Dholpur State Pt. Amarnath Sharma, Raj Vaidya of Joara State Pt. Swami Dutt Sharma and Dr. Baldev
Sharma Former Pro Vice Chancellor of *Jhansi Ayurveda Viswavidyalaya* and first director of Shri Bandaranaike Memorial Central Ayurvedic Research Institute, Ceylon.

**Education:**

- Shiva Sharma received most of the education under *Guru Sishya Parampara* model.
- He was often absent from home and school.
- Mostly he was caught playing hockey, *gullidanda*, and cricket. In spite of all this he had a knack of getting through his examinations by a spurt of hard work at the eleventh hour.
- He did his matriculation and took school leaving certificate from the Punjab University of undivided India.
- He got the certificate *Prajña* (Proficiency in Sanskrit) from the same university.
- For the study of *Sankhya, Nyaya, Vaiseshika* and *Vedanta Darshanas*, he stayed for one year at Amritsar, spending most of the time with his 80 year old *Guru* Pandit Hemraj Shastri.
- Shiva Sharma got excellent knowledge of English from Prof. Kiran Chandra Bose, Former, Principal of Mohindra College, Patiyala.
- He studied the basic sciences from Dr. Viswanath of Govt. College, Lahore.
- In 1928, he passed *'Ayurvedacharya’* the highest degree awarded by the state. Immediately after passing the examination, he was appointed as Senior Professor of Ayurveda at the biggest Ayurvedic Institution in the province of Punjab.
- In 1930 he opened his clinic, *Prasad Bhavan* (named after his father) in Lahore in an affluent area, Opposite Biggest Govt. Hospital. Shiva Sharma of Patiyala now became Shiva Sharma of Lahore. Two decades later, he became Shiva Sharma of Bombay.
- In 1931 Shiva Sharma met Mahatma Gandhi in Lahore at Lajpatirai Bhavan, and presented a small purse to Gandhiji on behalf of the Hindu young men’s association. Later in 1944 February, he was allowed by the British Indian Government to attend on Mrs. Gandhi. Mahatma Gandhi’s regard for Shiva Sharma grew with every meeting.

**Titles, Awards and Honorary Degrees**

1. *Padma Bhusan* (Govt. of India)
2. *Vaidya Ratna* (Govt. of India, Pre Independence)
3. *Ayurveda Ratnakara* (H.H. Japadguru Shri Sankaracharya Dwaraka Peeth)
4. *Ayurveda Bhishagratna* with Jewel (H.H. The maharaja of Mysore)
5. *Ayurveda Chakravarti* (Govt. of Ceylon)

**Honorary Offices**

1. Hon. Personnel Ayurvedic Physician to the President of India.
5. Chairman, Taskforce on Indian medicine for the 5th five year plan.
6. Chairman, Scientific Advisory Board of Research on Indian Medicine, Govt. of India.
7. Hon. Advisor on Ayurveda, Govt. of Ceylon.
8. Member of Indian Parliament 1967 to 1970 (Independent).
9. Member, Advisory Committee on P.G. Ay. Course B.H.U.,
10. Colombo Plan Advisor to the Govt. of Ceylon.
11. Member, Board of Studies in Ayurveda for many Universities.
13. Chairman, Committee for standardization of Ayurvedic Pharmacopoeia, Bombay.

**Publications**

1. Yoga against spiral pain (Harrap, London: also published in India, USA, Germany, Finland, Denmark, Holland, Brazil).
2. Yoga & Sex (Harrap, London: also published in India, USA, Brazil).
3. The System of Ayurveda
4. *Shiva Dipika* Commentary (Hindi) on *Vagbhata*.
5. *Shiva Dipika* Commentary (Hindi) on *Haritakyadi Nighantu*.
6. Ayurvedic Medicine – Past and present in progress in drug research.
   - Lectures given at Ceylon, New York, Australia, Tokyo, Fiji.
• Sports: Winner of many trophies in golf, tennis, badminton, hockey, volleyball, *gullidanda*, Kabaddi etc.

• Pandit Shiva Sharma enhanced the reputation of the country abroad and brought International Goodwill. The Governments and the press in several countries paid him handsome tributes....
   “What Nehru is to Indian Politics, what Radhakrishnan is to Indian Philosophy, what Tata is to Indian Industry, Shiva Sharma is to Indian Ayurveda” - Times of Ceylon.

• On 14th Oct, 1962 – at the inaugural function of Sri Bandaranaike Memorial Central Ayurvedic Research Institute at Navinna, Ceylon, Pt. Shiva Sharma gave an explanatory speech, giving the background of the institution and its future potential, with a short introduction to Ayurveda in presence of the two prime ministers, Pt. Jawaharlal Nehru and Sirimavo Bandaranaike.

**Pt. Shiva Sharma’s Opinion about the Modern Scientific Interpretations of Age old Ayurvedic Concepts**

Pt. Shiva Sharma has identified the limitations of modern medical interpretations for a better understanding of Ayurvedic concepts related to health and disease.

He further explained “It is said of Procrustes, a demon robber in Greek mythology that he used to decoy travelers, who had lost their way to his castle in a forest and, after feasting them, offer them his bed. If the guest was shorter in length than the bed, he would pull his feet and head in opposite directions till the length of his body become one with the bed. If however, the bed proved shorter than the guest the demon chopped off such portions of his head and feet as protruded out of the bed, to make him fit the dimensions of the bed. In either case, the unfortunate guest died and the demon appropriated his belongings. The writer who recorded this story could have little idea that the 20th century will witness a medical science, Ayurveda being subjected to identical treatment vis-à-vis the modern medicine.

What follows is Ayurvedic therapy, plain and simple, as it has been practiced by the Indian physicians and as awe, the *Vaidyas* understand it today, in its age-long traditions and dimensions, without being stretched or chopped off to fit the Procrustean bed of modern medicine. In a limited treatise of this nature (*Ayurveda Past and Present*) only such aspects of Ayurveda have been selected for explanation as influence the day to day practice of Ayurveda in the hands of the practitioner. However in order to make the Ayurvedic theory more easily understandable, it will be necessary, from time to time, to refer to some of the diseases in medical terminology, caused by the upset of *Tridoshic* balances.
Vaidyaratnam P.S. Varier

- Vaidyaratnam P.S. Varier was born and brought up in an orthodox family in the rural parts surrounded by temples and palaces which were citadels of orthodoxy in Malabar.

- He had an attractive personality with fair complexion.

- He was an enterprising industrialist who converted Ayurveda into an industry in Kerala. Vaidyaratnam P.S. Varier

- Most of his time was spent for the revival of Ayurveda. He was not a mere individual, he was a great institution.

  Birth : 16th March 1869.
  Father : Ram Varier
  Mother : Kunhikutty Varasyar.

- Kunhikutty Varasyar gave birth to a boy on the early hours of 16th March 1869 and named him ‘Sankaran’. He was known by two pet names ‘Sankunni’ and ‘Kuttan’.

Early education:

- He learnt Sanskrit under Krishna Varier in the premises of the Siva Temple, Kottakkal.

- He had first lessons in Ayurveda under Achyuta Varier at Kottakkal.

- After that he studied Ayurveda for 4 years under Ashta Vaidyan Sri Kuttanchari Vasudevan Mooss and Aryan Mooss in the lines of ‘Guru Kula’.

  Though he was the youngest among all the students, he never shirked his work however tiresome and rigorous it was. On the contrary he felt happy and stayed nearer his teacher and served him and learned from him. After the completion of the course he gave appropriate ‘Guru Dakshina’ to his teachers and received their blessings.

  After the completion of his studies, he returned to Kottakkal and setup practice as ‘Vaidya’ at the age of twenty. His ambition was to raise Ayurveda to higher levels, for which he thought that it was necessary to organize a sound institution where Ayurvedic medicines would be manufactured on scientific lines. The money constraints prevented him to implement his plans and to overcome this problem he started one chit fund company with help of his friends and successfully start Vaidya Sala.

  He learned English from Sri Kuthiettan raja. His eye trouble, granular ophthalmia forced him to stop his studies. He had treatment for his ailment from Dr. V.
Varghese, famous ophthalmic surgeon of Manjeri. While he was in the hospital he had developed close contacts with Dr. Varghese and studied allopathic books for over 3 years. After gaining considerable knowledge in Ayurveda as well as in Allopathy, he paid interest towards *Alankara Sastra* and *Kathakali*. He gave several public exhibitions of his musical concerts. After that he constructed a building for ‘*Arya Vaidya Sala*’ for manufacturing of genuine Ayurvedic medicines on modern and scientific lines.

12th October 1902 on the ‘*Vijayadasami Day*’, *Arya Vaidya Sala* was inaugurated as a home industry by ‘*Sankunni Varier*’ at Kottakkal. Since then he started writing his name as P.S. Varier.

- P.S. Varier was the first man to make *Kashayas* preserved in bottles for any length of time without deterioration.
- He discovered an effective remedy for cholera named it as ‘*Vishuchikari Pills*’ and it was acclaimed as a wonder drug of those days.
- In 1903 he prepared and published his first catalogue which gave the details of usage, dosage, and other information necessary for a layman.
- In 1907 he published a big volume in Malayalam named ‘*Chikitsa Sangraham*’. These publications helped to popularize Ayurveda in Kerala.
In 1903, Association of the *Vaidyas* of Kerala met together under the leadership of *Vaidyaratnam* P.S. Varier and formed into an association named ‘*The Arya Vaidya Samajam*’. P.S. Varier was chosen as the permanent secretary. For about 12 years the *Arya Vaidya Samajam* held its annual conferences in different parts of Malabar. Then the *Vaidyas* of Cochin State started a similar organization under the name of ‘*Keraliya Ayurveda Samajam*’.

In 1906 September in her sixty eighth year, his mother passed away. To him, his mother was a friend, philosopher and guide holding the bridle, leading him in the right path.

In 1908 he started a Malayalam dramatic troupe and named it as ‘*Parama Shiva Vilasam Dramatic Company*’. He himself was its proprietor and director. ‘*Kalidasa Sakuntalam*’, ‘*Harischandra Charitra*’ etc. were the famous performances of the organization.

While he was in ‘*Guru Kula*’ P.S. Varier was dreaming of a well organized institution where students from all classes and creeds can learn Ayurveda without any restriction. On Jan 14th 1917 (*Makara Sankranthi Day*) the *Arya Vaidya College* was inaugurated by Zamorin Maharaja of Calicut. The college had a 4 year course of studies. After passing the final year exam a certificate of ‘*Arya Vaidyan*’ was awarded by the ‘*Arya Vaidya Samajam*’.

- In 1924 P.S. Varier opened a charitable hospital at Kottakkal and shifted the college from Calicut to Kottakkal.
- In 1947 the college was recognized by the Government. P.S. Varier taught ‘*Sareera Sastra*’ to the students till his death. He wrote a book named ‘*Brihat Sareera*’ and ‘*Ashtanga Sareera*’.
- On 16th October 1927 Silver Jubilee Celebrations of the Pharmacy were celebrated.
- In 1929 P.S. Varier’s *Shastybdi Poorti* was celebrated. On 1st April 1932 Idol of Lord Viswambara was installed in the temple.
- In the year 1932 P.S. Varier was nominated as a member of central board of Indian Medicine. Till his death his membership in the board continued. He was also an examiner of the Government School exams of Indian Medicine, Madras.
- In recognition of his services rendered to Ayurveda, the Govt. of India awarded the title of ‘*Vaidya Ratnam*’ in the year 1933.
- In the year 1938 *Brahma Rasayana* was tried by him on himself for a period of 21 days and he took rest for 40 days. Surprisingly he found that he regained the lost energy, vitality and vivacity.
• In 1942 Silver Jubilee Celebrations of *Arya Vaidya College* were held in a grand manner. He spent money from his own pocket.

• *Vaidya Ratnam* P.S. Varier left this world on the dawn of Sunday the 30th Jan 1944.

**Dr. Achanta Lakshmidipati**

Achanta Lakshmidipati was born in a Brahmin family. His fore fathers migrated from Gurajala of Guntur District to Achanta of W.G. District and since then their surname was changed to ‘Achanta’. Subbarayudu was the grand father of Dr. Lakshmidipati. He had 3 sons named Chalapati, Ramaiah and Nagaraj. Ramaiah was the father of Lakshmidipati

**Birth** : He was born on 3rd March 1880 at Madhavaram

**Father** : Ramaiah

**Mother** : Janakamma.

• Primary Education: He joined primary school (local board, at the age of 5). Laxmaiah Naidu was his teacher.

• At the age of seven, he was attacked by small pox. There were no medical facilities in that village at that time, except the services of a traditional practitioner named ‘Gajula Veeraiah’, who used to sell bangles in the surrounding villages. No internal medication was given for small pox in those days except the external application of the paste of neem leaf, turmeric powder plus gingili oil.

• In the 8th year thread marriage was celebrated grandly for 5 days.

• In the year 1889 he joined in the first form at Tanuku Victoria Jubilee Higher Secondary School. Till 1892, he studied there.

• On April 9th 1895, in his 15th year he married Sitamma (12 yrs).

• In the year 1896 he passed the Matriculation Examination. For higher studies, he did not get any encouragement from his father, but his grand father gave him support.

• In December 1899 he wrote F.A. examination at Chennapatnam and in the month of January 1900, he was declared passed.

• From July 1900 to February 1901 nearly (8 months) he served as a clerk in the Taluk office at Kovvur and was paid Rs.15/- p.m.

• From 1st March 1901 onwards he joined as a supervisor, in the census office,
Chennapatnam and was paid Rs.25/- p.m. As the office was closed on 1st September 1901, he returned to Madhavaram.

- In the year 1902 he stayed at Chennapatnam for the treatment of his mother.
- In the year 1903 he joined the college at Rajahmundry. One day in 1904, while he was going to the college, Davuluri Uma Maheswara Rao, Tahasildar called him into his house and showed the advertisement in District Gazette, about the admission into medical college of Chennapatnam. He brought the application and sent it within no time.
- In July 1904 he joined the Madras Medical College. There were 2 courses namely:
  (a) 4 years course – L.M.S. (Licentiate of Medicine & Surgery)
  (b) 5 years course – M.B.C.M. (Bachelor of Medicine and Chirugia Magister) (Master of Surgery)
- The first man who did M.B.C.M. from Andhra was Dr. Pattabhi Sitaramaiah and the next one was Dr. Achanta Lakshmipati.

<table>
<thead>
<tr>
<th>Children</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lakshmi Devi</td>
<td>Dec-1900</td>
</tr>
<tr>
<td>Janaki Ramaiyah</td>
<td>June-1903</td>
</tr>
<tr>
<td>Annapurna</td>
<td>June-1905</td>
</tr>
</tbody>
</table>

- During 1906-1907 he started the publication division named ‘Vignana Chandrika Mandalii’.
- The first book published by the division was ‘Abraham Lincoln’ written by G. Hari Sarvottama Rao.
- 2nd book was ‘Hindu Mahayug’ written by G. Hari Sarvottama Rao
- 3rd book was ‘Jiva Sastra’ written by A. Lakshmipati.
- When he was in the final year of M.B.C.M. he did the first operation (Phimosis) in the house with the assistance of his friend Md. Hussein.
- On 15-2-1908 he lost his wife who suffered from ‘Atisara’. In the year 1909 he passed the final year M.B.C.M. After that he started practice by establishing clinics in the four corners of the city of Chennapatnam. He used to visit the clinics traveling by bicycle only.
- Along with the practice, he planned to publish at least 4-5 books per year through the publication division named Vignana Chandrika Mandalii. At that time he had developed contacts with Pt. D. Gopalacharyulu. He gave suggestions regarding the names of diseases while translating the text Madhavanidana.
- Later on he established operation theatre also. Dr. Gabet and Dr. M. Krishna
Swami Ayyangar were appointed as consulting surgeon and ophthalmologist respectively.

- The amount collected from the patient was shared fifty-fifty by Dr. Lakshmipati and the consultants. The 1st Eye Operation was successfully conducted on Dr. K.L. Rao, Central Irrigation and Power Minister, who was the nephew of Ayyadevara Kaleswararao.

- In 1910, he wrote a book on ‘Cholera’ giving lines of treatment both in Ayurveda & Allopathy.

- On December 3rd 1911 he married Rukmini Devi.

- From 1912 to 1914 he worked together with Pt. D. Gopalacharyulu for the development of Ayurveda. He learned Ayurveda from Dr. Gopalacharyulu and taught medicine and surgery to the students of Ayurveda College.

- In 1914 Medical Registration Act was introduced by Dr. Nayar. Dr. Lakshmipati did not register his name due to his interest in Ayurvedic system of Medicine. Since 1917 he diverted his allopathic practice to Ayurvedic practice.

- On September 20th, 1920 Pt. D. Gopalacharyulu left this world unexpectedly, then he took the responsibility of running Ayurveda College and continued till 1928. It was closed to the establishment of Government School (College) of Indian Medicine in 1925.

- In the year 1920 April, Andhra Ayurveda Pharmacy Ltd. was established by Dr. Laxmipati.

- In 1919, he purchased 4 Acres of land at ‘Avadi’.

- On Jan 13th 1926 Dr. C. Muttu laid the foundation stone for ‘Arogya Ashram’.

- In the year 1927, 112 acres were taken for lease for Rs.400/- per year.

- On 26th Jan 1927 Ayyadevara Kaleswararao opened the 1st cottage in ‘Avadi Ashram’ and joined as the first person to get rejuvenation treatment. That was named ‘Hakim Nagar’.

- By the end of 1939, 300 acres of land was purchased by the ‘Ashram’. As there was a military base adjacent to that and government took over the entire land and compensation was given.

- On his 58th birthday i.e. in the year 1938 he started ‘Arogya Dandu’ at Madras, and in due course it spread all over India.

The aims and objective of the organization was ‘Prevention is better than cure’. Dr. Lakshmipati strongly pleads that instead of establishing medical colleges and increasing the bed strength in the hospitals, it is better to propagate the Hygienic principles and the preventive measures in the public.
He feels that the enemies in the war of non-violence are

1. Agnan (Lack of knowledge) 2. Aviniti (Corruption)
3. Asuchi (Lack of cleanliness) 4. Asraddha (Carelessness)

To conquer the above enemies, the following are the required weapons.

1. Atma Nigraha (self control) 2. Atma Viswasas (self reliance)
3. Atma Tyagam (self denial) 4. Swayam Krishi (self effort)

In this war, the following will be the plan of action.

**Pancha Suddhi Pranalika**

1. Deha Suddhi 2. Desa Suddhi
3. Ahara Suddhi 4. Manasa Suddhi
5. Atma Suddhi

He feels that body building helps in nation building. Healthy people only make the country very strong.

For the implementation of ‘Pancha Suddhi Pranalika’ the following 5 classes of Employees (Honorary) are required

1. Arogya Senadhipathi 2. Arogya Rakshak
3. Arogya Pracharak 4. Arogya Sahayak
5. Arogya Bhatt

Prior to joining in the organization everybody should sign on the application form by giving their consent to propagate the hygienic principles in the society.

- Though he studied M.B.C.M., Dr. Achanta Lakshmipati did great service to the public and to the science of Ayurveda.
- By establishing Andhra Ayurveda Pharmacy – Genuine Ayurvedic medicines were prepared and supplied to the dispensaries of local board.
- Through his publication division ‘Vignan Chandrika Mandal’ a number of books were published, through which Ayurveda was propagated.
  - Andhra Sahitya Parishat.
  - Avadi Arogya Ashram.
  - Ayurveda College – Management.
  - Publication of Ayurvedic Magazine – Dhanvantari.
  - Andhra Medical Journal.
  - Writing Books.

By undertaking the above work, he did justice to all of them by paying proper attention at every level. Such a great personality left this world in the year 1962.
Kaviraj Gangadhar Sen

- Kaviraj Gangadhar Sen was the son of Bhavani Prasad Roy.
- He was born in a village Bhagura, Jessore (Dt.) of Bengal in the year 1799. He learned the basic sciences from his maternal grand father.
- Later on he was sent to Kaviraj Ramakant Senji to learn Ayurveda at the age of eighteen.
- Within three years he gained theoretical as well as practical experience. At the age of 21, he started medical practice at Calcutta. As per the advice of his father, he started practice at Mushirabad which was the capital of Bengal, Bihar and Orissa states of those days.
- Within a short period, he became a popular and most successful Ayurvedic physician, as he was rendering cure to the incurables.
- He treated Smt. Swarnamayi, Queen of Kasimbazar. Then he was appointed as Royal Physician. He also gave treatment to the Nawab of Mushirabad.
- As his wife passed away in the early years, complete responsibility of his son ‘Dharanidhar’ was given to the attendants. So, he spent most of the time with the disciples to teach Ayurveda.
- Gangadharji produced a number of Ayurvedic physicians. He wrote more than 76 books in various fields known as Ayurveda, Vyakarana, Sahitya, Darshana, Upanishad, Jyotisha and others. He wrote a popular commentary on ‘Charaka Samhita’ entitled ‘Jalpakalpataru’.
- Gangadharji passed away in his 86th year i.e. in the year 1885. The following 11 books were written by him on Ayurveda.

1. Jalpakalpataru (Commentary on Charaka Samhita)
2. Paribhasha
3. Bhaishajya Ramayana
4. Agneyayurveda Vyakhya
5. Nadi Pariksha
6. Rajavallabhiya Dravyaguna Vivriti
7. Bhaskarodaya
8. Mrityunjaya Samhita
9. Arogya Stotram
10. Prayoga Chandrodaya
11. Ayurveda Sangraham.
Pandit Deevi Gopalacharyulu

- Pandit Deevi Gopalacharyulu was born on 10-10-1872 at Machalipatnam, Krishna District of Andhra Pradesh.
- Dr. Ramakrishnamacharyulu and Smt. Rajyalakshmi were his parents. He belonged to ‘Goutama’ Gotra.
- He studied his primary education, Sanskrit and basics of Ayurveda at Machalipatnam from his father, up to 13th year of age.

- Later on he went to Tirupati and joined the Sanskrit college and studied for one year i.e. up to 1886.
- Then he went all around the country for more than one year and spent time with some saints and monks.
- In the year 1888 he joined the Ayurvedic College Mysore and completed his course by the end of 1893.
- During 1894-95 he traveled all over the country and visited Calcutta, Bombay, Benar sus etc.
- In the year 1895 he was appointed as a special officer by the Govt. of Mysore to control plague.
- He treated the patients affected by plague successfully by administering a special formulation named ‘Haimadi Panakam’ and became a popular physician.
- In the same year (i.e. 1895) he was appointed as the Chief Physician in the free Ayurvedic hospital run by the development committee, Kanyakarama Parameswari Temple, Madras.
- Later on he established a pharmacy, named Ayurvedashram of his own and started manufacturing genuine Ayurvedic medicines.
- In the year 1901, Ayurvedic college was also established by Kanyakarama Parameswari Temple Committee, and appointed Dr. Gopalacharyulu as the founder principal.
- Duration of the course in the college was 4 years. They awarded ‘Ayurveda Bhushana’ for those having Sanskrit knowledge and ‘Bhishagvar’ for the rest after the successful completion of the course.
- The familiar personalities of the first batch of students of that college were Pandit. Dr. Nori Rama Shastry, Vijayawada; C.V. Subrahmanya Shastry, Tirupati; M.V. Shastry, Mangalore; Pandit Dorai Swamy Ayyar, Madras.
In the year 1902 he established ‘Madras Ayurveda Pracharini Sabha’.

In the year 1903 he was awarded Gold medal by Gadwal Rajas, at Bombay.

In the year 1907 he was honored with the titles ‘Bhishagmani’ at Calcutta and ‘Ayurveda Martanda’ at Nasik.

Dr. Gopalacharyulu was also one of the responsible personalities for the establishment of ‘Akhila Bharata Varshiya Ayurvedic Vaidya Maha Sammelan’ in the year 1907, under the leadership of Sri Sankardaji Shastri Pade. Later on in the year 1909, ‘Akhila Bharata Ayurveda Vidya Peeth’ was also established with the encouragement and cooperation of Dr. Gopalacharyulu and others.

Pt. Gopalacharyulu was a scholar and could speak fluently in more than 7-8 languages like Sanskrit, Telugu, Tamil, Kannada, Malayalam, Hindi, Gujarati and Urdu etc.

He was the President of Akhila Bharata Varshiya Ayurveda Maha Sammeian Annual Conference conducted in the year 1913 and 1917 at Bombay and Lahore respectively.

In the year 1919 he started publishing a monthly Ayurvedic Journal titled ‘Dhanvantari’ in Telugu and Tamil simultaneously.

He wrote a commentary on Madhavanidana in Telugu language and published. Arka Prakasa, Pathyapathyya, Ayurveda Paribhasa, Rasa Pradipika, Bhesaja Kalpa, Ayurvedanga Salya Tantra, History of Ayurveda in South India, Vasti Karma, Agasthya Vaidyam, Cholera, Visuchi are some of the books either edited or written by Panditji.

He was also honored by the British Government with the title Vaidya Ratna.

He worked for the development of Ayurveda till his last breath. He left this world in the year 1920.

Acharya Priya Vrat Sharma

- **Acharya P.V. Sharma** was born on 1st November 1920 in a Brahmin family
- His native place was Mustafapur, Patna District, Bihar
- He was the son of Vaidya Bhushan, Pandit Ramavatar Mishra.
- He did his primary education from Vedratna Vidyalaya, Mustafapur.
- In the year 1940 he passed A.M.S. in first class from Benaras Hindu University.
• After that he also passed M.A. Sanskrit and M.A. English.
• Then he started doing private practice in a near by town, Khagoul. Within a short period he became a popular physician.
• In the year 1946 he was appointed as a Lecturer, at Siva Kumari Ayurveda Mahavidyalaya, Begusarai, Bihar. After some time he became Assistant Professor.
• In the year 1953 he joined the faculty (U.G. Section) in the Dravyaguna Department, Benarush Hindu University. By that time he wrote a book titled 'Dravya Guna Vignan'.
• In the year 1956 he was appointed Principal Govt. Ayurveda College, Patna and developed it systematically.
• In the year 1960 he was posted as Additional Director for Ayurveda & Unani systems by the Govt. of Bihar. During that period the functioning of the dispensaries was regularized and the scales of pay of the medical officers were also raised.
• After the establishment of P.G. centre at Benarush Hindu University in the year 1963, he was appointed as Professor in the Department of Dravyaguna. In the year 1971 he became the Head of the Department.
• He was the member for Central Council of Indian Medicines for many years.
• Member, Editorial Board – for the bulletin published by the History of Indian Medicine, Hyderabad.
• Member, Board of studies for many universities.
• Member, Pharmacopoeia committee, Govt. of India.
• Chairperson for many National and International Seminars
• In the year 1976 he was invited for an International Conference conducted at Paris, and was its Chairman for one session.
• The works of Acharya P.V. Sharmaji are many and to quote a few.
  1. Dravyaguna Vignan (1-5 Vol.)
  2. Dosha Karanatwa Meemamsa
  3. Rogi-Pareeksha
  4. Vagbhata Vivechan
  5. Charaka Chintan
  6. Indian Medicine in the classical age
  7. Ayurved-ka-Vaignanik Ithihas.
  8. Introduction to Dravyaguna.
He also worked for some time to edit and publish the old manuscripts. For e.g.:

1. *Hridaya Deepaka (Nighantu)* by Vopadeva.
2. *Astanga Nighantu* by Bhattacharya.
4. *Yogaratnamala* by Nagarjuna.
5. *Shodhala Nighantu*

Along with the literary research he also did clinical and experimental research.

He did research work on the fundamentals of *Dravyaguna* and tried to render scientificity to the concepts of *Rasa, Guna, Virya* etc.

He also worked on the drugs such as *Bhallataka, Tambula, Dugdhika* and *Vijayasara* etc.

He did clinical trials with various single drugs in many a number of diseases.

**Damodar Sharma Goud (20th century AD)**

- He worked as a Professor, *Shareer (Vibhaga)* Department of Ayurvedic College affiliated to Benarus Hindu University.
- He was an authority on Anatomy.
- Later on he was appointed as the Professor & Head of the Department, Basic Principles of Ayurveda, Post Graduate Institute, Benarus Hindu University, Varanasi.
- He wrote the following Books.
  1. *Sabdardha Sareeram*.
  2. *Abhinava Sareeram*
  3. *Abhinava Prasuti Tantra*.
  4. *Ayurveda Darshana Sangrahana* etc.
- He was awarded a cash prize of Rs.1 lakh by *Baidyanath Ayurveda Bhavan Limited* for his excellent work on Anatomy.

**Bhaskar Govind Ghanekar (20th century AD)**

- Bhaskar Govind Ghanekar did his M.B.B.S. Course and later on studied *Ayurvedacharya*.
- He was the faculty member of *Ayurveda* at Benarus Hindu University.
- He wrote an excellent commentary on *Susruta Samhita (Sutrasthana &*
Sareera Sthana) in Hindi. In it he presented the principles of treatment by correlating Ayurveda with modern system of medicine, and tried to project the scientificity of Ayurveda.

- He also wrote the books like
  1. Aoupasargika Roga.
  2. Swasthya Vignan etc..

Dr. Yellapragada Subba Rao

- Yellapragada Subba Rao was born on 12th January 1896 in Bhimavaram, West Godavari District of Andhra Pradesh in a middle class family.

- His mother’s name was Venkamma. He lost his brothers in his childhood, for lack of proper drugs who suffered from Sprue.

- He was inspired and joined the Madras Medical College and passed L.M.S. in the year 1922.

- When he was studying medicine, he suffered from Diarrhoea and did not get relief with Allopathic drugs. Then he approached Dr. Achanta Lakshmipati, the then Principal, Ayurvedic College Madras and was treated successfully with Ayurvedic drugs. Since then he developed interest towards Ayurveda also.

- He used to write articles in the medical journal titled ‘Dhanvantari’.

- In the year 1923, with the help of Dr. Lakshmipati and others he went to America and joined as Research Scholar, in the department of Tropical School of Medicine, Harvard University.

- He worked for not less than 18 hours per day and discovered the following drugs.

  1. Folic acid for Sprue.
  2. Hetrazon for elephantiasis / Filariasis.
  3. Auromycin for infections.
  4. Streptomycin for tuberculosis.

- He was appointed as the Research Director, Lederlae laboratories.

- He left this world in his 52nd year i.e. on 9-8-1948.

- In memory of Dr. Yellapragada, the management of Lederlae Laboratories America established a museum preserving all his research works and named the library after him.
On 23rd May 1953, Venkamma, Mother of Yellapragada was invited by Lederlae Laboratories, Bombay to inaugurate the manufacturing unit of Auromycin.

Dr. Y. Suryanarayana Rao

- Y. Suryanarayana Rao was born on 30th September 1906.
- He was the native of Yerraguntlapadu Village, Sattenapalli Taluk, Guntur (Dt), Andhra Pradesh.
- After his secondary school education he worked as a Secretary for 'Vignana Chandrika Mandali' for sometime
- Then he joined the Govt. School of Indian Medicine, Madras in the year 1927 and completed his L.I.M. course by the end of 1931. He was one of the close disciples of Capt. G. Srinivasa Murthy, the then Principal.
- After the completion of L.I.M., he worked as Malaria special duty Medical Officer at Kalyanadurga, Anantapur District. A.P. for 3 years.
- From 1934 to 1942 he worked as Medical Officer, Municipal Ayurvedic Dispensary, Vijayawada. Then he resigned and started private practice.
- He was the Hon. President for Sri Venkateswara Ayurveda Kalasala, Vijayawada.
- He was the founder President of L.I.M. Association and also for National Medical Association from 1949-1956.
- He was one of the responsible persons for constituting Chopra Committee in the year 1946.
- He was also responsible for the establishment of Indian Medical Practitioners Cooperative Pharmacy Stores Limited, Madras, and was its President from 1957 to 1960.
- Due to his efforts Regional Offices for 'Impcops' were also established at Tadepalli (A.P.) and Bangalore in the year 1953 and 1957 respectively.
- He was the Vice President of Andhra Ayurveda Board in the year 1957 and from 1962 to 1975 he was the President. He was also the member, C.C.I.M. till his death.
- He was the author of many books viz.
  1. Ayurveda Vignan.
  2. Adhunika Chikitsa – 3 parts.
  4. Modern Physiology.
  5. Modern Materia Medica.

- He died in his 74th year of age i.e. on 30-5-1980.

**Pandit Madan Mohan Malaviya**

- Madan Mohan Malaviya was born in an educated orthodox Hindu family at Prayaga (Allahabad) on 25th December of 1861.
- Madan Mohan Malaviya name to be recognized as an outstanding and noble son of India.
- His multifaceted personality made him, at the same time, a great patriot, an educationist with a vision, a social reformer, an enthusiastic journalist, reluctant but effective lawyer, a successful parliamentarian and an outstanding statesman.
- In the year 1878 he married Kundan Devi in Mirzapur.
- In the year 1884 did B.A. Degree and joined as Teacher in Allahabad District School.
- In 1891, he passed LL.B. and starts practice in Allahabad District Court and later on Allahabad High Court.
- In December 1911 at the age of 50 gave up practice and decided to serve country and work for establishing the university. Among Malaviyaji’s many achievements, the most monumental was the establishment of the *Banaras Hindu University* or *Kasi Hindu Viswavidyalaya*.
- *Banaras Hindu University* was established in the year 1916 and he has taken the charge as Vice Chancellor and served for more than 20 years.
- In the course of his lifetime *Banaras Hindu University* came to be known as a ‘Capital of Knowledge’ acknowledged across India and the World.
- Pandit Madan Mohan Malaviya created history in Indian education with this institution - the first of its kind in the country. He chose Banaras as the site, because of the centuries old tradition of learning, wisdom and spirituality inherent to the place.
- His vision was to blend the best of Indian education called from the
ancient centers of learning - Taxila and Nalanda and other sacred institutions, with the best tradition of modern universities of the west.

- Great minds and personalities like Annie Besant, Mahatma Gandhi, Rabindranath Tagore, Shyama Charan De and many others joined hand with him in his quest for knowledge, arousing the national spirit in India and winning freedom with the power of education and righteousness.
- Malaviya passed away on 12th November 1946. But his spirit still lives and there are many who bear the torch that he lit. Many more stand ready to shoulder the mantle of his responsibility.

Dr. Pranjivan Mehta

- Pranjivan Mehta was born in the year 1889 in Gujarat State.
- After his secondary school education he went to Bombay and joined the medical college. After his M.B.B.S., he did M.D. and also M.S. and joined the Bombay Medical Service.
- He became popular as a great physician as well as surgeon.
- He was the Royal physician for Jamsaheb of Jamnagar and established a big hospital and solarium.
- He developed interest towards Ayurveda and worked for more than 40 years to develop the system of Ayurveda in our country.
- As the secretary of Gulba-kunver-ba Ayurvedic Society, he worked a lot for the establishment of Ayurvedic College and University at Jamnagar.
- Dr. Mehta was the founder Principal of the college which started functioning in 1944.
- He gave encouragement to the scholars of Ayurveda to translate the Sanskrit works into English for the convenience of the people.
- ‘Charaka Samhita’ was translated into English, Hindi and Gujarati languages in the year 1949 and was published by Gulba-kunver-ba Ayurvedic Society, Jamnagar in 6 volumes.
- In the year 1950, Central Institute of Research in Indian Medicine was established in Jamnagar by the Govt. of India and Dr. Mehta was appointed as the Director.
- Even after his retirement he used to spend his life in studying Ayurveda.
- Public got inspired by his speeches.
His articles published on Ayurveda became very popular in India and abroad.

Dr. Mehta also gave suggestions to the State as well as the Central Governments for taking necessary steps for the development of Ayurveda.

Dr. B. Vaidyanathan

- Dr. B. Vaidyanathan, a versatile scholar in Sanskrit and the Vedas, was born in 1928, Started his Ayurvedic career after studying Yajurveda, and Rigveda.
- In 1944 he completed Ayurveda Siromani and Vaidya Visarada.
- In 1951 he completed Ayurveda Acharya.
- Then he worked in the school of Indian Medicine in Dravyaguna Department
- He was appointed as a Research Officer by CCIM in Tanjore Literary Research Institute (Saraswati Mahal). There he edited Kasyapa Samhita.
- Then he worked in IMPCOPS (Indian Medical Practitioners Co-Operative Pharmacy and Stores), Chennai as secretary for 30 years. During his tenure he mechanized the whole process of production, standardization and distribution including Rasa preparations.
- He was formerly the principal of Venkata Ramana Ayurveda College, Chennai. and a senate member in Dr. M.G.R. Medical University - Faculty of Ayurveda.
- He was a member of the Controversial Drug Committee, Single Drug Identification Committee and Ayurvedic Formulary, Government of India, New Delhi.
- He was the advisor to the ‘Maharshi International Institute of Vedic Sciences and Ayurveda’, California. He was the Director of Indian Pharmaceutical Corporation, Government of India, New Delhi. He was also an advisor to TTK Pharmaceuticals, Malladi Drug Company, and Capri Laboratories, and a visiting professor in Krishnamachari Yoga Mandiram and Bala Mandiram Research foundation.
- He has contributed a lot for Ayurvedic literature in the form of books among which

1. Vaidya Yoga Ratnavali,
2. *Siddha Pharmacopoeia,*
3. *Unani Pharmacopoeia* and
4. *Roga Dosha Oushadam Nirupanam* are popular.

- His philosophical interpretation of *Sakuntalam* got Sanskrit Academy Award.
- He also belongs to a great family of Carnatic musicians and he himself is a great vocalist.

**Col. R.N. Chopra**

- Colonel R.N. Chopra was a great scholar in Pharmacology.
- He did the research work on tropical diseases.
- He worked as a pharmacology professor at Tropical School of Medicine, Calcutta.
- He also did research work on Indian Drugs and compared them with British Pharmacopoeia, and proved how best they can be used as substitutes.

- In the year 1931, he wrote a book titled *Indigenous Drugs of India*.
- As he had interest in indigenous medicine, he was appointed the head of the following two committees by the Govt. of India.
  a) Indigenous Drugs Addiction Enquiry Committee: Hence he had the opportunity to study the problems related to the educational system of Ayurveda.
  b) The question of Reorganization of study and practice of indigenous systems of medicine i.e. Chopra Committee in the year 1946. The committee traveled all around the country and gathered information from various groups and submitted its report to the Govt. of India in the year 1948.
- Dr. Chopra in his report stated that both the Western and indigenous systems of medicine should be harmonized and synthesized for the evolution of National System of Medicine.
- He also worked as a director, Regional Research Laboratory (RRL), Jammu.
- The Laboratory was established in 1941 as a low key research and production centre known as Drug Research Laboratory of J&K State and was later taken over by C.S.I.R. in December 1957.
• The Institute was lucky to have Col. Sir Ram Nath Chopra, Prof. of Pharmacology as its Founder Director.
• He was an outstanding luminary in the field of Medical Education and Research and has been widely acclaimed as the Father of Indian Pharmacology.
• It was proved by him, that natural resources could be best utilized for the public service, without wasting funds.
• He was responsible for establishing a number of Drug Research Centers in India.
• He also wrote ‘The Hand Book on Tropical Therapeutics’.
• The research work carried out on medicinal plants by Chopra inspired several scientists to take up the work with all dedication.

Dr. K.M. Nadkarni

• Dr. Nadkarni was the native of Bombay, Maharashtra State.
• He did research on Indigenous drugs.
• Each and every drug was studied. He compiled information pertaining to the morphological features, synonyms of various Indian languages along with Sanskrit terminology, properties and uses of the drugs.
• In the year 1908 he published a book titled ‘The Indian Plants and Drugs’.
• Later he improved it twice and published a voluminous work titled ‘Indian Materia Medica’ in the year 1927.
• It became popular and the copies of the book were sold out within no time.
• Nadkarni’s Materia Medica was the textbook for M.D. scholars for many years along with British Pharmacopoeia.
• Later on the Materia Medica was enlarged by his son A.K. Nadkarni by incorporating Botanical and Pharmacological aspects. It was published by Dhootapapeswar Popular Depot, Bombay.
• Nadkarni’s Materia Medica dealt with various herbs, minerals and also the animal products.

They have been arranged in the alphabetical order.

Sanskrit name, botanical name, natural order, local names, morphological features, ecology, chemical composition, active alkaloids, Rasa Panchaka, uses, various formulations and their methodology etc. have been discussed in a systematic way.
• Nadkarni’s material medica has been useful not only to the practitioners,
research workers and students of Ayurveda, Unani and Siddha but also to the Botanists.

Prof. (Kum.) P.V. Tewari

- Prof. (Kum.) P.V. Tewari A.M.B.S; Ph.D; was Born in 1937. After completing her education and initial service joined Faculty of Ayurveda, IMS, BHU in 1964 and was promoted to professor in 1977, remained Head of the Department of Prasuti Tantra for more than 25 years and became Dean of the Faculty twice.
- She is currently working as Medical Superintendent at Mata Anandamayi Hospital (a charitable institution).
- Parents:
  Mother: Rama Devi Tewari
- Service Particulars:
  - Ex. Dean Faculty of Ayurveda
  - Ex. Head of the Dept. Department of Prasuti Tantra, I.M.S. B.H.U.
  - Guided to a large number of - D. Ay. M; M.D.(Ayu); and Ph D; scholars
  - Published more than 250 research papers.
  - Associated with academic / administrative bodies of all important research and academic organizations of Ayurveda throughout the country.
  - Authored about 12 books to her credit.
  - Among all ‘Ayurvediya Prasuti Tantra & Striroga’ has received good recognition and awards.

K.R. Srikantha Murthy

- Prof. K.R. Srikantha Murthy was born in the year 1929.
- He did his graduation from Govt. Ayurveda College, Mysore in the year 1948 and Post-graduation from Gujarat Ayurveda University Jamnagar (1958).
- He has served as professor and principal of all the three Govt. Ayurveda colleges of Karnataka state and Govt. Unani Medical College, Bangalore and retired from service in 1984.
• Recently he served as National professor of *Vagbhata* (1977-1999).
• He has been continuously engaged in teaching and literary pursuits over the last fifty years.
• He is the author of many independent books, scores of scientific monographs on Ayurveda.
• He has translated into English almost all the ancient texts of Ayurveda such as
  1. *Astanga Hridaya*  
  2. *Astanga Sangraha*  
  3. *Madhava Nidana*  
  4. *Sarangadhara Samhita*  
  5. *Charaka Samhita*  
• He is the recipient of many titles and awards from many prestigious organizations.

**Ram Karan Sharma**

• Dr. Ram Karan Sharma (born March 20, 1927 at Shivapur, Saran, Bihar) was initiated to *Vedic* and allied studies (including Ayurveda) on traditional lines by Pandit Ambikadatta Sharma at ‘*Lokamanya Brahmacaryasrama*’, Mujaffarpur.
• As a full bright scholar, he worked with Prof. M.B. Emeneau at the University of California, Berkeley, U.S.A.
• He worked with other eminent Professors like Pandit Uma Nath Jha. (G.B.B. College, Mujaffarpur) and Dr. Ishwara Datta (Patna College) affiliated to Patna University.
• He was founder Director, *Rashtra Sanskrit Sansthan*; Vice Chancellor, Sampurnanand Sanskrit University and Kameshvara Singh Darbhanga Sanskrit University; Joint Educational Adviser, Govt. of India;
• Visiting Professor, Universities of Columbia, California and Chicago also at the University of Bihar.
• President of International Association of Sanskrit Studies.
• Areas of his special interest are: *Panini, Mahabharata, Darshana, Kavya* and *Ayurveda*. More than one hundred research papers and about a dozen major publications he has authored.
• His creative writings include *Sandhya* (Poetry), a recipient of *Sahitya Academy award* and *Sima* (Novel) a recipient of *Bharatiya Bhasha Parishad award*.
• He has to his credit an English translation and commentary of *Charaka Samhita*, the most authentic Ayurvedic classic
Vaidya Bhagwan Das

- Vaidya Bhagwan Das has had an outstandingly brilliant academic career.
- In addition to graduate and postgraduate qualifications in Ayurveda, he holds a Master’s degree in Sanskrit and a Doctorate from University of Delhi.
- In the course of over thirty years dedicated to research and practice of Ayurveda, Dr. Das has attended several international conferences and seminars held in Brazil, Mexico and France.
- He was invited to deliver a course of lectures in Ayurveda at the Patrice Lumumba Friendship University, Moscow and the Australian School of Ayurveda at Adelaide, South Australia.
- Though he is a Sanskrit scholar; he handles the English language with equal felicity.
- A significant advantage to his inclination for research in Ayurveda is Dr. Dash’s proficiency in Tibetan Medicine.
- Author of over twenty-eight important publications covering different aspects of Ayurveda and Tibetan Medicine, he has to his credit an English translation and commentary of Charaka Samhita, the most authentic Ayurvedic classic.
- He was Deputy Adviser in Ayurveda to the Government of India in the Ministry of Health and F.W. till 1981, when he took voluntary retirement to enable him to devote more time for academic and research activities.
- As a Consultant in Traditional Medicine of the World Health Organization, he had paid several visits to Bangladesh, Bhutan, Burma and Mongolia to study and advice on the Health Development Programmes of those countries.

Dr. P.V. Jayade

- Born on 13th June 1914.
- Studied ‘Ayurveda Teerdha’ Ahmednagar College, under the guidance of Vd. Panchanana Gangadhar Shastry Gunein the year 1940.
- Within a short period he became a renowned Ayurvedic Physician and developed a special skill of extraction of tooth without anesthesia.
- He has given a live demonstration by extracting two teeth at a time with the both the hands simultaneously.
• Recognition and praise came to him from many without his asking for it.
• A two pages report with photographs of Delhi Tooth Camp appeared in the life Magazine of America.
• He received a pat from Dr. C.V. Raman, a noble laureate who became spell bound when he saw his skill of ambidextrous painless tooth extractions.
• He served as the President of Karnataka Unit, Sevadal.
• His lectures in America and Australia on his novel techniques were highly appreciated.
• He has written 8 books which include ‘Danta Roga Vignan’ and ‘Vaidya Sanmithra’.

Prof. P.J. Deshpande

• Prof. P.J. Deshpande was born in the year 1925 at Varona village, Vidarbha region of Maharashtra.
• He did A.M.S. course in the year 1945 from Ayurveda College, Varanasi.
• Z.A; S.C.S.R. in the year 1951 from Vienna Academy of Medicine
• FRCS London and FICP from US
• He is the instrument to promote the technique of Kshara Sutra in the management of Ano-rectal disorders and popularized it globally.

Prof. R.H. Singh

• Prof. Ram Harsh Singh born on Jan. 10th 1942.
• He is Fellow of National Academy of Indian Medicine and was conferred the degree of Doctor of Medicine Honoris causa by Medicina Alternativa Alma Ata.
• He has produced 100 MDs and 35 PhDs under is guidance.
• He has published 12 important books, 200 research papers in National and International Journals.
• He is on editorial board of several National journals, is the Member of the National Commission of History of Science and is the ‘Ratna Sadasya’ of National Academy of Ayurveda.
• Prof. Singh is the recipient of
  1. *Hari Om Ashram Award*,
  2. *Jiwaka Award of Asian Medicine* and
  3. *Pt. Ram Narain Sharma Best Teachers Award*.

• He has widely traveled all over the world to promote Ayurveda globally and presided over the Seventh World Congress on Holistic Life and Health held in May 1997 in Italy.

• Prof. Singh joined the Faculty of Ayurveda at Banaras Hindu University in 1964 and served this prestigious institution for nearly four decades in the capacity of Lecturer, Reader, Professor, H.O.D. and Dean of the Faculty till Feb. 2003 after which he joined the newly launched Rajasthan Ayurveda University of Jodhpur as its first Vice-Chancellor.

• Prof. Singh although his career has been seriously engaged in revival and development of Ayurveda on scientific lines as an evidence based system of Medicine.

**S.C. Dhyani:**

• Prof. Shiva Charan Dhyani was born in the year 1931
• He did B.I.M.S. course in the year 1953 from Rishikul Ayurveda College, Haridwar.
• Afterwards he obtained H.P.A. degree from Gujarat Ayurveded University, Jamnagar in the year 1959.
• Later on he was joined as Junior Physician at CIRIM Unit, Jamnagar in the year 1961.
• He worked as Asst. Professor, Professor and Head of the Department of *Dravyaguna* at I.P.G.T&R, Jamnagar from 1963 to 1982.
• In the year 1983, he joined as a Principal, Mehta Ayurved Mahavidyalaya, Sardarpur, Rajasthan.
• He is the author of the following popular works.
  1. *Salient features of Ayurveda*  
  2. *Sharira Kriya Vignan*  
  3. *Yoga & Ayurveda*  
  4. *Dravyaguna Siddhant*  
  5. *Nidana Panchaka*  
  6. *Kayachikitsa*

**Jyotir Mitra**

• Dr. Jyotir Mitra Acharya, B.I.M.S., M.A. Sanskrit, Ph.D., *Sahityacharya, Darshanacharya, Puranetihhasacharya, Vidyamartanda*, was born in 1936 at Rudauli, U.P.
• Worked as Research Assistant Health Ministry, Govt. of India 1960-64, Lecturer in Basic Principles 1964-76, and Reader since 1976;
• Elected Fellow of Royal Asiatic Society (London) in 1969
• Received several honors of National and International repute;
• Member of several important National and International academic bodies;
• Secretary, History of Medicine Society, B.H.U.
• He has written many standard books on Ayurveda and has contributed more than hundred research papers in Scientific Journals

Namburi Hanumantha Rao

• Namburi Hanumantha Rao L.I.M. Visiting Professor, Founder Director: *Academy of Ayurveda*,
• Formerly Member:
  • Governing Body C.C.R.A.S., Ministry of Health and Family Welfare, Govt. of India,
  • Scientific Advisory committee, Gujarat Ayurveda University, Jamnagar.
  • Pharmacopoeia Committee, Ministry of Health and Family Welfare, Govt. of India.
• Formerly Officer in charge: Drug Standardization Research Enquiry, C.C.R.A.S., Ministry of Health and Family Welfare, Govt. of India.
• First Recipient of the *Arya Vaidyan Ramvarier Memorial Brihattraye-ratna Award*-1994.
• Awarded Fellowship:
  • By the National Academy of India Medicine, Varanasi.
  • By the *Rashtriya Ayurveda Vidyapeeth* (National Academy of Ayurveda) autonomous Organization under Ministry of Health and Family Welfare, Govt. of India.
• Founder Director:
  • Indian Medical Practitioners Co-op. Pharmacy and Stores Ltd., Chennai.
  • Dr. Namburi Pancha Karma Therapy Center
• Formerly Appointed: Chief Examiner of Ph.D., Gujarat Ayurveda University, Jamnagar.
• Delivered Guest Lectures: In Various Universities in India, Philippines and U.S.A.
Subhash Ranade

- Dr. Subhash Ranade is one of the experts, leading academician and physician in the field of Ayurveda.
- He is the author of more than 70 books on Ayurveda and Yoga.
- He has worked as Prof. and Head, Dept. of Ayurveda, Pune University and Principal of Ashtanga Ayurveda College, Pune, India.
- Professor Subhash Ranade has attended many International and National seminars on Ayurveda and Yoga.
- He has honor of being visiting Professor to many institutes in the United States, Germany; Spain; Swiss; Greece; and Poland.
- His pioneering work in the field of CD ROM's like Dhanvantari and Marma and Massage have been whole-heartedly welcomed and highly appreciated by the Ayurveda world.
- Since 1981, he has visited and conducted hundreds of Ayurveda courses for medical practitioners in Europe, Canada, USA and Japan

P.H. Kulakarni

- Prof. Dr. Kulakarni is well known Ayurvedic Physician, Research Guide in Ayurveda, University of Pune.
- Founder Director, Institute of Indian Medicine/Ayurveda Academy.
- Editor of seven Medical Journals including 'Deerghayu International'.
- Author of Twelve books related to Ayurveda.
- Worked as Patron, President, Secretary and Treasurer of many Ayurvedic, Medical and Social Organizations at National and International level.
- Dr. Kulakarni has established Ayurvedic Centers in many Countries of the world and traveled extensively for prorogation, education and research in Ayurveda.
- Prof. Kulakarni is recipient of many National and International awards including Pax Mundi Fellowship for Professional Excellence & Life Time achievement award.

T.L. Devaraj

- Professor T.L. Devaraj, a Post-Graduate Degree holder in Ayurveda from Banaras Hindu University, served as a lecturer, Assistant Professor and Professor of Ayurveda at different Ayurveda Colleges of Karnataka.
• Currently working as Professor and Head of the Department of Post-graduate Studies (M.D.) in Salya Tantra at G.C.I.M., Bangalore.
• He is a member of the Board of Studies in Ayurveda for Bangalore and Mysore universities and Examiner in several universities in India.
• He has to his credit 30 books on Ayurveda, and his books are translated to Russian, Spain, and Japan.
• He has been awarded an international award and honored for his outstanding contribution to Ayurveda by His Holiness Jagadguru Sankaracharya of Sharda Peetham.
• The title Ayurveda Bhaskara was awarded to him by Shri B.D. Jatti, the former Vice-President.

K.C. Chunekar

• Prof. K.C. Chunekar, A.M.S., Ph.D., is a Fellow of the National Academy of Ayurveda, and Professor of Dravya Guna and is the author of several important books.
• He retired as Head of the Dravya Guna Department, I.M.S., Banaras Hindu University in 1988. He was born in August 1928.
• Prof. Chunekar learned Ayurveda at a young age from a well-known Vaidya Srinivasa Shastri of Varanasi, Vaidya Tryambaka Shastri. Additionally, Prof. Chunekar also had the great privilege to learn Ayurveda directly from late Vaidya Satyanarayana Shastri, Professor of B.H.U., and follower of Bengal School of Ayurveda.
• He has more than 50 years of practical and clinical experience in Ayurveda and is a Visiting Professor to Gujarat Ayurveda University, Jamnagar, India. Furthermore, he has trained and guided many research scholars in doctorate programs.
• Prof. Chunekar is perhaps the most outstanding authority on Dravya Guna and identification of Ayurvedic herbs today.
• He worked for W.H.O. in Nepal and the Scientific Advisory Committee, ICMR Center, CDRI, Lucknow.
• He has been nominated as Guru to carry on the Guru-Shishya Parampara by the Indian government and has received the Sri Gnana Kalyana Award in 2000.
• He is the senior expert of TKDL (Traditional Knowledge Digital Library) Project (NISCAIR-CSIR) and a member of ASUDTAB (Ayurveda, Siddha & Unani Drugs Technical Advisory Board), Govt. of India.
Prof. K. Raghunathan

- Born in the year 1930 in Andhra Pradesh.
- Medical graduation G.C.I.M (1947-52) from Keelpal Medical College, Madras
- Worked as Lecturer / Professor (1955-65) at Govt. Ayurvedic College, Hyderabad
- Worked as Director, Indian Institute of History of Medicine, Hyderabad for one year (1976-77).
- From 1977-1990, he worked as a Deputy Director (Technical), CCRAS.
- He was also worked as Director, Indian Medicinal Pharmaceutical Corporation, Govt. of India.
- Advisor / Consultant International Clinical Epidemiological Network Link with India and China, other countries in pipeline
- He was also an Emirates Professor – Gujarat Ayurved University, Jamnagar.

Dr. P. Pushpangadan

- Dr. P. Pushpangadan has over 34 years of research experience in plant sciences.
- He is having exceptional skill in the pursuit of research in Cytogenetics, Plant Breeding, Biotechnology, Ethno biology and Ethno pharmacology etc.
- Dr. Pushpangadan started his scientific career in 1969 at Regional Research Laboratory, Jammu
- He carried out extensive exploration of wild medicinal and aromatic plant genetic resources and established a vast germplasm collection of these groups of plants, particularly Ocimum, Mentha, Cymbopogon, Dioscorea & Pyrethrum etc.
- In 1983, he was appointed the Chief coordinator of All India Coordinated Research Project on Ethno biology (AICRPE), launched by the Ministry of Environment and Forests, Government of India.
- It was at RRL, Jammu that Dr. Pushpangadan initiated the development of the first ever Ethno pharmacology research division in India in 1985 to undertake scientific investigations in traditional remedies.
- Dr. Pushpangadan assumed the charge of Director of Tropical Botanic
Garden and Research Institute (TBGRI), Thiruvananthapuram, Kerala in Nov. 1990.

- Dr. Pushpangadan organized extensive and intensive plant explorations, inventory, collection, characterization (morphological, cytological, chemical and molecular level) of rare, endangered and endemic tropical plant species of India and established one of the finest and biggest conservatory garden and field gene bank in Asia.

- The interdisciplinary Ethno pharmacology Division was under his direct supervision and has developed and patented over 10 scientifically validated and standardized herbal drugs.

- One of such herbal drug named ‘Jeevani’ was developed by taking lead from a tribal community. While transferring the technology for production of the drug ‘Jeevani’ to a pharmaceutical firm, Dr. Pushpangadan as Director, TBGRI ensured to share the license fee and royalty with the tribal community on 1:1 basis. By this action Dr. Pushpangadan brought the unique distinction to India as one of the first in the world to recognize the Intellectual Property Rights of a tribal community and thereby implemented the Article 8(j) of the UN-Convention of Biological Diversity. This model of benefit sharing is now widely appreciated in the world over and referred as TBGRI model or Pushpangadan.

- On the invitation of UNEP, Dr. Pushpangadan made a presentation of this model at UNEP Centre at Geneva. He was awarded the prestigious UN-Equator Initiative Award in 2002 for the same during the UN Summit held at Johannesburg in Aug-Sept 2002.

Another model experimented successfully (1994-1997) by Dr. Pushpangadan and his team is the “Herb for all and Health for all” and “Plants for All and Job for All” in four selected villages in Trivandrum district in Kerala. It was essentially a self help programme for the rural people. Dr. Pushpangadan established a conservation biology and gene bank for Medicinal & Aromatic plants at TBGRI.

In Feb. 1999, Dr. Pushpangadan assumed as Director of National Botanic Research Institute (NBRI), Lucknow, one of the major plant research institute of international acclaim under the umbrella of CSIR.

- The existing Pharmacognosy division was strengthened with facilities and manpower (by recruiting new staff from disciplines like Ayurveda, Phytochemistry, Pharmacognosy, pharmacology and pharmacy).
Dr. I. Sanjeeva Rao

Dr. I. Sanjeeva Rao was born on May 01, 1932, at Kurnool, Andhra Pradesh. He studied G.C.I.M. and then did his Doctorate course in Ayurveda at the Institute of Medical sciences. He came under the influence of Dr. K.N. Udupa and Dr. P.J. Deshpande and studied Salaya Shalakya. His major work for his Doctoral Degree was 'Muscle Regeneration and wound healing under the influence of a Vedic plant Mamsarohini (Soymida febrifuga- Meliaceae) - an experimental study'.

In 1969 the Government of A.P selected him as the principal of the Government Ayurvedic College, Hyderabad. He held that post till 1979. Then he was elevated to the post of Additional Director Ayurveda in the Department of Indian Systems of Medicine & Homoeopathy. He was also a Govt. of India nominee on the First Central Council of Indian Medicine, which was presided over by Pt. Shiva Sharma.

He was on various Governmental and non-Governmental bodies in various capacities such as

- Former Chairman, Ayurvedic Pharmacopoeia Committee, Govt. of India.
- Former Chairman, Regulations Committee, Central council of Indian medicine, New Delhi.

Important Research Contributions:

- Wound Healing and Tissue Regeneration under experimental situations in animals under the influence of herbal agents.
- Innovated a new technique under the title /Amasaya Sodhana/ a gastric lavage technique with the herbal decoction from the bark of Crataeva adansoni to regulate the trans-gastric mucosal flux potential in cases of gastritis syndrome.
- First successful trial of a compound Herbo-mineral preparation nr-1078 triturated with Neem Leaf extract in cases of Japanese encephalitis which had broken out in an epidemic form in Anantapur District in 1979.
- Introduction of specially processed Piper Longum as an effective Immuno-Modulatory agent cum therapeutic tool in treating cases of Ama Vata,
- Drug-standardization of Asavas and Arishtas by locating the fermenting pathway.
- Study on the effect of, Priyala, which is supposed to contain requisite amount of arginine and thus supposed to enhance the Vaso dilatation in peripheral tissues through the nitric oxide pathway, in cases of Oligospermia and lack of motility in Spermatozoa.

Awards:

- Maharshi Award, Pundit Shivadutta Sharma Award By The Gyan Kalan Peeth, Allahabad. Distinguished Citizen Award in the field of "Health": Research, Preservation & Promotion, by the Rotary Club of Hyderabad. Vaidyaratna Captain G. Srinivasa Murthy Scientist Award by the Academy of Ayurveda, Vijayawada.
India never remained isolated from the rest of the world, but took much interest in trade relations with other countries.

Even in prehistoric times, India had commercial contacts with Mesopotamia, Assyria, Babylon, Egypt, Greece etc. Ayurveda, the Indian Medicine existed since the creation of the universe. Hence it can be considered as the oldest system of medicine not only in India but also in the universe.

As India had trade relations with various countries and Indian tradition, culture, civilization and medicine influenced the people of other countries. Hence, the popularity of Ayurveda spread in Sumer, Babul, Asur, Misra, China, Faras, Arab, Cambodia and other south eastern countries like Kamboja, Java, Thailand, Tibet, Burma, Srilanka, Nepal etc.

**Medicine in Assyria in the early days**

- The Assyrian kings controlled a large kingdom at three different times in history. These are called the **Old** (20th to 15th c. BC), **Middle** (15th to 10th c. BC), and **Neo-Assyrian** (934 – 609 BC) kingdoms, or periods, of which the last is the most well known and best documented.
- In the Middle Assyrian period (15th to 10th century BC) of the Late Bronze Age, Assyria had been a minor kingdom of northern Mesopotamia
- The **Neo-Assyrian Empire** was a period of Mesopotamian history which began in 934 BC and ended in 609 BC. During this period, Assyria assumed a position as a great regional power.
- It was known that Ashurbanipal (685-627 B.C.) the son of Esarhaddon, was the last great king of ancient Assyria. He is famous as one of the few kings in antiquity who could read and write.
• During his rule, Assyrian splendor was not only visible in its military power, but also its culture and art. Ashurbanipal created “the first systematically collected library” at Nineveh, where he attempted to gather all cuneiform literature available by that time and in which more than 20,000 books were preserved.

• The medicine in Assyria was primarily magico religious.

• Assyrian pharmacopoeia also had powders, pills, sticks, enemas etc. similar to Ayurveda. The measures like oleation and sudation were also similar in both.

• The emperor Esarhaddon (681-669 B.C.) father of Ashurbanipal constructed a new capital at Calah or Kalakh. He was the most powerful emperor, and extended his empire up to Egypt.

• Aradnana was the court physician of Esarhaddon. Aradnana treated the king, who was suffering from Amavata. The court physician was not staying in the capital. He used to visit the king as per the need. The miracles of Aradnana’s treatment can be known by the inscriptions, which were kept in the library.

• Aradnana used Yashtimadhu for the treatment of Rajayakshma. Oleation, sudation, external application of paste and other techniques were known to him.
He also treated for the swelling in the gums. He was an expert in removing the hollow tooth and replacing it with a new one.

- Along with Aradnana, one more court physician named Nabunasir was appointed specially by the mother of the king. Nabunasir treated the children of Esarhaddon also.
- Excavations at Nimrud revealed several surgical instruments. The instrument used for craniotomy was also found. Herbert Luwe mentioned in his work, that craniotomy was also conducted by the surgeons of Assyria, even in the early days.
  
  No evidence pertaining to ‘Phiranga Roga’ was seen, but the description of ‘Puyameha’, was available.
- An attempt was made by Thompson to identify the plants used in Assyrian medicine, by referring a number of old treatises and inscriptions. In the year 1924 AD he published a book titled ‘Assyria Herbal’ which was the result of his industry for years.
- A number of drugs such as Opium, Belladonna, Cannabis, Mustha, Lasuna, Palandu, Krishna Jeeraka were mentioned in that book.
- Along with the herbs, the drugs of animal origin as well as the earth were also mentioned. For Ex: Alum, Sulfur, Copper, various types of salts etc.
- They used to conduct experiments on servants and on prisoners by giving new drugs to know their properties.
- Thompson also noted that they used to administer the oil in Ashmari prepared with Calcium, Surakshara and Taraphin.
- Sudation therapy in pneumonia and the use of Muleti in acute abdomen were also mentioned.

**Medicine in Sumeria in the early days**

- Sumerian civilization flourished around 3000-2400 B.C. and was considered as the oldest one.
- Mesopotamian civilization was seen on the banks of Diyala – Farat Rivers, which flow from Northwest towards south.
- Sumer was situated towards the south of Mesopotamia.
- The system of medicine was primarily magico-religious based on astrological consideration.
• The medicine was practically in the hands of priests and they were divided into 3 groups.
  (a) Diviners     (b) Exorcists     (c) Physicians.
• The knowledge was recorded in the cuneiform tablets and was preserved in the libraries.
• They considered blood as the basis of life, and liver being the seat of blood.
• Dreams have been considered as the criteria for assessing the prognosis of different diseases.

**Medicine in Babylonia in the early days**

• Babylon replaced Sumerian civilization nearly about 2000 B.C.
• Babylonian civilization flourished on the banks of Euphrates River.
• It was the golden period of Babylon during the reign of Hammurabi who ruled between 1728 and 1686 B.C.
• He extended his empire up to Assyria. He constructed so many temples, where the deity ‘Madurka’ was being worshipped. In Rigveda the reference of the Goddess ‘Manduk’ is seen.
• They regarded moon as king of herbs so does Ayurveda.
• Similar to Ayurveda, Babylonian Medicine also developed eight branches and headed by eight different gods.
• Babylonians had knowledge about certain diseases like fever, arthritis, heart diseases, ENT disorders, leprosy, plague, venereal diseases etc. Regarding treatment, they mostly depended on divine therapy.
• The physicians used more than 250 herbs, some other animal products along with 120 inorganic substances, similar to Ayurveda.
• ‘Thompson’ opined that the medicine in Babylonia flourished along with surgery. Surgeons were severely punished, in case of carelessness during surgery. Surgeons should get the permission of the kings.
• Fractures and wounds, stones in the bladder etc. were managed by the surgical techniques in those days.
• Registration of qualified physicians was being practiced in Babylonia since early days.
Different types of forceps, scrapers, lancets, trocar and cannula, hooks, probes, catheters, sounds & dilators, splints, suturing needles etc. were used by the surgeons of Babylonia. These instruments were made of Bronze and it is believed that they belonged to 2000 B.C.

By the above references it can be concluded that the medicine in Assyria, Sumeria and Babylonia was already established in the early days only and some similarities are noticed with Indian Medicine as under:

- Intake of high quantity of water for the prevention of diseases.
- Wearing herbal armlets for preventing and curing certain diseases.
- Sprinkling of medicated water.
- Fanning with certain leaves. Eg: Neem leaves in chickenpox.
- Divine therapy such as Bali, Homa, Niyama, Prayaschitta.
- Administration of medicine in the empty stomach i.e. ‘Pragbhaktam’.
- Administration of medicated oils as purgatives.
- Use of garlic.
- Testing urine in Madhumeha.
- Formation of dental cavities formed due to germs etc.

The Babylonians believed in the supernatural origin of most diseases, but who also recognized the causative action of natural agents such as dust, dirt, food or drink and even contagion.

The Babylonian had certain medical and philosophical beliefs. The following are some of their long-term beliefs:

- The heart is the seat of the mind.
- The liver is the seat of emotion.
- The stomach is the seat of courage.
- The uterus is the seat of kindness.

These beliefs survived throughout thousands of years. They still exist, not only in Arab culture, but also in many cultures around the world.

The Babylonians mastered the science Astronomy & Astrology.

- They watched the stars and calculated their movements with precision.
- They predicted eclipses with accuracy and eclipses were considered bad omens.
- They consulted the stars to predict the course of a battle or the outcome of a disease and the prognosis was linked with the constellations of the stars and planets.
• The widespread practice of astrological medicine in Medieval Europe originated with the Babylonians.
• They made accurate calendars far ahead of their times.
• Much later on in history, a Roman emperor had to send for a Babylonian astronomer to make a calendar for the Roman Empire.

• Hepatoscopy: They examined the liver of sacrificed animal to foretell the course of disease or other future events
• Dreams: They believed that some dreams carried messages about the future
• Amulets are written prayers or poems or parts of animals or plants or statuettes carried by individuals as protection to drive away evil spirits. The following is a poetic amulet (7):

    Seven are they,
    Seven are they,
    In the Ocean Deep seven are they,
    Evil are they, evil are they,
    Seven are they, Twice seven are they!
    By Heaven be ye exorcised!
    By Earth be ye exorcised.

• The Babylonians invented the concept that the last day of the week is for resting. They considered it a day of bad omen that may bring disaster. They stayed home as a preventive measure.
• The Jews modified the Babylonian concept of resting the last day of the week but instead of bad omen they considered it holy.

**Medicine in Misra Desa (Egypt) in the early days**

• Evidences shows that the medicine in Misra Desa (Egypt) flourished around 3000 B.C. i.e. Pyramid age.
• Since early days, Egyptians were aware of preparation of Calendar, Algebra, Geometry, Invention of paper, Medicine etc.
• As per the works of Greeks, it was known that the Egyptian medicine laid foundation for the development of Greek medicine.
• Imhotep (2900 BC) was an Egyptian polymath who served under the Third Dynasty king, Djoser, as chancellor to the pharaoh and high priest of the sun god Ra at Heliopolis. He is considered to be the first engineer, architect and physician in history known by name.

• Imhotep became much popular as God of healing, and constructed temples for him at Memphian, Thai Ben and at Paila by the people of Egypt, around 500 B.C.

• The following evidences revealed that the Egyptian medicine was definitely influenced by the Indian medicine.
  1. Religious tradition.
  2. Bhandarkar’s critical review.
  3. Edwin Smith’s & George Ebers, Papyrus.
  4. Will Durant’s historical review.
  5. Herodotus opinion
  6. Story of Puri, the royal physician.
  7. Dead body dissection, Vasti karma, Raktamokshana, Jalouka Prayoga.
  8. Examination of Mummies.

1. Religious Tradition
• Besides drug therapy, the treatment consisted of the worship of gods in Egypt in the early days.
• The priests who perform spiritual rituals for the welfare of the patients were highly paid.
• Similar to these temples, Asclepius temples were constructed in Greek, in later times.
• They worship many gods, and Thoth was the important one.
• They believe that ‘Ray’ was the god of medicine; ‘Ray’ may be the Indian God Ravi or Surya or Bhaskara.

2. Bhandarkar’s Critical Review
• Bhandarkar wrote a book titled ‘Ashoka’, in which he described the matter related to the inscriptions as under.
• Ptolemy II Philadelphus (309 BC–246 BC), was the king of Ptolemaic Egypt from 281 BC to 246 BC.
He was the son of the founder of the Ptolemaic kingdom Ptolemy I Soter and Berenice, and was educated by Philitas of Cos.

- Ptolemy Philadelphus constructed a library at Alexandria and was interested in translating the Indian Medical works into Egyptian language.

3. Edwin Smith’s Papyrus

- ‘Papyrus’ belongs to pyramid age was found by Edwin Smith in the year 1862 AD. It was published by Chicago University in the year 1930 AD.
- In it anatomical structures of human body, description of heart, brain, physiological aspects, fractures and dislocations and their treatments, wounds, glands, abscess, suturing, cauterization etc. were described along with magico-religious treatments. Surgical operations like circumcision, laparotomy, and fracture bones management were also available. They were similar to the treatment in Ayurveda.
- Pulse examination was described in accordance to Indian medicine.

George Ebers – Papyrus

- George Ebers was able to acquire the full text in the form of Papyrus belonging to 1500 B.C. and it was preserved in the Leipzig University.
- It was published in the year 1875 AD.
- It contains 110 pages, in which 200 formulations are described.
- Physicians/ treatments have been classified into 3 groups such as Rational Therapy, Divine therapy and surgical treatment.
- Drugs are also of 3 types such as herbs, minerals and the third group, which can be obtained from the animals.
- Description of drugs such as Usira, Indravaruni, Draksha, Ela, Lasuna, Krishna Jeeraka, Devadaru, Eranda, Trivrit, Ahiphena, Dhattura, Gorochana, Loha, Naga, Beeswax etc. is available.
- The drugs which were not available in Egypt have been imported from different countries.

4. Will Durant’s Historical Review

- William James Durant (November 5, 1885–November 7, 1981) was an American philosopher, historian, and writer.
- He is best known for writing, with his wife, Ariel Durant, The Story of Civilization, an 11-volume work written between 1935 and 1975.
- They were awarded the Pulitzer Prize for literature (1967) and the Presidential Medal of Freedom (1977).

- Will Durant in his work, ‘The Story of Civilization’ quoted that the following drugs were used for the treatment of certain disorders by the Egyptians in the early days.
  - Blood of Lizard
  - Teeth, Ears, Fat and flesh of boar
  - Brain of tortoise
  - Breast milk of sleeping woman
  - Urine of unmarried girl
  - Semen of human beings, ass, dog, lion, cat and other animals.
- People believed in the magico religions techniques.

5. Opinion of Herodotus

- Herodotus of Halicarnassus was a Greek historian from Ionia who lived in the 5th century BCE (ca. 484 BCE–ca. 425 BCE) and is regarded as the “Father of History.” As he was the first to use the term. He is almost exclusively known for writing The Histories, a record of his ‘inquiries’
• Herodotus was the first man, who explained the tradition of medicine in Egypt. He belongs 450 BC.
• Specialist practitioners existed in Egypt during his period as follows.
• Separate doctor for treating trachoma, cataract, dental disorders, orthopedic problems, treating fistula-in-ano, jaundice specialist and so on.

6. Story of Puri – the royal physician
• Puri the royal physician belonged to 4th century B.C. He used herbs, minerals and other drugs in his practice.

7. Dead body dissection – Vasti Karma, Raktamokshana and Jalouka Prayoga
• Dead body dissection was not in practice during those days. They got the anatomical knowledge from the sacrificial animals.
• Body consists of various channels and is connected with the heart. Gastro intestinal tract was termed as Maha Srotas. Obstruction in the channels causes ‘Amavisha’, which in turn results in the manifestation of various disorders.
• Egyptian physicians learned the technique of Vasti Karma from the bird ‘Ahavisha’.
• References pertaining Raktamokshana and Jalouka Prayoga are also available.

8. Examination of Mummies
• Due to the examination of mummies many a number of diseases have been diagnosed by the Egyptians such as – Alcoholic toxicity, malaria, plague, hernia, leprosy etc.
• Signs of syphilis was not noticed, where as Gonorrhea was detected.
• Urine & excreta of different animals, mud, bile etc. were used in medicine, similar to Ayurveda.

9. Knowledge of obstetrics
• Egyptians had also sufficient knowledge in obstetrics.
• Females also know the usual posture of normal delivery.
• They had sufficient knowledge regarding the contraceptive measurers. The flowers of Acacia, date fruit and honey were mixed together and prepared
the paste after grinding them well. The above paste was made into 'Varti' form and kept in the cervical canal to act as contraceptive.

- For the sex determination of the baby, the pregnant woman was put under the following simple test. Wheat and millets were taken into two separate cloth bags and the pregnant lady was asked to pass urine daily in both the bags. If the wheat germinates at first it indicates the male or else female.

It was normal for Mesopotamian kings to send their physicians for consultations when the Egyptian king was sick and vice versa. It was a friendly gesture with political motive to strengthen their relations. So, at foreign courts Babylonian and Egyptians physicians competed.

**Medicine in China in the early days**
- According to the Epics Chinese used to pray to ‘Shennong’ as deity of medicine, who had the head of Taurus, and belonged to 2800 B.C.
- Shennong a legendary ruler of China and culture hero of Chinese mythology who is believed to had lived some 5,000 years ago, and taught ancient China the practices of agriculture. Appropriately, his name means “the Divine Farmer”. Considered to be the father of Chinese agriculture, taught his people how to cultivate grains as food, so as to avoid killing animals.
- Shennong is credited with identifying hundreds of medical (and poisonous) herbs by personally testing their properties, which was crucial to the development of Traditional Chinese medicine.

- The most well-known work attributed to Shennong is the ‘The Divine Farmer’s Herb-Root Classic’.
- This work is considered to be the earliest Chinese pharmacopoeia. It includes 365 medicines derived from minerals, plants, and animals.
- Tea, which acts as an antidote against the poisonous effects of some seventy herbs, is also said to be his discovery. Chinese legend places this discovery in 2737 B.C.
- Shennong is venerated as the Father of Chinese medicine. He is also believed to have introduced the technique of acupuncture.
- During 253 B.C., there was a physician named ‘Pien Chiao’ in the history of Chinese medicine, who was also treated as deity of medicine. Once upon a time a “fairy” gave a bundle of herbs to ‘Pien Chiao’ and asked him to take those herbs daily for a period of one month. As per her instructions he did so, and got the extra-ordinary power to locate the anatomical structures of the body as well as diagnosing and treating diseases.
- He also did the transplantation of heart successfully on two patients, which caused professional jealousy of ‘Lihs’, the royal physician and that led to the murder of ‘Pien Chiao’.

- Around the period of 168 AD, there was a famous physician in China named Chang-Chung-Ching, who was also called as ‘Hippocrates of China’. He was a medical graduate and was one among the popular ‘physician trio’. The other two were Ts-ang-king and Hua-to.
- Chang-Chung-Ching published a scientific paper on Typhoid fever
• Unlike his ancestors, he never believed magico religious techniques of medicine.
• Hua-to, was a famous surgeon and royal physician for Ts-oo king of Wei.
• He was also an expert anesthetist.
• Apart from superstition and magic, Chinese had a system of medicine well established on rational basis.
• Acupuncture and massage therapy were popular in Chinese medicine.
• Yang and Yin are considered as the essential factors for the maintenance of positive health in the body when they are in state of equilibrium. Imbalance between them causes diseases. It is similar to humorous theory of Ayurveda.
• Five basic elements of the creation have been recognized such as – wood, fire, earth, metal and water.
• Pulse examination, inspection of tongue etc. was taken into consideration for diagnosing disease.
• Ephedra and Ginseng were the important drugs of Chinese pharmacopoeia.
• India was also had trade contacts with China since early days.
• The Buddhist monks and scholars went to China to propagate their views. Along with Buddhism, Indian systems of medicine also spread in China.
• Chinese travelers like Fahian, Yuan Chang, Itsing etc. visited India in different periods, and the Indian medicine reached China through them.
• Many Ayurvedic texts were also translated into Chinese language.

**Medicine in Faras in the early days**
• Faras, known in ancient times as Pachoras, was a major city in Lower Nubia in modern Egypt. The site of the city was flooded by Lake Nasser in the 1960s, and is now permanently underwater. Before this flooding, extensive archeological work was conducted by a Polish archeological team.

• In the 6th century B.C. Faras was a strong empire during the reign of Cyrus (529 BC), which was extended from Egypt to Sindh region. After the death of Cyrus, Cambyses II & Darius became the emperors of the Faras kingdom.

• Farsis believed in God and they used to pray to the God Mitra (Surya), and also did sacrificial acts.

• There was a monk named ‘Jarhusth’ in the 6th century B.C. He used to teach religious principles and composed a book titled ‘Avesta-E-Zed’. Farsis treated it as ‘Vedas’ of Hindus.

• In ‘Avesta-E-Zed’ along with the religious teachings, medical aspects also were discussed as under.

  ▪ Preventive measures.
  ▪ Physicians and their professional ethics.
  ▪ Laws and codes of conduct.

• As the Farsis believed more in divine therapy, physicians proper were invited from Egypt.

• Physicians have been classified into three types.


• There were no restrictions to practice medicine in Faras in those days, whereas surgeons have to get the permission / certificate from the emperors. They will be given 3 chances to conduct surgical operation on prisoners and servants. If they were failed, they were not allowed to practice surgery. Whoever succeeded in all the three times they were given permission to do surgery in their practice.

• Physicians used to do mobile service and were sufficiently paid.

• Veterinary doctors also existed in those days.

• Skin diseases, leprosy, fever, epilepsy and other psychic disorders were frequently seen.

• As the Farsis were dependents in the field of medicine, nothing had been contributed by them to the medical world.
Arab civilization did not flourish in the early days. Later it emerged as a big power by extending its empire up to Egypt, North Africa and Spain. Arabs learned art, culture and civilization from the conquered and other surrounding countries.

Arab civilization flourished during the period of Caliphs. Among them, the most famous fifth caliph was Harun-al-Rashid (763-809 AD) and his time was marked by scientific, cultural, and religious prosperity. Art and music also flourished significantly during his reign.

Harun-al-Rashid

He established a hospital in Baghdad and he employed Indian and Greece physicians.

He also established a library Bayt al-Hikma and kept the medical books, which had been collected from India and Greece.
Many a number of Indian medical books such as ‘Charaka Samhita’, ‘Susruta Samhita’, ‘Astanga Hridaya’, ‘Madhava-nidana’ and also the works of Hippocrates, Galen and other Greek Scientists were translated into Arabic language.

There were two outstanding personalities in the field of Arabic Medicine named Rhazes (865-965 AD) and Avicenna (980-1037 AD) who contributed a lot to the medical literature.

Rhazes (865-965 AD) was the native of Farsi, who came to Baghdad and studied medical science. Later on he became the best physician of those days. He was also a great scholar in Ganita, Jyotisha, Dharma Sastra and Darshana. More than 237 works on different subjects were in the name of Rhazes. Most of them were medical works.

Avicenna (980-1037AD) was also born in Faras, near Bukhara. As Avicenna was an extra-ordinarily brilliant, he finished his education by the end of 12 years of age. He wrote many a number of books on various subjects such as Ganita Sastra, Bhoutika Sastra, Rasayana Sastra, Dharma Sastra, Darshana Sastra and Kavya etc.

The most important work of Avicenna was ‘The Canon’ which was translated into Latin in 12th century AD. It was a textbook in European medical institutions for a long period.

Arabial was much influenced by Indian medicine as well as Greek medicine. By the synthesis of these two systems a third system was evolved as Unani system of medicine.

A large number of Indian drugs were introduced in Arabic Pharmacopoeia, and some useful drugs also were borrowed in to Indian Pharmacopoeia.

The spread and popularity of Ayurveda in the south eastern countries

Kamboja

Jayavarma II was the emperor of Kamboja during 1881 AD.

He established more than 102 hospitals throughout his kingdom.

He had given much encouragement for the system of Ayurveda.
• Measurements mentioned in Ayurveda such as Drona, Prastha, Kudava, Pala, Karsha etc. became popular in his country.
• Along with other subjects, Ayurveda was also one of the subjects taught in Kamboja.

Java

• For the welfare of the public, the Government of Java established a central council of medicine.
• It was also helpful for the government for the smooth running of the hospitals throughout the country.
• Buddhist monks propagated Ayurveda along with their religious teachings in Java.

Thailand

• The people of Thailand believed that ‘Kumara Bachcha’ was propounder of medicine.
• Kumara Bachcha was another name of Jivaka.
• The miracles of medicine and surgery of Jivaka were extensively described in the Buddhist works. Hence they believed that Jivaka was the propounder of medical science.
• King Chulalongkorn (Rama V) (September 20, 1853 – October 23, 1910) was the fifth king of the Chakri dynasty of Thailand. He is regarded as one of the greatest kings of Siam, as he is also called by Thais as ‘The Great Beloved King’.
• Rama V, conducted an international seminar on medicine and the proceedings were published as “Vaidya Sastra Sangraha”.
• Books were also published on the subjects of Dravyaguna and Marma Vignan with illustrations.

King Chulalongkorn (Rama V)
• Medical journal titled 'Vaidya Karma Sandesh' in Thai language was published.

• Ayurveda influenced the development of medicine in Thailand.

In this way Buddhist monks propagated Ayurveda along with their religious teachings, in most of the countries like Tibet, Sri Lanka, Nepal, Burma, Malaysia etc.

In the modern India the credit of spreading the message of Ayurveda for preservation and restoration of health to the entire world goes to Pt. Shiva Sharma. At later stage Maharshi Mahesh Yogi was successful in establishing institutes and hospitals of Ayurveda in different parts of the world. Mahesh Yogi brought a very big movement to bringing awareness about Ayurveda among westerners.

**Maharshi Mahesh Yogi**

• **Maharshi Mahesh Yogi** (Mahesh Prasad Varma, born on January 12, 1917, in Raipur, India, in a Hindu family. His Father’s name is Sri Ram Prasad. He obtained a degree in physics at Allahabad University.

• Maharshi Mahesh Yogi founded and developed the Transcendental Meditation technique and related programs and initiatives, including schools and universities with campuses in India, the United States and China. *Maharshi Mahesh Yogi*

• In approximately 1939, Maharshi became a disciple of Swami Brahmananda Saraswati, the Sankaracharya (spiritual leader) of Jyotir Math, located in the Indian Himalayas. Maharshi credits the Sankaracharya (Guru Deva) with inspiring his teachings.

• In 1941 he became a secretary to Swami Brahmananda Saraswati, who gave him the name Bal Brahmachari Mahesh.

• In 1953, Maharshi moved to Uttar Kasi, in the Valley of the Saints, in the Himalayas, where his own Master had lived in previous decades with his Master, Swami Krishanand Saraswati.

• In 1955, Maharshi left Uttar Kasi, and began publicly teaching what he states is a traditional meditation technique that he later renamed Transcendental Meditation.

• He began The Spiritual Regeneration Movement in 1957, in Madras, India, on the concluding day of the Seminar of Spiritual Luminaries.

• Maharshi Mahesh Yogi’s first global tour began in 1958, from which time his techniques for human development have been taught worldwide. He became known in the Western world in part due to interactions with The Beatles and other celebrities.
His first world tour began in Rangoon, Burma, now Myanmar. Maharshi remained in the Far East for about six months teaching Transcendental Meditation.

In 1959, Maharshi taught the Transcendental Meditation technique in Hawaii and later went to California and became a guest in a private home owned by the Olson family. He continued to visit and teach from the Olsons’ home over the next few years.

Maharshi established the Spiritual Regeneration Movement in the United States and in October 1975, Maharshi was pictured on the front cover of the US magazine *Time*.

In 1961, he conducted his first international Teacher Training Course near Rishikesh, India. Over 60 meditators from India, Canada, Denmark, Germany, Britain, Malaya, Norway, the United States, Australia, Greece, Italy and the West Indies attended. Teachers continue to be trained.

In his 1963 publication, Maharshi describes the Bhagavad-Gita as “the Scripture of Yoga.” He says that “its purpose is to explain in theory and practice all that is needed to raise the consciousness of man to the highest possible level.

Over a 30-year period Maharshi held advanced, in-residence courses and assemblies in North America, India and/or Europe for practitioners of the Transcendental Meditation technique.

In the year 1973-74 Maharshi International University (renamed Maharshi University of Management in 1995) was founded in Santa Barbara, California. After that, the university moved to Fairfield, Iowa, where it remains today.

Maharshi introduced an alternative medical system called Maharshi *Ayurveda*, Maharshi Jyotish, a system of Vedic astrology, Maharshi Stapatya Veda, a system of Vedic architecture, Maharshi Gandharva Veda, and various other practices related to music, systems of education, theories of management, defense, and government.

By 1990, Maharshi had begun to coordinate his global activities from his residence in Vlodrop, the Netherlands.

A “Vedic City” has been established in the year 2002 in United States by followers of Maharshi Mahesh Yogi, the Godman, whose discourses on application of ancient Indian wisdom in the modern world has captured the imagination of people around the globe.

On February 5th, 2008, Maharshi Mahesh Yogi passed away and on February 11th, Maharshi Mahesh Yogi was accorded a full, state funeral by the President of India.

*****
Hippocrates of Cos II (460 BC – 370 BC) - was an ancient Greek physician of the Age of Pericles, and was considered one of the most outstanding figures in the history of medicine. He is referred to as the ‘Father of Medicine’ in recognition of his lasting contributions to the field as the founder of the Hippocratic School of medicine.

Plato (424-348 BC)

- Plato was a Classical Greek philosopher.
- Together with his teacher, Socrates, and his student, Aristotle, Plato helped to lay the philosophical foundations of Western culture.
- Plato was also a mathematician, writer of philosophical dialogues, and founder of the Academy in Athens, the first institution of higher learning in the western world.
- In ‘Timeos’, the only work of Plato, he refers to Hippocrates only twice or thrice. While discussing ‘epilepsy’, he quoted that it would be caused due to the disturbance of humors.

Aristotle (384-322 BC)

- Aristotle (together with Socrates and Plato) is one of the most important philosophers in Western thought.
- He was one of the first to systematize Western philosophy and science.
- His thinking on physics and science had a profound impact on medieval thought,
- He was the disciple of Plato and the preceptor of Alexander the great.
- He was a genius scientist, profound philosopher, literary critic and the first great Biologist.
- Like Hippocrates he believed that the human body possessed four fundamental qualities hot, cold, dry and moist, the four humors are blood, phlegm, yellow bile and black bile. According to him any disturbance in the equilibrium of these humors results in diseases.

Timirius

In his scientific treatise he did not mention the name of Hippocrates.

Herodotus (484-425 BC)

- Herodotus was a Greek historian from Ionia who lived in the 5th century BCE (484 - 425 BC) and is regarded as the "Father of History:” as he was the first to use the term.
- He is almost exclusively known for writing The Histories, a record of his ‘inquiries’ into the origins of the Greco-Persian Wars which occurred in 490 and 480-479 BCE
- Herodotus also did not mention the name of Hippocrates, the famous scientist in medicine of those days.
- But he gave information regarding the other scholars like Pythagoras and others.

Herogoz

Herogoz belonged to ‘Cos’. He narrated vividly about that region in his work, but he did not even mention the name of Hippocrates of the same region.

In other works also one cannot get much information regarding Hippocrates.

Hippocrates (460 BC –370 BC)

- Hippocrates ancient Greek physician was considered one of the most outstanding figures in the history of medicine.
- He is referred to as the ‘Father of Medicine’ in recognition of his contributions to the field as the founder of the Hippocratic School of medicine.
- Historians accept that Hippocrates was born around the year 460 BC on the Greek island of Kos (Cos), and became a famous physician and teacher of medicine.
- Soranus of Ephesus, a 2nd-century Greek gynecologist, was Hippocrates’s first biographer and is the source of most information on Hippocrates’ per-
son. Information about Hippocrates can also be found in the writings of Aristotle.

- Soranus stated that Hippocrates’s father was Heraclides, a physician; his mother was Praxitela, daughter of Phenaretis. The two sons of Hippocrates, Thessalus and Draco, and his son-in-law, Polybus, were his students.
- According to Galen, a later physician, Polybus was Hippocrates’s true successor.
- Soranus said that Hippocrates learned medicine from his father and grandfather, and studied other subjects with Democritus and Gorgias.
- Hippocrates was probably trained at the Asklepieion of Kos, and took lessons from the physician Herodicus.
- The only contemporaneous mention of Hippocrates is in Plato’s dialogue Protagoras, where Plato describes Hippocrates as ‘Hippocrates of Kos, the Asklepiad’.
- Hippocrates taught and practiced medicine throughout his life, traveling at least as far as Thessaly, Thrace, and the Sea of Marmara.
- He probably died in Larissa at the age of 83 or 90, though some accounts say he lived to be well over 100; several different accounts of his death exist.
- Hippocrates is credited with being the first physician to reject superstitions and beliefs that credited supernatural or divine forces with causing illness.
- Hippocrates was credited by the disciples of Pythagoras of allying philosophy and medicine.
- He separated the discipline of medicine from religion, believing and arguing that disease was not a punishment inflicted by the gods but rather the product of environmental factors, diet and living habits.
- Indeed there is not a single mention of a mystical illness in the entirety of the Hippocratic Corpus.
- Ancient Greek schools of medicine were split into the Knidian and Koan on how to deal with disease.
- The Knidian School of medicine focused on diagnosis, but was dependent on many faulty assumptions about the human body.
- The Hippocratic School or Koan school achieved greater success by apply-
ing general diagnoses and passive treatments. Its focus was on patient care and prognosis, not diagnosis. It could effectively treat diseases and allowed for a great development in clinical practice.

- The Hippocratic School held that all illness was the result of an imbalance in the body of the four humours, fluids which in health were naturally equal in proportion.
- When the four humours, blood, black bile, yellow bile and phlegm, were not in balance a person would become sick and remain that way until the balance was somehow restored.
- Hippocratic therapy was directed towards restoring this balance. For instance, using citrus was thought to be beneficial when phlegm was overabundant.
- Another important concept in Hippocratic medicine was that of a crisis, a point in the progression of disease at which either the illness would begin to triumph and the patient would succumb to death, or the opposite would occur and natural processes would make the patient recover.
- Hippocrates held the belief that the body must be treated as a whole and not just a series of parts. He was the first physician to accurately describe the symptoms of diseases.
- Hippocratic medicine was humble and passive. The therapeutic approach was based on ‘the healing power of nature’. According to this doctrine, the body contains within itself the power to re-balance the four humours and heal itself.
- One of the strengths of Hippocratic medicine was its emphasis on prognosis.
- Clubbing of fingers secondary to pulmonary hypertension in a patient with Eisenmenger’s syndrome was first described by Hippocrates, clubbing is also known as ‘Hippocratic fingers’.
- Hippocrates began to categorize illnesses as acute, chronic, endemic and epidemic.
- The Hippocratic Corpus contains textbooks, lectures, research, notes and philosophical essays on various subjects in medicine, in no particular order. Notable among the treatises of the Corpus are The Hippocratic Oath; The Book of Prognostics; On Regimen in Acute Diseases; Aphorisms; On Airs, Waters and Places; Instruments of Reduction; On The Sacred Disease; etc
- The Hippocratic Oath, a seminal document on the ethics of medical practice, was attributed to Hippocrates in antiquity. This is probably the most famous document of the Hippocratic Corpus. This Oath is taken by physicians today as they begin their medical practice.
A twelfth-century Byzantine manuscript of the Oath in the form of a cross

Hippocratic Oath

“I swear by Apollo Physician and Asclepius and Hygeia and Panaceia and all the gods and goddesses, making them my witnesses, that I will fulfill according to my ability and judgment this oath and this covenant:

To hold him who has taught me this art as equal to my parents and to live my life in partnership with him, and if he is in need of money to give him a share of mine, and to regard his offspring as equal to my brothers in male lineage and to teach them this art - if they desire to learn it - without fee and covenant; to give a share of precepts and oral
instruction and all the other learning to my sons and to the sons of him who has instructed me and to pupils who have signed the covenant and have taken an oath according to the medical law, but no one else.

I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice.

I will neither give a deadly drug to anybody who asked for it, nor will I make a suggestion to this effect. Similarly I will not give to a woman an abortive remedy. In purity and holiness I will guard my life and my art.

I will not use the knife, not even on sufferers from stone, but will withdraw in favor of such men as are engaged in this work.

Whatever houses I may visit, I will come for the benefit of the sick, remaining free of all intentional injustice, of all mischief and in particular of sexual relations with both female and male persons, be they free or slaves.

What I may see or hear in the course of the treatment or even outside of the treatment in regard to the life of men, which on no account one must spread abroad, I will keep to myself, holding such things shameful to be spoken about.

If I fulfill this oath and do not violate it, may it be granted to me to enjoy life and art, being honored with fame among all men for all time to come; if I transgress it and swear falsely, may the opposite of all this be my lot.”

- After Hippocrates, the next significant physician was Galen, a Greek who lived from 129 to 200 AD. Galen perpetuated Hippocratic medicine, moving both forward and backward.
- Galen’s theories dominated Western medical science for over a millennium.
- In the middle Ages, Arabs adopted Hippocratic methods.
- After the European Renaissance, Hippocratic methods were revived in Europe and even further expanded in the 19th century.

**The influence of Ayurveda on the father of Allopathy**

Hippocrates belonged to Greece and was known as the ‘Father of Medicine’. He was born in ‘COS’ in the year 460 BC. His father’s name was Heraclides. He had his primary education from his father as well as the teacher named Herodicus. There was a controversy regarding the life span of Hippocrates. He might have lived for nearly 85 to 110 years.

- According to Galen (130-200 AD), Hippocrates belonged to 427-400 BC where as Liter believed that he belonged to 430-420 BC.
- Some others opined that Hippocrates belonged to 300 BC, later to
Alexander, basing on language, style, grammar and the mode of presentation in his works.

- Though a number of works were in the name of Hippocrates, E. Tramer opined that all of them did not belong to him, because of the variation in the style of presentation as well as having self contradictory statements. Sir P.C. Roy believed that some of the works might have been contributed by the disciples of Hippocrates in the later time, in the name of their preceptor.

- If the works in the name of Hippocrates were written by him they might have become popular by that time only. But it did not happen. Plato and Aristotle did not even mention about his works. This also suggests that these works belonged to later times, and by the time of Hippocrates the medical science was not much popular in Greece.

- If the medical science was so popular during the time of Hippocrates, what was the necessity of the people of Greek for going to other countries to seek medical knowledge?

- There was an allegation against Hippocrates that he burnt the library at ‘Cnidus’ to show the supremacy of the medical science of Greece to the world.

- Galen collected all the available works of Hippocrates and started writing commentaries on some books. From the 3rd century AD onwards the medical works of various countries were listed together. Later in the 7th century AD, with the help of Roman emperors, they were translated into Latin. Afterwards the works of Hippocrates got much popularity in the medical world.

- Keith & Mcdonald opined that the description available in the works of Hippocrates regarding the causative factors of fever and other disorders, the line of treatment etc. also shows similarity with the Indian system of medicine i.e. Ayurveda.

- As Ayurveda is closely associated with Indian Philosophy, the Greek medical science also associated with their philosophy for 100 years prior to Hippocrates.

- It was observed that Hippocrates picked up only the subject matter related to medicine and gave up the philosophical thoughts.

- According to the writings of Humor, it can be seen as Indians believe that the mythical origin of Jwara may be the anger of Rudra, the people of Greece also believed that the diseases are caused due to the anger of Gods.

- The striking similarity in many points between the Greek and Indian Medical System are as follows.
- Doctrines of humors, whose derangement causes disease.
- Influence of seasons on health.
- Healing of disease by remedies of opposite characters.
- Similarities in the science of embryology.
- Production of twins.
- Viability of 8th month fetus.
- Removal of dead fetus by surgery.
- Modes of dealing hemorrhoids by blood letting.
- Use of leaches
- Many surgical instruments etc.

- Though the impact of the Indian culture was felt over Greece, by the time of Hippocrates, the philosophical approaches were discarded and a new era started in the field of medicine.

- It is quite natural spreading one’s culture, tradition and civilization to the other countries along with medicine, just as Indian Medicine spread to Greece.

- Dr. J.J. Modi proved that the humor theory belonged to Indian medicine and was adopted by Hippocrates.

- Hippocrates might have gone to Nalanda and Taxila to study medicine in India.

- In the Materia Medica written by Hippocrates many a number of Indian Drugs are as under.

  | Jatamanase     | - | Jatamansi    |
  | Jinigivera     | - | Sringavera   |
  | Piperanigrum   | - | Maricha      |
  | Peperi         | - | Pippali      |
  | Peperi Riza    | - | Pippali Mula |
  | Kostus         | - | Kushta       |
  | Sakarun        | - | Sarkara      |

- It also suggests that the above terms seem to be nearer to Sanskrit and might have spelt wrongly.

- Hippocrates’ works also give a lot of information regarding the
  - Basic principles of Ayurveda.
  - Information regarding various Indian drugs.
  - Pathogenesis.
  - Mode of administration of drugs.
• Qualities of the attendants and their service rendered to the patients.
• From the above similarities between Indian and Greek medicine one can infer that the later was derived from the former.
• Dr. J.J. Modi presented a scientific paper, “Is Ayurveda Quackery?” to the Royal Asiatic Society. By quoting all the above examples he proved that all the systems of medicine in the world originated from the Indian system of medicine only i.e. Ayurveda.

Asclepius 1250 BC along with his daughter Hygeia, performed miracles of healing, and even restored the dead to life at ‘Delphi’.

Pluto the ruler of the underground feared Asclepius for his miracles and prayed to the supreme God ‘Zeus’, who killed Asclepius with a thunderbolt.

After his death he was treated as a God and worshipped in hundreds of temples throughout Greece. Among them the temple situated at Epidaurus became more popular. These temples were also called Asclepiads. Sick people went there for healing ritual known as temple sleep. It is believed that Asclepius will appear in the dream of the patient and cure his ailments by giving advice or by operating on the patient.

The Greeks, since early days, believed that the snake is a symbol of health. It is very common in Greek mythology forecasting the future with magic powers. Asclepius himself usually represented as holding a stick, around which a snake is entwined.

The first known Greek medical school opened in Cnidos in 700 BC. Hippocrates established his own medical school at Cos and the medical school of Cos paid great attention to the natural history of diseases especially to the probability of a fatal or non-fatal issue.

Empedocles (490–430 BC) was a Greek pre-Socratic philosopher, who established four ultimate elements which make all the structures in the world - fire, air, water, earth.

Empedocles called these four elements ‘roots’, which, in typical fashion, he also identified with the mythical names of Zeus, Hera, Nestis, and Aidoneus. He never used the term ‘element’, which seems to have been first used by Plato.

According to the different proportions in which these four indestructible and unchangeable elements are combined with each other the difference of the structure is
produced. It is in the aggregation and segregation of elements thus arising. The medical side of his teachings was partly magic and quackery.

Its doctrines were criticized in the treatise of Hippocrates; These 3 schools of medicine were popular in Greek, 100 years earlier to Hippocrates. Among these three the first one was magical and the rest of the two were philosophical. The Indian philosophical thoughts might have influenced the Greek medicine.

- Once, the fractured leg of the king of Iran was treated by ‘Democodin’ without using the surgical instruments. It suggests that surgery was not fully established by that time.
- The title given to Hippocrates, ‘The father of medicine’ also suggests that medicine was also not fully developed prior to him.
- From Egypt came many drugs used by the Greek physicians. The basis of Greek medical ethics can be traced to Egypt. Persian and Indian sources contributed something to Greek medicine.
- Homer in his work ‘Odyssey’ opined that the illness of the individuals was by Gods and from Gods alone the remedy could be procured.
- Dorothy Chaplin in his treatise ‘Some aspects of Hindu Medical Treatment’ described as under:

  Western medical system came originally from Hindus through Arabia.

  The Hindu Medical works contain no names that denote foreign origin. European medicine down to the 17th century was practically based upon that of the Hindus.

Let us have a glance at the similarity of names used in Hindu Anatomy and modern nomenclature of the west.

\[
\begin{align*}
  \text{Sirobrahma} & \quad - \quad \text{Cerebrum} \\
  \text{Siroliloma} & \quad - \quad \text{Cerebellum}.
\end{align*}
\]

Thus we may notice that the Hindu system is neither crime nor quack, but perhaps the most ancient and the most scientific of all systems.

- The acceptance of Indian Ayurvedic knowledge by the Greeks, adoption of these subjects for themselves, cultural and commercial relations of India with Greece, were existing since antiquity.
- Hence the influence of Indian culture, science, philosophy & medicine over Greece can be seen clearly.

It can be noticed from Encyclopedia Britannica as under:

- Minoan, Mesopotamia, Egypt are the sources of Greek Medicine. Persian and Indian sources contribute something to Greek Medicine. But it cannot
be determined definitely, how much quantum of knowledge was borrowed from each source.

- Rules of hygiene.
- Knowledge of Anatomy.
- Demons/evil spirits the causative factors for diseases.
- Preparation and mode of administration of medicines.
- The Greeks obtained knowledge about surgical procedures from different sources.

- Dr. Enfield says that Pythagoras visited India to acquire knowledge in philosophy. He also learned mathematics and medicine from Indian scholars.
- Schalegal says the doctrine of the ‘Transmigration of souls’ was indigenous to India and was brought into Greece by Pythagoras.
- The philosophers that took serious interest in medicine were Pythagoras and his followers.
  - Music therapy for the management of certain diseases.
  - Diagnosing the disease by simple observation.
  - Avoiding non-vegetarian food, and taking wholesome food and drinks.
  - Prescribing specific diet according to their body constitution etc. are some of the concepts of Indian medicine adopted into Greek medicine by Pythagoras.
- Pythagoras had given importance to the preventive measurers rather than treating the patients by administering internal medicines.

According to the above references it can be concluded that Greeks adopted the knowledge from the Ayurveda, Indian Sciences like philosophy, mathematics etc.

**The tour of Greece by Indian Scholars**

- It can be noticed from the historical works that Greeks not only visited India to learn, but Indians also visited Greece and other western countries. Since antiquity they used to visit other countries and exchange their concepts.
- A discussion that took place between Socrates and the Indian scholar regarding ‘Jivatma’ was recorded by a disciple of Aristotle namely Aristaksinus.
- H.G. Rawlinson stated that Indians were having relation with Greeks since 4th century BC. Even before Alexander’s invasion, Indian scholars used to visit Greece to exchange their views with Greek scholars.
- Garbe and others also opined that there were striking resemblances between
Indian and Greek Philosophy. The parallels between the Eleatic and Sankhya schools and between Orphism and Buddhism are curiously exact.

- B.J. Urwick, in his work ‘The message of Plato’ has also pointed out similar resemblances.
  - The 3 classes in the Republic – Guardian, Auxiliaries and Producers are similar to the 3 Varnas - Brahmana, Kshatriya and Vysya of Indian society.
  - The doctrine of the ‘Ideas’ is nothing but Vedanta in the simple form.

- This was noticed by Megastasenese, the Greek envoy in the court of Chandra Gupta Mourya (302 BC).
- In many points, he says, the teaching of the Brahmans agrees with that of the Greeks.
  - For Eg: The world has a beginning and an end; and the earth is round in its shape.
  - Water is the first element, from which the order of the world has come into existence.
  - Besides the four elements, there is a fifth element i.e. ‘Akasa’, from which the heaven and stars are made.
  - By the above references it can be inferred that Greeks might have borrowed the philosophical thoughts from the Indian scholars who visited Greece and vice-versa.

The spread of Indian knowledge and thought by Alexander

- **Alexander the Great** (July 20 356 BC – June 10 323 BC), also known as Alexander III, was one of the most successful military commanders in history, and was undefeated in battle. By the time of his death, he had conquered most of the world known to the ancient Greeks.
- Alexander integrated many foreigners into his army, leading some scholars to credit him with a ‘policy of fusion.’
- He also encouraged marriages between his soldiers and foreigners; he himself went on to marry two foreign princesses.
- This period is known as the Hellenistic Age, and featured a combination of Greek, Middle Eastern and Indian culture.
• Alexander himself was featured prominently in the history and myth of both Greek and non-Greek cultures
• At the time of Alexander’s invasion, there were many popular universities in India, like Taxila, Kasi, Ujjain, Vidarbha etc.
• Among them Taxila was the leading university in Asia and was renowned as the best centre for medical education.
• Hence the students used to come from far off places to learn medical science, not only from India but also from abroad.
• Will Durant also quote the same in his work, ‘Story of Civilization’.
• Arian quoted in his work that the people residing on the banks of Sindh River used to survive healthy and long for about one hundred and thirty years. The reason may be, taking wholesome and balanced diet. Alexander was astonished at the news and visited that area also to see those people.
• Arian, the Greek historian, described that Alexander had in his court, several great proficient Greek physicians, but they were not able to deal with the cases of snake bite, but the Indians could successfully treat those cases. Hence Alexander has obliged to consult Indian Vaidyas.
• On his way back to Greece, Alexander took many Indian scholars with him. Kalyan was one among them who was given utmost respect.
• Alexander appointed Indian Vaidyas as his military surgeons and special importance was given to the toxicologists.
• It was clear from the words of Nearchus, that toxicologists were able to cure diseases and pains also. That means the Indian Vaidyas were well versed in all the eight branches of Ayurveda.
• In this way Alexander was responsible for the spread of Indian medicine in Greece.

The relation between India and Greece since antiquity
• Long before Alexander’s invasion, India came into close contact with the Greek people and physicians during the rule of Achaemenid Persians.
• The Achaemenid Empire or Achaemenid Persian Empire (559–330 BC) was the first of the Persian Empires to rule over significant portions of Greater Iran.
• At the height of its power, encompassing approximately 7.5 million square kilometers, the Achaemenid Empire was territorially the largest empire of classical antiquity.
• It spanned three continents, including territories of modern Afghanistan, Pa-
kistan, central Asia, Asia Minor, Thrace, most of the Black Sea coastal regions, Iraq, northern Saudi Arabia, Jordan, Israel, Lebanon, Syria, and all significant population centers of ancient Egypt as far west as Libya.

- It is noted in western history as the foe of the Greek city states in the Greco-Persian Wars, for freeing the Israelites (Jews) from their Babylonian captivity, and for instituting Aramaic as official language.
- Cyrus (558-530 BC) extended his empire up to Gandhara. During the reign of Cambyses (550-522 BC) and Darius (522-465 BC) this contact became much closer.
- They (Persian kings) employed both Greeks and Indians in their services, including physicians like Demokedes.
- There was a land route between India and Greece through Asia Minor, by which scholars visited from one country to the other.
- After the invasion of Alexander the great, the relations between the two countries became closer and continued without a break for several hundred years.
- Ample evidences are there to prove the strong relations between the two countries, such as Ashoka’s inscriptions and some traveler’s accounts.
- During the early part of this period, as it appears from the writings of Hippocrates, Dioscorides and Galen, various drugs and methods of treatment employed by the physicians of India were adopted by the practitioners of Greece.
- New Berger also says that there were some similarities between Indian and Greek medicine.
- The outstanding independent achievements of the Indians in many branches of science and arts and their aversion towards the foreign influence, proves the originality of Indians in many fields including medicine.
- Plato (1st B.C.) expressed that Indians were having trade relations with Greeks. Indians used to export raw drugs as well as some compound formulations to Greece.
- Varahamihira quoted that Greeks were well versed in Astronomy and Indians have borrowed some of the concepts. In case of medicine it was in the reverse direction.
• Thus it can be concluded that the Indians and Greeks had good relations since ancient times.

**The spread of Indian surgery in Greece**

• Since early days the contemporary culture, including status and practice of medicine, spread from one country to the other because of meaningful interaction with them.

• Similarly by conquering the neighboring countries also, some countries gained knowledge of various fields of those regions along with medicine.

• During the war, the wounded soldiers were also treated surgically as well as medically by the medical knowledge of different regions. A specialized branch of medicine known as military surgery was developed.

• According to Humor, it was known that the surgery was not established in Greek by his time. It was also known that after getting popularity of the general medicine only surgical branch was established in Greece.

• Whereas in Egypt it was observed that surgery was developed in the 3rd century B.C only. It was also observed that from 1st B.C onwards Greeks started to learn surgical techniques from Egypt.

• According to the opinion of Littrell, during the period of Hippocrates and even two centuries later, there was not any record of human dissection being practiced by the Greeks.

• The earliest treatises on the ‘Wounds of the head’ might have originated from Egypt. No summary of osteology doctrines, as we find in the writings of Charaka, Susruta, are found in any of the known earlier Greek medical works.

• In the 6th century B.C. the theoretical as well as practical orientation of medicine was very much (popular) advanced in India in comparison with other countries.

• Indian medicine was never isolated; rather it reached distant corners of the world. Thus it came into contact with the medicines of all most all countries and had an interaction with them.

• *Maha Vagga* gives a detailed account of Jivaka and his miraculous medical and surgical cures after studying medical science for a period of 7 years from the University of Taxila.

• In India there were so many medical centers like Nalanda, Taxila, Kasi etc; which attracted many a number of students from abroad. It also indicates the advancement of medical science in our country.
• Professor Diaz of the Konigsberg University clearly detects the principles of Indian Medicine in the Greek system.

• Dr. Hirshberg of Berlin says, "The whole plastic surgery in Europe had taken its new light when these cunning devices of Indian workman became known to us. The transplantation of skin was also an entirely Indian method."

• He also gives credit to the Indians for discovering the art of cataract surgery, which was entirely unknown to the Greeks, Egyptians or any other nation. He also adds in a learned paper, with regards to certain surgical operations that, "the Indians know and practice indigenious operations which were unknown to the Greeks, and Europeans".

• The ophthalmic, obstetric and other surgeries were practiced for ages in India and the modern surgeons were able to borrow from Hindus, the operations of Rhinoplasty.

In this way the surgical techniques of Hindus have spread in Greece.

*****
14th Chapter

The Edicts of King Ashoka

The history, culture and knowledge of various countries of the world can be known by means of different types of legends, coins and inscriptions. In the nineteenth century there came to light a large number of edicts, in India, Nepal, Pakistan and Afghanistan. These edicts, inscribed on rocks and pillars, proclaim Ashoka’s reforms and policies and propagate his advice to his subjects. King Asoka, the third monarch of the Indian Mouryana dynasty, has come to be regarded as one of the most exemplary rulers in world history. He became the king after the death of his father, Bindusara. His given name was Ashoka but he assumed the title ‘Devanampiya Piyadasi’ which means ‘Beloved-of-the-Gods’.

The 5th century BC was marked by a struggle for supremacy, which culminated in the complete ascendancy of Magadha. One by one all-important states were absorbed in the growing kingdom of 4th century BC. The whole of north India excluding Punjab & Sindh formed one united empire under the Nanda kings of Pataliputra.

Chandragupta Mourya extended his dominion still farther west, up to heart of Afghanistan. Gradually the Mourya empire pushed its frontiers farther South during the reign of Ashoka (270-230 BC), the great grand son of Chandragupta. Its Southern boundary was fixed along the Penna River near Nellore, A.P.

In 262 B.C., eight years after his coronation, Ashoka’s armies attacked and conquered Kalinga, a country that roughly corresponds to the modern state of Orissa. The loss of thousands of lives in the battle, results in a complete change in his personality. But after the war Asoka dedicated the rest of his life trying to apply Buddhist principles to the administration of his vast empire. He had a crucial part to play in helping Buddhism to spread both throughout India and abroad and probably built the first major Buddhist monuments. Asoka died in 232 B.C. in the thirty-eighth year of his reign.

Ashoka’s edicts are to be found scattered in more than thirty places throughout India, Nepal, Pakistan, Afghanistan, Syria, Egypt, Epirus, Yavana, Kamboja, Chola, Pandya, Tamraparni and Andhra etc. Most of them are written in Brahmi script from which all Indian scripts and many of those used in Southeast Asia later developed.
Ashoka’s edicts have survived throughout the centuries because they are written on rocks and stone pillars. The location of the rock edicts is governed by the availability of suitable rocks, but the edicts on pillars are all to be found in very specific places. Some, like the Lumbini pillar, mark the Buddha’s birthplace, while its inscriptions commemorate Ashoka’s pilgrimage to that place. Others are to be found in or near important population centers so that their edicts could be read by as many people as possible.

**The Rock Inscriptions of King Ashoka** gives us the following information regarding various aspects.

- Instruction to Administrators
- Foreign Policy
- The Practice of Dharma
- Public Works
- The slaughter of Creatures
- Harmony among Traditions
- Right Livelihood
- Glory and Fame

Among all inscriptions of Ashoka, 14 have greater importance. Most of them contain references to Medical Science.

These inscriptions are of 3 types viz.

1. The fourteen Rock Edicts (*Chaturdasa Sila lekh*)
2. The seven Pillar Edicts (*Sat stambha Sila lekh*)
3. Minor Pillar Edicts (*Laghu Sila lekh*)

- During the reign of Chandragupta (321-296BC) special attention was paid towards the establishment of hospitals and dispensaries and for propagating the rules of sanitation.
- A register of births and deaths was maintained.
- Special *Inams* were granted for the village physicians and village veterinary surgeons.
- Rules were also framed for the practice of medicine.
- Ashoka established many dispensaries both for human beings and animals.
- He took care to plant trees all over his kingdom.
- Similarly he would import roots and fruits and have them planted all over the country as sources of valuable medicines.
- ‘*Vrikshayurveda*’ the science of Ayurvedic Botany dealing with the growth, classification of plants and their health, disease & their treatment was studied as a special subject.
- Ashoka spread the message of non-violence (*‘Ahimsa paramo Dharmaha’*) through almost all of his inscriptions.
The fourteen Rock Edicts (Chaturdasa Sila lekh):

These are available in the following places.

1. Girnar - Junaghad (Dt) - Gujarat
2. Shahbazgarhi - Peshawar (Dt) - West Pakistan
3. Peshgudi - - Andhra Pradesh
4. Kalsi - Dehradun (Dt) -
5. Sopara - Thana (Dt) - Maharrastra

Ashoka’s First Rock inscription at Girnar

- It was written that “Here (in my domain) no living beings are to be slaughtered or offered in sacrifice. Nor should festivals be held, for Beloved-of-the-Gods, King Piyadasi, sees much to object to in such festivals, although there are some festivals that Beloved-of-the-Gods, King Piyadasi, does approve of.”
- Wherever medical herbs suitable for humans or animals are not available, he had imported them and grown. Along roads he had dug wells and trees planted for the benefit of humans and animals.” Rock Edict Nb2
- The following points have been observed.
  - Propagation of Dharma
  - Service to the society
  - Respect for mother and father is good
  - Generosity to friends, acquaintances, relatives, Brahmans and ascetics is good
  - Not killing living beings is good
  - Moderation in spending and moderation in saving is good
  - Preventive measures to maintain positive health
- “Ahimsa Paramo Dharma ha”
- Plantation of trees along the side of roads for the benefit of travelers.
- Providing drinking water and shelter on the high ways.

The seven Pillar Edicts (Sat stambha Sila lekh)

1. Merut - Uttara Pradesh
2. Chemparum - Bihar
3. Ambala - Haryana

- Constructed hospitals and dispensaries both for human beings and animals
- Plantation of medicinal plants for medical use.
- Other neighboring countries like Syria, Egypt etc. followed the similar methods of medical aids. It suggests that the Indian systems of medicine might have influenced these countries.
- On the 13th inscription the names of Antioch, Ptolemeos, Antion, Magas and Alexander were mentioned. It suggests that the Indian culture and medicine spread far and wide.

Minor Pillar Edicts (Laghu Sila lekh):

These are available in the following places.

1. Virat - Jaipur (Dt) - Rajasthan
2. Datia (Dt) - - Gujarat
3. Raipur (Dt) - - Madhya Pradesh
4. Hyderabad - - Andhra Pradesh
5. Rupnath - Jabalpur (Dt) -
6. Sahram - Shabad (Dt) - Bihar

The above all are the small inscriptions. With the help of these inscriptions Emperor Ashoka spread the message Dharma.
Two edicts in Afghanistan have been found with Greek inscriptions, one of these being a bilingual edict in Greek language and Aramaic. This edict, found in Kandahar, advocates the adoption of ‘Piety’ (using the Greek term ‘Eusebeia’ for Dharma) to the Greek community. The Dharma preached by Ashoka is explained mainly in terms of moral precepts, based on the doing of good deeds, respect for others, generosity and purity.

With the help of these inscriptions, Ashoka the Great spread the knowledge of Indian medicine and culture throughout his kingdom as well as to the neighboring countries.

*****
The word ‘Nighantu’ is popular since Vedic period. According to Yaska (Nirukta 1.20), the Nighantu was a collection of rare or difficult words gathered by earlier sages for easier understanding of Vedic texts that perhaps they might not have fully understood themselves. As time passes the meaning of the word Nighantu is changed gradually. The books which explain Rasa, Guna, Virya and Vipaka of various herbs can be known as Nighantu.

Amarakosha

- The author of Amarakosha was Amara Simha, who was one of the Navaratnas, nine great scholars in the court of Chandragupta II.
- He belonged to the period from 400 A.D.
- He was the follower of Buddhism.
- The original name of the work of Amara Simha was ‘Nama Linganusasana Nighantu’, which became popular as ‘Amarakosha’.
- Amarakosha contains the synonyms of a number of Ayurvedic drugs as well as anatomical structures of the body. It also contains other medical terms and their synonyms.
- Description of herbs also is available in this work.
- Amarakosha is divided into three Kandas or chapters.
  1. The first Kanda is Svargadi kanda (Heaven and others) and it has words pertaining to gods and heavens.
  2. The second Kanda Bhuvaradi kanda (Earth and others) deals with words of Earth, Towns, Animals and Humans.
  3. The third Kanda is known as Samanyadi kanda (Common) and it has words related to grammar and other miscellaneous words.
- It is one of the reference books for the students, practitioners and research workers of Ayurveda.
Dhanvantari Nighantu

- According to the opinion of the most of the scholars, Dhanvantari Nighantu is considered to be the oldest and the foremost Nighantu with the details pertaining to pharmacological and therapeutic profiles about the drugs.
- The author of Dhanvantari Nighantu was Mahendra Bhogika.
- Since the manuscripts available in different libraries indicate about the mentioning of Ahiphena, Bhanga, Jayapala etc. it can be safely concluded that this work belongs to medieval period.
- As per the external evidences this work was quoted by the commentator of Amarakosha namely Kshira swami (11th Cent. AD), Hemadri and Arunadatta (13th Cent. AD); this may be placed before 11th century.
- Acharya Priya Vrat Sharma opined that Dhanvantari Nighantu was written during 10th century AD.
- 'Dhanvantari Nighantu' mainly dealt with Dravyaguna, hence it was also called as 'Dravyadi Sangraha'.
- The subject matter was presented in 7 Vargas as under.
  1. Guduchyadi Varga
  2. Satapushpadi Varga
  3. Chandanadi Varga
  4. Karaveeradi Varga
  5. Amradi Varga
  6. Suvarnadi Varga
  7. Misrakadi Varga

Raja Nighantu

- Raja Nighantu was written by Narahari, who was the son of Eswara Suri.
- He belonged to 14th century AD.
- His ancestors belonged to Kashmir and might have migrated and settled in Karnataka.
- He was a great scholar and the follower of Saivism.
- 'Raja Nighantu' was also known as 'Nighantu Raja' or 'Abhidana Chudamani'.
- The author quoted Amarakosha, Dhanvantari Nighantu, Madanapala Nighantu, Viswa Prakasa etc. in his work. Madanapala Nighantu was written in the year 1374 AD. It shows Raja Nighantu must have been written after Madanapala Nighantu.
- For the first time Narahari gave first place to Dravyaguna among Ashtangas of Ayurveda.
- Raja Nighantu means the king among various Nighantas.
- It contains 23 Vargas. Drugs were described with their Sanskrit and regional names. Classification of drugs was made as Vanaspati, Kshupu, Valli and Oushadha.
Filippo Sassetti (1540-1588) was the first to propose a definite relationship between Sanskrit and major European languages. While living in Goa, South India between 1583 and 1588, he discovered that Hindu scholars wrote and used an ancient language called Sanskrit, previously unknown in the west. While translating the medical treatise ‘Raja Nighantu’ he noticed a relationship between Sanskrit and his native Italian language.

Rajavallabha Nighantu

- The author of ‘Rajavallabha Nighantu’ was Vaidya Rajavallabhā who belonged to 1670 AD.
- It was redacted by Narayana Das in the 18th century AD.
- It contains 6 divisions as under.
  1. Pradhama Pariccheda - About Dina Charya
  2. Dwitiya Pariccheda - Dravya Varga
  3. Tritoiya Pariccheda - Ahara Varga
  4. Chaturdha Pariccheda - Learning process and teaching
  5. Panchama Pariccheda - Age groups, Brahmacharya
  6. Shashtaha Pariccheda - Nanoushadhi Varga
- It mainly deals with the drugs and their properties, which are useful for daily regimen. Liquid drugs and various food substances and their properties and uses also were discussed.
- The author quoted many references from Madanapala Nighantu and Bhavaprakasa.
- Kaviraj Gangadhar Rai wrote commentary on Rajavallabha Nighantu in Sanskrit.

Kaiyyadeva Nighantu (15th century AD)

- It was written by Kaiyyadeva Pandit.
- It was also called ‘Pathyapathyya Vivechak’.
- Kaiyyadeva belonged to Bharadwajasa Gotra and he was the grandson of Padmanath. His father’s name was Saranga.
- He also wrote another book titled ‘Namaratnakar’.
- Kaiyyadeva Nighantu contains 9 Vargas. Properties and uses of various drugs were mentioned.
- Most probably it was written in the 15th century AD. Some of the references from ‘Madana Pala Nighantu’ were quoted in this work.
- Gajar, Palandu, Mahanimba, Amlavetasa, Bala Chatushka, Kasturi and other drugs are mentioned in this Nighantu.
Saligrama Nighantu

- Lala Saligrama Vaidya was the author of ‘Saligrama Nighantu’.
- It was written in the year 1896 AD.
- He was the son of Ananda Rup and the grandson of Seetharam.
- His native place was Muradaabad of U.P.
- It was published by Kaviraj Sri Krishnadas, Bombay.
- Saligrama Nighantu was divided into 2 parts such as Poorva Khanda and Uttara Khanda.

Lala Saligrama Vaidya

- Poorva Khanda contains 23 chapters and Uttara Khanda has only 2 chapters.
- Along with the traditional drugs, new drugs, which were added from time to time to the Indian Pharmacopoeia also were incorporated in this work.
- He also wrote another book titled ‘Saligrama Oushadha Sabda Sagar’, which was published from Bombay in the year 1925.

Madana Vinoda

- ‘Madana Vinoda’ was much popular as ‘Madanapala Nighantu’.
- Madanapala, the king of Kasta Nagar who belonged to Tika Vamsa was the author of this work and he belongs to 14th century A.D.
- Madanapala Nighantu contains 13 Vargas as under:

  1. Haritakyadi Varga
  2. Sunthyadi Varga
  3. Karpuradi Varga
  4. Suvarnadi Varga
  5. Vatadi Varga
  6. Phaladi Varga
  7. Saka Varga
  8. Paniyadi Varga
  9. Ikshukadi Varga
  10. Dhanya Varga
  11. Dhanyakritanna Varga
  12. Mamsa Varga
  13. Mishraka Varga

- Ahiphena was described but Zinc was not mentioned. Opium, Kamkushta, Jaipala, Parasikayavani, Kharjura, Anjir, Madhukarkati etc. were described.
- On a critical review it appears that he made a clear demarcation between foods and drugs.
- The description about various raw as well as processed foods (Six sections i.e. from Phaladi Varga to Mamsa Varga) clearly indicates that the importance given for food items which play a major role in prevention of diseases.
In the last section i.e. *Mishraka Varga*, the principles of *Dina Charya* and *Ritu Charya* along with *Gunas of Panchakarma* are enumerated.

The observations regarding *Sadyopranahara* and *Sadyopranakara* acts made by Madanapala have been quoted by as it is in later works like *Yogaratnakara* etc.

An overall review of the work clearly indicates that Bhavamishra has totally followed Madanapala’s format and description of the contents.

At the end of the work the author clearly mentioned the time of completion of the work as *Sam.* 1431 *Vikramasaka Magha Sukla Shashti Somavar*.

Out of all *Nighantu* of Ayurveda, *Madanapala Nighantu* is considered to be the best for its precise description about Drugs.

**Shodhala Nighantu**

- Shodhala was the author of this *Nighantu* and he belongs to Gujarat.
- He was a physician, scholar, grammarian and astrologer too.
- He is famous for his brevity about the pharmacological and therapeutic implication of drugs.
- Sarangadhara and Madanapala followed Shodhala in their works.
- *Shodhala Nighantu* was also known as ‘*Nama Guna Sangraha*’.
- It was edited by Acharya P.V. Sharmaji.
- Mostly it was written in the style of *Dhanvantari Nighantu*.
- ‘*Laxmanadi Varga*’ was the specialty of this work.
- In all 27 *Vargas* were described in this *Nighantu*.
- *Rasa, Guna, Virya, Vipaka* of the drugs were described according to the order of ‘*Aastanga Hridaya*’.
- It should be belonged to 12th century AD, as it was quoted by the authors of 13th & 14th century AD.

**Vaidyaka Sabda Sindhu**

- *Vaidyaka Sabda Sindhu*’ was written by Umesh Chandra Gupta and was published in the year 1888.
- Umesh Chandra Gupta was the Chief Librarian, Govt. Sanskrit College, Calcutta.
- Due to the constant encouragement given by Sri Mahenderlal, the then Vice Chancellor, Calcutta University, he was able to complete the work within the stipulated period.
- Later on it was revised by Kaviraj Nagendranath Sen and reprinted in the year 1938.
It is a useful work for the reference purpose of Ayurveda students as well as scholars.

**Paryaya Ratnamala**

- *Paryaya Ratnamala* was written by Madhavakara who was the son of Indukara and also the author of *Rigvinishchaya*.
- The drugs viz. *Ahipena, Bhanga* mentioned in *Dhanvantari Nighantu* and *Rasaratnasamucchaya* (10th AD) were not described in this work. Hence this work may be placed before 10th AD.
- The synonyms of various drugs were also mentioned in this work, similar to *Ashtanga Nighantu*.
- Apart from synonyms, measurements, technical terms were also given.
- *Vijaya* the word is used as a synonym for both *Haritaki* and *Tarkari*.
- Instead of *Vartaka* the word *'Vatigan'* was used basing on a Parsi word *Varigan*.
- The minerals like mercury, Sulphur, mica etc. were mentioned in this book suggests that the work belongs to the contemporary period of development of *Rasasastra*.
- *Paryaya Ratnamala* has shown its specialty in delineating the subject matter as under:
  - *Slokas*, half *Slokas*, *Padas* followed by drugs having one meaning, drugs with two meanings and drugs with several meanings.
- *Paryaya Ratnamala* was first published from Patna University in the year 1946.

**Ashtanga Nighantu:**

- The mss of *Ashtanga Nighantu* is available in Saraswati Mahal Library, Tanjore. Basing on that Acharya P.V. Sharma published a *Nighantu* in the year 1973, which deals with drugs mentioned in *Ashtanga Hridaya* along with different synonyms.
- *Ashtanga Nighantu* is the work of Vagbhatacharya, who is considered to be different from the author of *Ashtanga Sangraha* and *Ashtanga Hridaya* since some new drugs were mentioned in this *Nighantu*.
- Jejjata (9th AD), Chakrapani (11th AD) and the author of *Paryaya Ratnamala* (9th AD) mentioned this work by which one can conclude that *Ashtanga Nighantu* was written during 8th century AD.
- In this *Nighantu* only *Parayas* (synonyms) of various drugs were mentioned.
Siddha Mantra:

- *Siddha Mantra* was written by Kesava who was the son of Madhava belongs to Maharashtra region.
- Kesava was the Royal Physician of Simharaj belongs to Yadava dynasty during 12th century AD.
- The title *Siddha Mantra* itself suggests that “This work facilitates to know the properties of drugs easily and in no time miraculous results are achieved quickly similar to Mantras of Siddhas.”
- In this work the drugs were arranged according to their effect on Doshas initially, followed by the description of Rasa, Guna, Virya, Vipaka etc.
- The drugs were classified as Vataghna Varga, Pittaghna Varga and Kaphaghna Varga etc.
- Vopadeva, who was the son of Kesava, wrote a commentary on *Siddha Mantra* entitled Prakasa.

Hridaya Dipika Nighantu:

- *Hridaya Dipika Nighantu* was written by Vopadeva, who is the son of Kesava the author of *Siddha Mantra*.
- In this work, the synonyms alone have been described for the drugs mentioned in *Ashtanga Hridaya*.
- Vopadeva wrote a commentary on *Siddha Mantra* as well as on *Sarangadhara Samhita*.
- The subject matter was delineated in this *Nighantu*, similar to the style of *Paryyaya Ratna Mala* such as
  1. Chatushpada Varga
  2. Tripada Varga
  3. Dwipada Varga
  4. Ekapada Varga
  5. Dwinnama Varga
  6. Ekanama Varga
  7. Nanardha Varga
  8. Mishraka Varga

Madhava Dravyaguna:

- Madhava, the author of *Madhava Dravyaguna* followed Shodhala and was quoted by *Shiva Kosha* (17th cent. AD), Shivadas Sen (15th AD), Adhamalla (14th AD) and Vopadeva (13th AD). Hence it can be presumed that the author belongs to 13th century AD.
- Its author must be different from the author of *Rigvinishchaya*
- It contains 29 Vargas such as:
  1. Vividhousadha Varga
  2. Lavana Varga
  3. Ikshu Varga
28. Anupana Vidhi  29. Prakeerna Varga  

- Vividhoushadha Varga and Prakeerna Varga were elaborately discussed.  
- The drugs viz. Jayapala, Bhanga, Ahiphena was described in this work.

**Dravyaguna Sangraha:**

- Chakrapanidutta was the author of *Dravyaguna Sangraha* and belongs to 11th century AD.  
- He was also the author of the most popular commentary on *Charaka Samhita* entitled *Ayurveda Dipika* and the text book on medicine known as *Chakradutta*.  
- In this work Chakrapanidutta described mainly *Ahara dravyas* under 15 Vargas.  
- In the beginning of the work the fundamental principles such as *Rasa, Gunc, Virya* and *Vipaka* etc. were discussed.  
- *Dhanya Varga, Mamsa Varga, Saka Varga, Lavanadi Varga, Phala Varga, Paneeya Varga, Kshoudra Varga, Taila Varga, Ikshwadi Varga, Madyadi Varga, Kritanna Varga, Bhakshya Varga, Ahara Vidhi, Anupana Vidhi, Mishraka Varga* etc. were delineated in a lucid manner.  
- The author himself stated that this work has been written by referring many a number of previous works.

**Shiva Kosha:**

- *Shiva Kosha* was written by Shivadutta Mishra hailed from a traditional Ayurvedic family. His father was also a popular *Vaidya*, named Chaturbhuja Mishra.  
- *Shiva Kosha* contains 540 *Slokas* and the drugs were described in an alphabetical order.  
- This book is also known as *Nanardhoushadhi Kosha*.  

According to P.K. Gode the period of the author was determined as 1625-1700 AD.

Shivadutta Mishra also wrote a commentary on his own work i.e. Shiva Kosha entitled Shiva Prakasa.

He was also the author of Sangna Samucchaya, which deals Nidana, Chikitsa and Dravyaguna.

Shiva Kosha was edited and published by Harsha R.G of Deccan College, Pune in the year 1952.

**Dravyaguna Sataka:**

- Trimalla Bhatt was the author of Dravyaguna Sataka and belongs to 17\textsuperscript{th} century AD.
- Dravyaguna Sataka is also known as Dravyaguna Satasloki
- This work contains 15 Vargas and 102 Slokas. It was started with Jala Varga and ended with Suvarnadi Varga.
- Ahara dravyas were mainly quoted while describing the drugs.
- He had also written another work entitled ‘Yoga Tarangini’

**Nighantu Adarsa**

- Bapalal Vaidya, a versatile scholar with rich experience in the identification of Medicinal Plants has written Nighantu Adarsa according to the botanical classification.
- He was born in the year 1896 at Sansoli village of Gujarat.
- He was the first person to include not only Niruki for the synonyms Medicinal Plants but also more number of Amayika Prayoga (therapeutic uses) of herbs.
- His knowledge regarding controversial drugs is exemplary and he authored several articles and a book entitled ‘Some Controversial Drugs in Indian Medicine’ on this aspect.
- Nighantu Adarsa is being considered as the best book on the subject of Dravyaguna during 20\textsuperscript{th} century.
- It is published in Gujarati as well as in Hindi languages.

*****
16th Chapter

Development of Ayurveda after independence

Ayurvedic education

The education of Ayurveda faced the greatest setback after the Britishers came to India and established ‘East India Company’ in the 17th century. They brought western system of medicine to India. After establishing control over India, they established 3 medical colleges at Calcutta, Madras and Bombay. Later on more medical colleges were established at various places of our country.

In the absence of British rulers’ support, several philanthropists and princely states encouraged Ayurvedic education by providing some support to institutions importing training in Ayurveda system of medicine.

After first revolution of 1857, the Indians realized an urgent need of preservation of their national socio-cultural heritage including Ayurveda. In 1907 All India Ayurvedic conference (Akhila Bharatiya Ayurveda Maha Sammelan) was held under the leadership of Shri Sankardaji Shastri Pade. During 1908-09 Nikhila Bharata Varshiya Ayurveda Vidya Peeth was established with the objective of promoting Ayurvedic science and its practitioners.

Ayurveda Vidyapeeth followed the Guru-Sishya tradition of education with a goal to organize regular teaching and exams throughout India. The products of Ayurveda Vidyapeeth catered the primary health-care needs of rural and remote areas of our country.

Setting up of different committees

Comon Committee

Reasons for the appointment

After the establishment of Kanyaka Parameswari Ayurvedic College and Phar-
macy at Madras by Pt. D. Gopalacharyulu in the year 1905, people realized the importance of Ayurveda and the awareness towards the system of Ayurvedic medicine also grew up in the society. Due to the efforts of eminent Ayurvedic physicians and the successive representation by different organizations and also revolutionary measures taken by the leaders, the provincial Govt. of Madras decided to appoint a committee.

Appointment of the Committee

The provincial Govt. of Madras constituted a single member committee named ‘Comon Committee’ headed by Dr. Comon in the year 1917, to submit a report regarding the usefulness of Ayurvedic system of medicine.

Recommendations of ‘Comon Committee’

- There is no need for establishment of separate Ayurveda hospitals, colleges and dispensaries.
- It is enough to supply useful medicines of Ayurveda, Unani and Siddha to the modern hospitals to cater the needs of the public.

Usman Committee

Reasons for the appointment

- In the year 1919 as per Manteg Chelmsford Reforms, powers were delegated to the elected leaders regarding education, medicines and local bodies.
- A change came in the public regarding the development of Ayurveda by the efforts made by Pt. D. Gopalacharyulu, Dr. Achanta Lakshmipati etc.
- The ‘Comon Committee’ has not given proper suggestions.

Appointment of the Committee

- The govt. of Madras appointed a committee on indigenous systems of medicine on 17th October 1921, which was headed by Khan Bahaddur Sir Md. Usman Saheb. Capt. G. Srinivasa Murthy was its member secretary. Dr. A. Lakshmipati, Dr. U. Rama Rao and others were the members on the committee.
- They submitted the report to the Govt. of Madras on 17th Feb 1923. Its salient observations and recommendations were as follows.

Recommendations of ‘Usman Committee’

- From the standpoint of science, the Indian systems of medicine are strictly logical and scientific.
- From the standpoint of art, they are not self sufficient at present, especially
in the surgical line. They are generally speaking quite self-sufficient, efficient and economical in the medical line.

- The govt. should take the necessary steps for the recognition and encouragement to the Indian systems of medicine i.e. Ayurveda, Siddha and Unani.
- The govt. should immediately establish colleges, schools, hospitals and dispensaries for the Indian systems of medicine.
- In the best interest of science as well as of suffering humanity, it is highly desirable that the followers of Indian Medicine should study the scientific methods of the west and adopt into their system whatever is useful in western medicine and vice-versa.
- The teaching methodology should be practical oriented.
- Only by establishing an adequate number of colleges, sufficient member of practitioners will come out and will be helpful to cater the medical services to the needy public.
- These institutions should produce
  - Best doctors - for medical relief.
  - Post graduates - for teaching.
  - Research scholars - For the development of science.
- Central Council of Indian Medicine should be established for registration.
- Qualified Vaidyas should be registered to avoid quackery.
- Indian medicine department should be established which will be headed by the commissioner.
- The Govt. should take necessary steps to give special training in medicine and surgery and give posting in the usual areas for rural medical relief as early as possible.

**Action taken by the Govt. of Madras**

- Basing on the report given by Usman Committee, Established Govt. school of Indian Medicine at Madras on 6th Jan 1925 to impart teaching in Ayurveda, Siddha and Unani medicine along with the essentials of modern medicine.
- In the year 1926, eighty-bedded hospital was established, which was attached to the school having the facilities of both O.P.D. as well as I.P.D.
- Instituted in 1930 a P.G. course in Indian medicine for graduates of western medicine F.I.M. (Fellow of Indian Medicine) and a modern medical course for practitioners of Indian Medicine A.L.I.M. (Associate Licentiate of Indian Medicine).
• Established Govt. College of Indian Medicine in 1947 by upgrading the school and attached pharmacy and research centre also.
• Established rural dispensaries managed by Dist. Boards, Taluk boards and municipalities.
• Qualified Vaidyas were registered as A-class practitioners since 1933 and those having 10-15 years practical experience were given to B-class practitioners.
• Central board of Indian medicine was established.

**Bhore Committee**

**Reasons for the appointment**

• **Bhore committee** set up by the government of India in 1943 to look into and suggest improvement in the Indian Public Health system
• Aims and objectives for the appointment of Bhore committee.
  1. To study the position in regard to health organizations in British India and
  2. To recommend the measurers for further development.

**Appointment of the Committee**

• The Govt. of India appointed the Health Survey and Development Committee (Bhore Committee) under the chairmanship of Sir Joseph Bhore on 25-10-1943.
• The committee consisted of the reputed medical men, legislators and other eminent personalities of that time. It covered a wide range of health problems in India and submitted the report on 18-12-1945.

**Recommendations of ‘Bhore Committee’**

• They recommended that the modern system of medicine could be taken into consideration as national medicine, because it caters the health needs of the public.
• The most unfortunate aspect of the report was that it did not take the matters relating to Indian Systems of Medicine, even though more than 80% of total population residing in rural areas is benefited by these systems of medicine.
• Instead, Bhore Committee left it to the provincial governments to take decision regarding the utilization of these systems of medicine.

The above recommendations made by “Bhore Committee” evoked a lot of public criticism. Ayurveda practitioners and its advocates were very much agitated against
this lapse and brought these facts to the notice of the first Health Ministers’ conference held in Delhi in the month of Dec 1946.

The matter was taken very seriously, at the suggestion of Mrs. Rukmini Lakshmi Raj, the then Hon’ble Minister of Health, Govt. of Madras and passed the following resolutions.

- As per the recommendations of the National Planning Committee - a scientific method for investigation of Indian Systems like Ayurveda and Unani, with special reference to maintenance of health and also prevention and cure of diseases, is to be adopted.
- Schools and colleges for Diploma and Degree courses in indigenous systems of medicine should be started.
- P.G. courses also should be started for the graduates of Indian Systems of Medicine.
- The practitioners of Ayurveda and Unani systems of medicine should be absorbed into the state health organization by giving them further scientific training.

**Chopra Committee**

**Reasons for the appointment**

- In pursuance to a resolution of 1\textsuperscript{st} Health Ministers’ conference, the Govt. of India decided to appoint a committee to improve the Public Health System by taking the lapses in the recommendations of Bhore committee into consideration.

**Appointment of the Committee**

- Govt. of India appointed a committee on 19\textsuperscript{th} Dec 1946 on Indigenous systems of medicine under the chairmanship of Col. Sir R.N. Chopra. Dr. C. Dwarakanath was its secretary and Dr. A. Lakshmi Raj, Acharya Yadavji Trikamji, Dr. Bala Krishna Chintamani, Dr. B.A. Pathak, Dr. M.H. Shaw etc. were the members of this committee.
- The report was submitted to the Govt. on 28\textsuperscript{th} July 1948 and the following were the important recommendations made by Chopra Committee.

**Recommendations of ‘Chopra Committee’**

- Both the western and Indigenous systems of medicine should be harmonized and synthesized for the purpose of both teaching and medical relief.
Curricula of this newly devised system should be prepared in such a way that whatever is weak in one system should be supplemented by the strong points of the other and the unnecessary details should be cutout.

The new curriculum should be uniform throughout the country.

The basic qualification of the students who are seeking admission into this course must have the working knowledge of Sanskrit with sound knowledge of English along with Biology, Physics, and Chemistry at plus two level.

Duration of this course must be 5 years.

Board of experts should be setup for editing and publishing old classics and the right kind of textbooks of integrated type.

The same teacher, giving a reconciliation of the view of Indian and Western medicine, should teach each subject.

History of Indian medicine should be taught in Modern Medical Colleges.

Training of teachers of integrated students should be essential. Initially such candidates should be appointed as Lecturers and Professors, and in due course the products of these institutions can be appointed.

Teachers of Ayurvedic colleges should be well paid.

All India Standards of Professional and Technical education should be established and the Central Govt. should control both education and practice of Indian Medicine.

Research

All teaching institutions should be centers for carrying out research.

In the Research Institute, experts of both the systems should work side-by-side, checking and verifying the various Hypotheses and Theories either rejecting or harmonizing them.

The research should be conducted in six categories.

- Research in fundamental doctrines of Indian Medicine.
- Literary Research.
- Clinical Research.
- Drug Research (Pharmacological)
- Research in Nutrition and dietetics.
- Research on psychological aspects of medicine.

Central Research Institute should be established to achieve the objectives.

P.G. Training

In the Central Research Institute provision should be made for the post graduation course and training of research workers.
Action taken by the Govt. of India

- Integration of different systems of the medicine on the lines contemplated by the Chopra Committee is impracticable.
- The central and provincial Governments should decide whether the Modern Medicine should continue to be the basis for the development of the National Health Services in the country.
- Facilities should be provided for research on scientific lines in the Ayurvedic and Unani systems of medicine.
- The results of such research as are of proved value will be incorporated in modern medicine. Only the eligible candidates should be appointed to conduct the research work in those lines.
- Existing practitioners of Ayurveda, Unani and others, having the basic training in the principles of modern medicine, may be given such further training in public health work and can be utilized in the expansion of health services to the extent necessary.

Pandit Committee

Reasons for the appointment

- The Govt. of India appointed the Pandit committee to advise the Government about the steps to be taken to implement the recommendations made by Chopra Committee, such as to establish a Research Centre in indigenous system of medicine and on some other cognate matters.

Appointment of the Committee

- Govt. of India appointed the Pandit committee under the chairmanship of Dr. C.G. Pandit on 2\textsuperscript{nd} Dec 1949. Vaidya R.R. Pathak and Vaidya G.D. Saraswati were included in the committee.
- This committee submitted the report in the year 1951. Its recommendations are briefed as under.

Recommendations of ‘Pandit Committee’

- A Central Research Institute in indigenous system of medicine should be setup at Jamnagar.
- The incorporation of the instructions contained in Ayurveda, Unani etc. in the curriculum of modern medical colleges is not immediately feasible at the U.G. level or P.G. level.
- Teaching of modern medicine in Ayurvedic Colleges is not advisable, be-
cause of the low standards of the Ayurvedic institutions and the curriculum for integrated course proposed by Chopra Committee will have to be revised only when the results of the work done at the Central Research Institute are available.

- Such institutions should be upgraded before concurrent teaching of modern and indigenous systems is resorted to.
- There should be only one uniform course of training in Ayurveda at the Degree level only and not in the Diploma Course.

**Action taken by the Govt. of India**

As per the recommendations of the Pandit Committee the Govt. of India started the Central Institute of Research in indigenous systems of medicine at Jamnagar in the year 1953.

**Dave Committee**

**Reasons for the appointment**

In pursuance of the resolution passed by the Central Council of health at Trivandrum in Jan 1955, the Govt. of India decided to appoint a committee for further development of the Indigenous Medical System in India.

**Appointment of the Committee**

Keeping the above reasons in view Govt. of India appointed a committee under the chairmanship of Sri Daya Sankar Trikamji Dave on 27th April 1955.

The members of the Committee were four health ministers of Bombay, West Bengal, Travancore, Cochin and Hyderabad. Dr. P.M. Mehta, Director of Jamnagar Research Institute was the Joint Secretary.

The Dave Committee was appointed to survey the existing facilities in teaching indigenous systems of medicine and to recommend the specific measures for their improvement and for establishing uniform standard of education.

**Recommendations of Dave Committee**

- Graduates and 15 years experienced Vaidyas should be registered.
- There should be a council, on the analogy of the Indian Medical Council, to control teaching in all institutions.
- Candidates must possess a minimum qualification of Intermediate Bi. P. C. to join the colleges of Indigenous systems of medicine.
- Uniform educational pattern should be maintained throughout the country in
all colleges of indigenous systems of medicine with 5½ years of duration, which includes one-year internship.

- All colleges should be affiliated to the nearest universities.
- A pharmacopoeia and a dictionary of Ayurveda should be compiled.
- College attached hospitals should have the bed strength of 1: 5.
- Post-graduate training for 2 years and research facilities should be provided at suitable places.
- The committee also gave a model syllabus for the integrated course.

**Action taken by the Government**

The report of the Dave Committee was circulated to the State Governments and their views were asked which were later placed before the central council of health, at Bangalore.

But unfortunately it got a poor reception and was not implemented by the states, which were allowed to take it or leave it at their discretions.

**Udupa Committee**

**Reasons for the appointment**

- To evaluate and assess the work already done in the field of Ayurvedic Research and upgrading of Ayurveda institutions as a result of grants already given by the central and state governments.
- To assess the existing facilities for Training and Research in Ayurveda.
- To assess the nature, volume and standard of the Ayurvedic Pharmaceutical Products and
- To find out the factual position with regards to the practice and recognition of the Ayurveda system of medicine.

**Appointment of the Committee**

- The Govt. of India appointed a three-member committee under the chairmanship of Dr. K.N. Udupa on 29th July 1958. Sri Kaladi Parameswaran Pillai was the member and Shri R. Narasimhan was the member Secretary.
- The committee toured various places and interviewed eminent Ayurvedic Scholars and authorities and also the persons concerned with indigenous systems of medicine.

*Dr. K.N. Udupa*
Accordingly the committee prepared questionnaire-proforma and sent to the selected Pharmacies, Ayurvedic Colleges, State Governments, Indian Medicine Boards, Literary Research units to obtain the information regarding the performance and the actual status of indigenous systems of medicine, in their respective fields.

The important observations and recommendations of the Udupa Committee were as under:

**Recommendations of ‘Udupa Committee’**

**Education**

- In the interest of resuscitation of the science of Ayurveda an integration of modern medical subjects will be necessary. To explain the gaps left in Ayurveda, modern medicine should be taught in Ayurvedic institutions by giving the prominence to the principles of Ayurveda.
- The doctors trained in such a manner will be helpful to serve the health needs of more than 80% of people residing in rural areas.
- Attempts should be made immediately to affiliate all Ayurvedic Training Institutions to universities with separate faculties for Ayurvedic Medicine.
- More post-graduate centers should be established, or at least one in each state.
- Subject wise textbooks should be written in Ayurveda.
- Chairs of Indian Medicine should be established in modern medical colleges both in U.G. & P.G. level. In addition, Ayurvedic ward should be established in medical college hospitals for better understanding and practice of the principles of Ayurvedic treatments.

**Research**

- Close collaborative work between Ayurvedic and modern teams will be beneficial in the field of Research in the Indian Medicine.
- A central council of Ayurveda Research should be established as the first step for the improvement of Research in Ayurveda.
- Research work in Ayurveda should be done under the following seven heads.
  1. Clinical Research
  2. Literary Research
  3. Chemical Research
  4. Botanical Research
  5. Pharmacognostic & Pharmacological Research
  6. Basic principles of Ayurveda.
Herbs & their knowledge

- In the first instance survey should be done regarding the availability of herbs at various places of our country. Then identification, cultivation, preservation, preparation of various formulations and the precautionary measures to be taken during the process should be known to be very Ayurvedist.

Registration

- Qualified doctors should be registered and at the same time each and every registered medical practitioner should know his/her rights and responsibilities.

Action taken by Govt. of India

- On the recommendation of the ‘Udupa Committee’ the Govt. of India appointed the Central Council of Ayurvedic research, which formed a number of subcommittees on education, research and other matters.

Prior to independence some state governments attempted to develop Ayurveda, Unani and Siddha systems of medicine by opening teaching and medical relief institutions. The first health ministers’ conference held in the year 1946 recommended that the facilities for research in indigenous systems of medicine should be improved. Then the Govt. of India appointed a committee known as Chopra Committee on 19-12-1946 and submitted their report on 28-7-1948. The committee recommended for the establishment of central council for research in Indian Medicine.

The Government of Indian while establishing a Central Institute for research in Indian systems of medicine at Jamnagar, felt that in the initial stages encouragement to research could be given on the recommendations of the Ayurvedic advisory committee, which was constituted by the Govt. The provision made in the 1st five-year plan for Research in Indian Medicine was Rs.36 lakhs only. In the 2nd five-year plan it was enhanced up to Rupees One crore. In the 3rd five-year plan Rs.3 crore were sanctioned.

In the year 1958 “Udupa Committee” was formed and it recommended that an autonomous central council for research in Ayurveda, patterned on the lines of the Indian Council of Medical Research (ICMR) should be setup.

The Ayurvedic Advisory Committee was reconstituted as Central Council of Ayurvedic Research. In the last year of 3rd five-year plan a decision was taken to constitute an autonomous central council for research in Indian Medicine and Homoeopathy. The resolution was passed on 22nd May 1969 and accordingly the council started functioning effectively from 1st Dec 1969.


These are the research councils, functioning under the department of I.S.M. & H., Ministry of Health & Family Welfare, Govt. of India.

More than 24 Research Institutes and 120 Research Units are functioning throughout the country.

**Types of Research conducting at various centers:**

1. Literary Research
2. Clinical Research
3. Drug Standardization
4. Pharmacognosy
5. Pharmacological and Chemical Research
6. Survey of Medicinal Plants
7. Research in basic principles of Ayurveda.

**Literary Research Units**

- To collect the old palm-leaf works and other MSS and publish them in the regional languages.
- To document the research work and publication etc. are the aims and objective of these units.
  - Indian Institute of History of Medicine, Hyderabad, A.P. located in the campus of Osmania Medical College. It published many works and preserved a number of historical photographs and other M.S.S. in the museum.
  - Literary Research unit, Tanjore, located at Sayajirao oriental library, Saraswati Mahal, Tamilnadu. Old MSS have been translated into Hindi language.
  - Journal of research in Indian Medicine is being published from Varanasi Centre.
  - Documentation centre is located at New Delhi.

**Clinical Research Units**

- To diagnose the disease with Ayurvedic as well as modern parameters and treat on Ayurvedic lines is the object of these units.
- There are a number of clinical research units throughout the country.
**Clinical Research Unit, Ayurveda Hyderabad A.P. (C.R.U.H.)**

- 1. Stomach wash in the peptic ulcer
- 2. Application of *Kshara Sutra* in Fistula
- 3. Efficacy of *Pari Kalpa* in family planning
- 4. Treatment for *Amavata* and other research works are being conducted in this unit.

**C.R.U. Gohhati, Assam**

- 1. *Krimi Roga.*

**C.R.U. New Delhi**

- 1. *Madhumeha*
- 2. *Malaria*
- 3. *Parinamasoola,*
- 4. *Apasmar* etc.

**C.R.U. Ahmedabad**

- 1. *Karavella* in *Madhumeha,*
- 2. *Pasanabheda* as Diuretic

**C. R. I. Ayurveda, Cheruthurthy, Kerala (Indian Institute of Panchakarma).**

- 1. *Pakshaghata, Gridhrasi, Amavata, Vatarakta, Swasa, Switra, Twak roga, Medoroga, Malaria, Apasmar* etc.
- 2. Role of *Panchakarma* in the above conditions has been tested in this centre.

**Clinical Screening Units & Mobile Clinical Research Units,**

Clinical research enquiries.

**Regional Research Units Regional Research Institutions**

Conducting clinical research

---

**Drug standardization research:**

The principle activities of these units are

1. Standardization of various drugs
2. Isolation of active principles and assess their action experimentally.

**Drugs Standardization Research Enquiry, Unit Vijayawada, A.P**

Conducting research on

1. Identification of *Bhasmas.*
2. Preservation techniques of decoctions

**Drug Standardization Research Unit, Junagadh, Gujarat**

Standardization of

1. *Kamadudha Mishrana*
2. Gandhaka Mishrana  
3. Godanti Mishrana  
4. Other Bhasma & Parpati.

Preliminary Standardization Unit, Jamnagar, Gujarat  
1. Standardization of Kamadudha.  
2. Merits and demerits of packing the medicines in the pet bottles.

Capt. G. Srinivasa Murthy Research Institute, Madras, Tamilnadu  
Standardization of  
1. Tankana Bhasma,  
2. Yavakshara,  
3. Pancha Guna Taila,  
4. Spatika Bhasma,  
5. Kukkutanda Twak Bhasma,  
6. Godanti Mishrana,  
7. Asavas,  
8. Ghritas etc.

Pharmacognosy Research Unit

Identification and fixation of various controversial drugs is the objectives of these centers.

| Pharmacognosy Research Unit, Chandigarh | 1. Saptaparna  
2. Prisniparni |
| Pharmacognosy Research Unit, Jamnagar | 1. Kushta  
2. Kuberaksha |
| Pharmacognosy Research Unit, Poona | 1. Kanchanara  
2. Sahachara  
3. Kakodumbara  
4. Dadima |
| Pharmacognosy Research Unit, Lucknow | 1. Sankhapushpi  
2. Sariba  
3. Akarakarabha |
| Pharmacognosy Research Unit, Calcutta | 1. Chincha  
2. Pushkara Moola  
3. Kusumbha |
Pharmacological and Chemical Research Unit

| Chemical Research Unit, New Delhi | Research on the chemical composition and active principles of the following drugs is going on in this centre.  
1. Kanchanara,  
2. Chincha,  
3. Sankhapushpi,  
4. Karavella,  
5. Dadima,  
6. Kuberaksha etc. |

- Similarly there are so many centers at Jamnagar, Hyderabad, Trivandrum, Jaipur, Bombay, Benarous, Lucknow, Merut and Calcutta, where the pharmacological research work is going on various Ayurvedic drugs.

Survey of medicinal plants

Medical plants are being used in preparation of medicines by the registered practitioners, manufacturers of medicines, health foods etc and traditional healers. As the demand is more, survey must be conducted regarding their availability and steps are to be taken to increase their availability by cultivating them. Survey of Medicinal Plant Centers has been established at Gowhati, Patna, Jammu, Gwalior, Nagpur and Pune etc.

Research in basic principles of Ayurveda

With the aim of providing the scientific basis of the basic principles of Ayurveda such as Panchamahabhoota Siddhanta, Tridosha Siddhanta, Rasa, Guna, Virya, Vipaka and Prabhava in the light of modern parameters, these units have been established.

| Dr. Achanta Lakshmipati unit for research in Indian Medicine, Madras | Research on body constitution is being conducted in this centre |

In the year 1969, with the recommendations of Udupa Committee, Central Council for Research in Indian Medicine and Homoeopathy was established by the Govt. of India.

Later on in the year 1977 the Govt. of India, bifurcated CCRIM & H into the following four different councils for the sake of convenience to conduct research work in different systems of Indian Medicines and Homeopathy.

1. Central Council of Research in Ayurveda & Siddha (CCRAS)  
2. Central Council of Research in Unani Medicine (CCRUM)
3. Central Council of Research in Homoeopathy (CCRH)
4. Central Council of Research in Yoga & Naturopathy (CCRYN)

These are the autonomous bodies registered under Societies Act and fully financed by the Central Government.

These are located at:

Jawaharlal Nehru Bharatiya Chikitsa
Evam Homoeopathy, Anusandhan Bhavan
61-65, Institutional Area,
Opposite D- Block, Janak Puri
NEW DELHI.

The following Research works have been conducted by CCRAS till date:

- Established the standard formulations for *Apasmara*, Psychic disorders, *Switra*, *Medoroga*, *Amavata*, *Sandhivata*, *Twak Roga*, *Parinamasoola*, *Bhagandara*, *Tamaka Swasa*, *Sitapitta*, *Udarda* etc.
- Established the importance of *Yogasanas* in *Madhumeha*, *Amavata* and Refractive errors.
- Assessed the results of family planning drugs.
- Adopted more than 70 villages and rendering medical care.
- Treated 1, 75, 000 patients.
- Standardized 150 single drugs and more than 430 compound preparations.
- Survey conducted in 150 forests, throughout the country. More than 1750 herbs are being cultivated.
- Published 1450 scientific papers in national & international journals.
- Publishing monthly and quarterly journals.
- Published books useful for the practitioners.

**Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH)**

The Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy was established as Department of Indian Systems of Medicines and Homoeopathy (ISM & H) in Ministry of Health & Family Welfare in March, 1995 and was renamed as Department of **AYUSH** in November, 2003.

**Objectives**

- To upgrade the educational standards in the Indian Systems of Medicines and Homoeopathy colleges in the country
• To strengthen existing research institutions and ensure a time-bound research programme on identified diseases for which these systems have an effective treatment
• To draw up schemes for promotion, cultivation and regeneration of medicinal plants used in these systems
• To evolve Pharmacopoeial standards for Indian Systems of Medicine and Homoeopathy drugs

Administrative set-up

Shri Anbumani Ramadoss, Union Minister for Health & Family Welfare
Smt. Panabaka Lakshmi, Minister of State for Health & Family Welfare

Officers in the Department of AYUSH

Ministry of Health & Family Welfare
IRCS Buildings (Main & Annexes)
Red Cross Road, New Delhi – 110001

1. Secretary, Mrs. Anita Das  2. Joint Secretaries
3. Advisers for Ayurveda, Homoeopathy and Unani
4. Directors for
5. Deputy Secretary
6. Deputy Advisers
7. Jt. Director
8. Dy. Director
9. Under Secretaries
10. Assistant Advisers
11. Research Officers
12. Technical Officers
13. Section Officers
14. Statistical Officer

Subordinate Office

1. Director
Pharmacopoeia Laboratory of Indian Medicine
CGO Complex, Kamala Nehru Nagar, Ghaziabad, Uttar Pradesh

2. Director
Homoeopathic Pharmacopoeia Laboratory

Statutory Bodies

1. Registrar,
Central Council of Indian Medicine.
61-65, Jawaharlal Nehru Bharatiya Chikitsa Evum Homoeopathy Anusandhan Bhavan, Institutional Area, Opp. ‘D’ Block, Janak Puri, New Delhi-110058

2. Registrar,
Central Council of Homoeopathy.

20 His.Ayur.
Autonomous Bodies

1. Director,
   Central Council for Research in Ayurveda & Siddha
   61-65, Jawaharlal Nehru Bharatiya Chikitsa Evum Homoeopathy Anusandhan Bhavan, Institutional Area, Opp. ‘D’ Block, Janak Puri, New Delhi-110058

2. Director,
   Central Council for Research in Homoeopathy

3. Director,
   Central Council for Research in Yoga & Naturopathy

4. Director,
   Central Council for Research in Unani Medicine

National Institutions

1. Director,
   National Institute of Homoeopathy,
   Block GE, Sector-III, Salt Lake City, Kolkata-7000106.

2. Director,
   National Institute of Ayurveda,
   Madhav Vilas Palace, Amer Road, Jaipur-302022

3. Director,
   National Institute of Naturopathy, Pune

4. Director,
   Rashtriya Ayurved Vidya Peeth, Dhanvantari Bhavan,
   Road No. 66, Punjabi Bagh, New Delhi.

5. Director,
   Morarjee Desai National Institute of Yoga, New Delhi.

6. Director,
   National Institute Of Unani Medicine, Dhanvantari Road, Bangalore

7. Director,
   National Institute of Siddha, Chennai

Public Sector Undertaking

   Indian Medicines - M. D.
   Mohan Dist. Almora, Uttarakhand

Hospital

   CMO I/C,
   CGHS Ayurvedic Hospital, Lodhi Road, New Delhi
Directors of Research Councils

<table>
<thead>
<tr>
<th></th>
<th>Dr. Khalid Siddiqui</th>
<th>Director, CCRUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Dr. G.S. Lavakar</td>
<td>Director, CCRAS</td>
</tr>
<tr>
<td>3</td>
<td>Dr. B.T.Ch. Murthy</td>
<td>Director, CCRYN</td>
</tr>
<tr>
<td>4</td>
<td>Dr. Ch. Nayak</td>
<td>Director, CCRH</td>
</tr>
<tr>
<td>5</td>
<td>Dr. V.V. Prasad</td>
<td>Director, RAV</td>
</tr>
<tr>
<td>6</td>
<td>Dr. Basava Reddy</td>
<td>Director, MDNIY</td>
</tr>
</tbody>
</table>

Central Council of Indian Medicine
Statutory Body Under Government of India,
Ministry of Health & Family Welfare

An Act to provide for the constitution of a Central Council of Indian Medicine and the maintenance of a Central Register of Indian Medicine and for matter connected therewith.

The Central Council and Its Committees

Constitution of Central Council -

(1) The Central Govt. shall, by notification in the Official Gazette constitute for the purposes of this act a Central Council Consisting of the following members, namely:

a. such number of members not exceeding five as may be determined by the Central Govt. in accordance with the provisions of the First Schedule for each of the Ayurveda, Siddha and Unani systems of medicine from each State in which a State Register of Indian Medicine is maintained, to be elected from amongst themselves by persons enrolled on that Register as practitioners of Ayurveda, Siddha or Unani, as the case may be;

b. one member for each of the Ayurveda, Siddha and Unani systems of medicine from each University to be elected from amongst themselves by the members of the Faculty or Department (by whatever name called) of the respective system of medicine of that University;

c. such number of members, not exceeding thirty percent of the total num-
ber of members elected under clauses (a) and (b), as may nominated by the Central Govt., from amongst persons having special knowledge or practical experience in respect of Indian medicine;

Provided that until member are elected under clause (a) or clause (b) in accordance with the provision of this Act and the rules made there under, the Central Govt. shall nominate such number of member, being persons qualified to be choused as such under the said clause (a) or clause (b), as the case may be, as that Govt. thinks fit; and references to elected members in this Act shall be construed as including references to members so nominated.

(2) The President of the Central Council shall be elected by the members of the Central Council from amongst themselves in such manner as may be prescribed.

(3) There shall be a Vice-President for each of the Ayurveda, Siddha and Unani system of medicine who shall be elected from amongst themselves by members representing that system of medicine, elected under clause (a) or clause (b) of sub-section (1) or nominated under clause (c) of that sub-section.

Mode of election -

(1) An election under clause (a) or clause (b) of sub-section (1) of section 3 shall be conducted by the Central Govt. in accordance with such rules as may be made by it in this behalf.

(2) Where any dispute arises regarding any election to the Central Council, it shall be referred to the Central Govt. whose decision shall be final.

Restriction of elections and membership -

(1) No person shall be eligible for election to the Central Council unless he possesses any of the medical qualification included in the Second, Third or Fourth Schedule is enrolled on any State Register of Indian Medicine and resides in the State concerned.

(2) No person may at the same time serve as a member in more than one capacity.

Incorporation of Central Council - The Central Council shall be a body corporate by the name of Central Council of Indian Medicine having perpetual succession and a common seal, with power to acquire, hold and dispose of property, both movable and immovable and to contract, and shall by the said name sue and be sued.

Term of office of President, Vice-President and members of Central Council:-

(1) The President, a Vice-President or a member of the Central Council shall hold office for a term of five years from the date of his election or nomination, as the
case may be, or until his successor shall have been duly elected or nominated, whichever is longer.

(2) An elected or nominated member shall be deemed to have vacated his seat if he is absent without excuse, sufficient in the opinion of the Central Council, from three consecutive ordinary meeting of the Central Council or, in the case of a member elected under clause (a) of sub-section (1) of Section 3, if he ceases to be enrolled on the concerned State Register of Indian Medicine, or in the case of a member elected under clause (b) of that sub-section, if he ceases to be member of faculty or Department (by whatever name called) of Indian medicine of the University concerned.

(3) A casual vacancy in the Central Council shall be filled by election or nomination, as the case may be, and the person elected or nominated to fill the vacancy shall hold office only for the remainder of the term for which the member whose place he takes was elected or nomination.

(4) Member of the Central Council shall be eligible for re-election or re-nomination.

(5) Where the said term of five year is about to expire in respect of any member, a successor may be elected or nominated at any time within three months before the said term expires but he shall not assume office until the said term has expired.

Meeting of Central Council -

(1) The Central Council shall meet at least once in each year at such time and place as may be appointed by the Central Council.

(2) Unless otherwise prescribed, one-third of the total number of members of the Central Council shall form a quorum and all the acts of the Central Council shall be decided by a majority of the members present and voting:-

Provided that no decision of the Central Council in relation to any Indian medicine, shall be effective unless three members representing Ayurveda, Siddha or Unani system of medicine as the case may be, are present at the meeting and support the decision.

Committees for Ayurveda, Siddha and Unani

(1) The Central Council shall constitute from amongst its members:-

a. A committee for Ayurveda
b. A committee for Siddha and
c. A committee for Unani,

and each such committee shall consist of members elected under clause(a) or clause(b) or nominated under clause (c) of sub-section (1) of section 3 representing the Ayurveda, Siddha or Unani System of medicine, as the case may be.
(2) The Vice-President for each of the Ayurveda, Siddha and Unani System of medicine elected under sub-section (3) of section 3 shall be, respectively, the Chairman of the committees referred to in clauses (a), (b) and (c) of sub-section (1).

(3) Subject to each general or special directions as the Central Council may from time to time give, each such committee shall be competent to deal with any matter relating to Ayurveda, Siddha or Unani system of medicine, as the case may be, within the competence of the Central Council.

Other Committees: - The Central Council may constitute from amongst its members such other committees for general or special purposes, as the Central Council deems necessary to carry out the purposes of this Act.

The Central Council shall cause to maintained in the prescribed manner, a register of practitioners in separate part for each of the system of Indian medicine to be known as the Central Register of Indian medicine which shall contain the names of all persons who are for the time being enrolled on any State Register of Indian Medicine and who possess any of the recognized medical qualifications.

(2) It shall be the duty of the Registrar of the Central Council to keep and maintain the Central Register of Indian Medicine in accordance with the provisions of this Act and of any orders made by the Central Council and from time to time to revise the register and publish it in the Gazette of Indian in such other manner as may be prescribed.

Central Council for Research in Ayurveda & Siddha

(Ministry of Health and Family Welfare, Govt. of India)
No.61-65, Institutional Area, Opp ‘D’ Block, Janak Puri.
New Delhi-110058

The Central Council for Research in Ayurveda & Siddha (CCRAS) is an Autonomous body registered on 30th March 1978 under the Societies Registration Act XXI of 1860. This Council came into existence after bifurcation of the erstwhile Central Council for Research in Indian Medicine and Homoeopathy into four different Research Councils. The Council is fully financed by the Department of ISM&H, Ministry of Health & Family Welfare, Government of India. It is an apex body in India for the formulation, co-ordination, development and promotion of research on scientific lines in Ayurveda and Siddha Systems of Medicine.

The Council is governed by the Governing Body with the Union Minister of Health & Family Welfare as President and an eminent personality in the field of Ayurveda and Siddha as Vice-President. The Governing Body is assisted by Standing
Finance Committee, Scientific Advisory Committee (Ay.), Scientific Advisory Committee (Siddha), Clinical Research Sub-Committee and Drug Research Sub-Committee. The Council carries out its objectives and functions through the network of 40 Research Institutes, Centers and Units functioning under its direct control in different parts of the country and with its Headquarters at New Delhi.

**Aims & Objectives**

- To enhance the capability of the Council as a premier institution for research in Ayurveda and Siddha and forge strategic alliance with similar establishments and constantly strive for excellence in basic and applied knowledge for efficient understanding of the cause and prevention of human diseases and their management.
- Formulate aims and patterns of research on scientific lines in Ayurveda & Siddha systems of medicine.
- Initiate, aid, develop, encourage and coordinate scientific research in fundamental and applied aspects of Ayurveda & Siddha.
- Propagate basic knowledge and experimental measures relating to the cause and prevention of diseases and exchange information with other institutions with similar approach.
- Promote and assist institutions of research for the study of diseases, their prevention and cure, especially with emphasis for covering the rural population of the country.

The research Programme under this Council may be broadly categorized into Clinical Research including Health Care Research,

- Drug Research including Medico-Ethno-Botanical Survey Programme,
- Cultivation of Medicinal Plants,
- Musk Deer Breeding Programme,
- Pharmacognosy Research Studies,
- Plant Tissue Culture,
- Drug Standardization,
- Pharmacological/Toxicological studies,
- Family Welfare Research (Clinical and experimental),
- Reproductive and Child Health Care Research,
- Literary Research along with Documentation and Publication.

Clinical Research activities of the Council in the past 3 decades have resulted into the evolution of drugs/formulations like

1. Ayush-64 for Malaria,
2. Ayush-56 for Epilepsy,
3. Ayush-82 for Diabetes mellitus,
4. 777 Oil for Psoriasis
5. *Pippalyadi Yoga* – as an oral contraceptive.
6. Efficacy of other drugs like various *Guggulu* preparations for *Medo roga*
7. *Mandukaparni* for mental retardation,
8. *Katuki* for liver disorders.
9. *Panchakarma* therapy for the treatment of various neurological disorders,
10. *Amasaya Sodhana Chikitsa* for acid-peptic disorders

*Kshara Sutra Chikitsa* for the treatment of fistula-in-ano and ano-rectal diseases, etc. have been successfully demonstrated. The Council has developed formulations for thirty diseases, which includes national and global priority diseases to carry out clinical research.

Under drug research, more than 1, 20,000 plant specimen along with 3,000 museum drug samples of plant, mineral and animal origin and 5,000 plant based folk medicines have been collected. Pharmacognostic investigations on about 175 important Ayurvedic/Siddha medicinal plants/drugs have been completed so far. About 500 single drugs along with 50 formulations have been standardized with reference to Physico-chemical values and rapid analytical values for about 675 formulations have been worked out. Chemical studies on 300 drugs used in Ayurveda and Siddha systems of Medicine have been completed.

The Council has published about 100 books/monographs and is also bringing out quarterly Journals – *"Journal of Research in Ayurveda & Siddha"*, *"Bulletin of Medico-Ethno-Botanical Research"* and *"Bulletin of Indian Institute of History of Medicine"* (bi-annual) besides a Newsletter to appraise the scientific community about the research and other activities of the Council.

The Council has obtained 15 process patents, 4 patents for drugs. Apart from these, 12 patents have been filed for granting patents

Dr. G. S. Lavekar took over as Director of Central Council for Research in Ayurveda and Siddha on 9th January 2003.

Born on 7th February 1950, after completing his Graduation in Ayurveda from Govt. Ayurvedic College, Nanded joined as Registrar in the same College. Later he joined RA Podar Ayurvedic College, Mumbai as Lecturer and worked in various capacities as Reader, Professor and Head of the Department. Before joining this Council, he worked as Dean, Government Ayurvedic College, Hospital and Pharmacy,
Nanded and he were also holding the post of Dean, Ayurveda and Homoeopathy Faculty in S.R.T. University, Nanded. He also did two Post Graduation and Doctorate in Ayurveda. Apart from this he did Post-Graduate Course in Hospital Administration and Rehabilitation Technique etc. Further he also did his Post Graduation in Public Administration and Philosophy from Nagpur University. During his vast teaching career, he has experience in research and acted as Guide for Post-Graduate and Ph.D. students in various Universities. He has authored three publications and a number of articles. He has been associated with various Ayurvedic Colleges and Universities in various capacities as Member/Senate Member/Dean. He is the recipient of Homi Jahangir Bhabha Scientist Award, 1998 awarded by Govt. of Maharashtra He is recognized Ph.D Guide/Supervisor in SRT, NTR University of Health Services, NIMHANS Bangalore, Pune, SASTRA & other Universities.

Abstracts of Clinical studies conducted by CCRAS

1. **Kshara Sutra in Management of Anal Fistula (Bhagandara)**

   About 700 patients, including 200 patients of recurrent fistulae after operation have been studied by Clinical Research Enquiry at IMS, BHU, Varanasi with *Kshara Sutra* therapy. Out of 700 patients 691 (98.7%) have been completely cured. Further studies on 395 patients have been conducted in the Council's Research Institutes and the outcome has been similar, since 386 (97.72%) patients responded.

2. **Management of Bronchial Asthma with Herbo Mineral Ayurvedic Drugs**

   **Study-I:**

   The two combinations of

   1. *Naradiya Lakshmi Vilasa Rasa* 500 mg & *Godanti Bhasma* 1 gm. t.d.s.
   2. *Swasa Kesari* (*Kantakari* with *Godanti Bhasma*) 500mg t.d.s. have been evolved and put on trial in separate groups of patients.

   Out of 783 patients studied with *Swasa Kesari*, most of the patients showed good response. Only less than 5% showed poor effect on the disease. *Lakshmi Vilasa Rasa, Godanti* combination was equally effective and about 8% did not show any affect of the therapy.

   It may be concluded that: Both groups of drugs for the treatment of *Tamaka Swasa* are quite effective.

   **Study-II:**

   *Kantakari* whole plant was studied on 151 patients. The drug was administered in the form of decoction in a dose of 30 ml. three times a day. The effect of the drug was evident in the most of the patients (59.09%) who completed full course of 4 weeks.
Study-III:

*Sirisha twak* (stem bark) administered in the form of decoction was studied on 391 patients. A six-week course of the drug, 30 ml. three times a day has shown reasonably good response.

3. **An Ayurvedic Anti Diabetic Drug ‘Ayush- 82’**

A combination with known and tested hypoglycemic drugs, with code name Ayush-82 was developed by Council.

**Composition**

- *Karavella* (Momordica charantia Linn.) seed - 1 part
- *Jambu* (Syzygium cumini Linn.) seed - 1 part
- *Amra* (Magnifera indica Linn.) seed - 1 part
- *Gudmar* (Gymnema sylvestre R. Br.) leaves - 1 part

**Dosage**

Fine powder of these drugs was administered in the dose of 5 gm. TDS with 500 mg of pure *Shilajat* thrice daily.

The study has been taken up 805 patients. The effect of treatment was assessed on fasting and postprandial blood sugar at various stages of treatment, besides clinical evaluation. The results indicate statistically significant reduction in fasting and postprandial blood sugar levels along with clinical improvement. No toxic effects were noted.

4. **Ayush- 56 an Anti Epileptic Drug**

A combination of extracts of N. Jatamansi and Marselia minuta was developed, patented and coded as Ayush-56. This compound was tried on 805 patients in a dose of 2 tablets (250 mg. each) thrice daily with water in adults and in children: 1 tablet (250 mg.) thrice daily. It is helpful in the management of psychotic patients.

5. **Ayurvedic Management of Filariasis**

**Study-I:**

The three drugs  
*Ayush-64, Saptaparna Ghana Vati, Nityananda Rasa* has been evaluated on 93 patients of Filariasis.

**Dose:**

*Ayush-64 (Saptaparna, Kiratatikta, Katuki, Latakaranja)* 2 tablet (500 mg) TDS with water for 2 weeks.

*Saptaparna Ghana Vati,* 2 tab (500 mg. each) TDS with water for 2 weeks
**Nityananda Rasa**, 2 tab. (500 mg each) thrice daily with water for 2 weeks

It is observed that Saptaparna Ghana Vati was found most effective in (91%) elimination of the parasite while the Nityananda Rasa was least effective (26%).

**Study-II:**

Various combinations of Sudarshana Ghanavati have been studied on over 900 patients suffering from chronic, swelling/deformities; the results were assessed on the basis of reduction in the size and volume of the swelling, the feeling of general well being and functional improvement.

**Dose:**

i) **Sudarshana Churna** 3 gm. thrice daily with warm water.
ii) **Punarnavadyarishta** 20 ml. with water after meals twice daily.
iii) **Sudarshana Ghanavati** 700 mg. thrice daily with water for 4 weeks
iv) **Sudarshana Ghanavati** 500 mg. thrice daily with water after food
v) **Punarnavadyarishta** – 20 ml. twice daily with water after food.
vii) **Sudarshana Ghanavati** 500 mg. thrice daily with water
viii) **Ayush-55** (500 mg. each) - 2 tablets thrice daily with water.
viii) **Punarnavadyarishta** – 25 ml. twice daily with water after food.

Out of 690 patients who completed the treatment about 65% showed positive response.

It is concluded that above treatments on Filariaasis, considered to be incurable by both modern medicine as well as Ayurveda, provided relief to a great extent.

**6. Management of Hemorrhoids through Ayurveda**

A study was conducted on 774 patients – Kshara Sutra application and internal medication with Kankayana Vati and Triphala Churna and local application of Kasisadi Taila. The observations indicate positive response to the treatment ranging from 85-95% with a less recurrence rate.

**7. Management of Heart Disease with Ayurvedic Drugs**

**Ischemic Heart Diseases (I.H.D.)**

After extensive studies on hypo-lipidimic potential of Guggulu and establishing its role in prevention of atherosclerosis and control of hyper-lipidemia, the drug has been taken up for management of Ischemic Heart Diseases. Another combination of Guggulu with Pushkaramoola have been developed and investigated.

**Karavira in management of Congestive Cardiac Failure**

The drug has been administered in the form of tincture prepared from roots. The
observation on 99 patients of Congestive Cardiac Failure due to Rheumatic Heart Disease, Hypertension, Myocardial infarction for 6 weeks. About 90% of patients showed relief and relapse could be noted in about 20% of these patients.

8. Panchakarma Therapy in the Management of Hemiplegia

Clinical Studies

The effect of Sneha Pana, Swedana, Virechana, Vasti karma, Nasya and Sirovasti with different medicated oils was studied under Sodhana. The Samana therapy with medicated oils and herbo mineral preparations were also done.

Shashtika Sali Pinda Sweda was given as Swedana therapy and its role in the management of Pakshaghata was studied. The results obtained in 744 patients of Pakshaghata treated in the following six major studies have been reported:

1. Effect of Panchakarma treatment with Mashadi yoga 112.
3. Effect of Nirgundi taila, Sahachara taila & Bhadradarvadi taila – comparative study 266.
5. Effect of Panchakarma therapy and Sirovasti with Masha taila 66.
6. The effect of herbo-mineral preparations (internal) and application of Shashtika Sali Pinda Sweda with Brihat masha taila (externally) along with Panchakarma therapy 111.

Conclusion

- The study comprised 744 patients of Pakshaghata out of which 552 received Panchakarma therapy with various single and compound medicinal preparations. 192 patients were given Samana therapy.
- The result of this treatment showed that Panchakarma therapy is useful to improve the functional ability of patients and improve the quality of life. It is the most effective method of treatment for Pakshaghata.
- The effective treatments for Pakshaghata among the study groups are Bhadradarvadi quath, Dhanvantari gutika, Panchakarma therapy using Masha taila and Shashtika Sali Pinda Sweda.
- Shashtika Sali Pinda Sweda is useful for relieving stiffness of muscles and other emaciated condition.
- The Sneha Pana with the study drugs did not produce any increase in the cholesterol level of the blood pressure level of patients.
• The complete recovery from the illness is very rare but the therapy is useful to improve the functional ability and the quality of living of disabled patients.

9. Management of Hypertension with Ayurvedic Formulations

Clinical studies

The Council has taken up clinical investigations on a large sample with following drug formulations:-

i) *Usiradi churna* 3-6 gm twice daily for six weeks.

ii) *Tagaradi churna* 3-6 gm twice daily for six weeks.

The study has been conducted on 964 patients in two groups. The diagnosis has been done on the basis of WHO criteria and investigations were conducted to exclude hypertension due to organic lesion.

Conclusion

The observations indicate control in most of the patients (above 65-75%) in both groups of patients.

10. Ayurvedic Anti Malarial Drug- Ayush 64

CCRAS has developed a poly-herbal non-toxic, anti-malarial drug – Ayush 64 through extensive pharmacological, toxicological and clinical studies. This has been patented by the Council through National Research Development Corporation, New Delhi.

Composition

Each tablet contains

*Saptaparna* (Alstonia scholaris)  Bark Aqueous Extract  100 mg.
*Katuki* (Picrorhiza kurroa)  Root - do -  100 mg.
*Kiratatikta* (Swertia Chirata)  Whole plant - do -  100 mg.
*Kuberaksha* (Caesalpinia cristata)  Seed powder  200 mg.

Clinical trials of Ayush-64 were conducted on 1442 P. Vivax positive cases of malaria at various Research Institutes and Centers of the Council located in different part of the country. The response of treatment was 89% and the findings were comparable with known Anti-malarial drugs-chloroquine and primaquine.

* Besides anti-malarial activity the drug was also found to be effective in fevers of unknown etiology, filarial Lymphangitis and derangement of lever functions.
Dose

Adult: 4 tablets (500 mg.), thrice daily for –7 days.
Children (5-12): 2 tablets (500 mg. each), thrice daily for 5-7 days.
Infants (below 5 yrs): Powder of 1 tablet (500 mg.) with honey, three times a day.

11. Ayurvedic Management of Myopia

Clinical studies

i) A comparative evaluation of Maha Triphala Ghrita and Saptamrita Loha has been conducted on patients of Myopia. It was observed that both the treatments have been reasonably well effective in the improvement of vision. However, the effect of Maha Triphala Ghrita was more pronounced.

ii) Another clinical study was conducted on 264 patients of Myopia with Saptamrita Loha 500 mg. thrice a day with milk was given orally. Regular eyewash once a day with Triphala jala was prescribed to the patients. The patients were also subjected to instillation of zinger juice mixed honey once a day and Netra bindu application twice a day.

These regimens may be more effective by increasing the nutrition of the lers, helping better accommodation and cleanse the micro channels.

12. Role of Gum Guggulu in Management of Obesity & Lipid Disorders

Clinical studies

The effect of Commiphora wightii on serum cholesterol and serum lipids was studied on 75 patients; 25 were kept as the control group, 25 received crude drug and 25 Petroleum Ether extract of Guggulu for three months. Serum cholesterol was significantly reduced in the treated group as compared to the control group. The reduction was 24.2% in crude drug and 30.0 % in P.E. extract treated group.

Conclusions

The studies were conducted at Institute of Medical Science, Benarus Hindu University, Varanasi and All India Institute of Medical Science, New Delhi has exhaustively evaluated the role of Guggulu and its petroleum ether extract in obesity and lipid disorder. Further investigations have also demonstrated its role in management of coronary artery disease and Hemiplegia due to cerebral thrombosis. The drug is further developed and patented by CDRI, Lucknow and commercialized as ‘Guggulipid’.

13. Ayurvedic Management of Peptic Ulcers

Clinical Studies

1. Indukanta Ghrita and Mahatiktaka Ghrita:

The Indukanta and Mahatiktaka Ghrita are given in two separate groups of pa-
tients with another grouping as Samana and after a small course of Sodhana. The studies in four groups of patients have been conducted on about 1200 patients. The diagnosis and assessment of efficacy has been made on the basis of modern investigations including endoscopy. It was noted that both the Ghrita preparations are effective in 75 to 80% of patients. The efficacy is further enhanced if a course of Sodhana is given before administration of Ghritas. The effect of Mahatiktaka Ghrita is relatively better.

2. Amasaya sodhana:

   Stomach wash (Amasaya sodhana) with decoction of herbal drugs- Varuna and Apamarga has been taken up. The radiological positive patients of duodenal ulcer have been included. The stomach wash (Amasaya sodhana) was given twice a week for 6 weeks.

   The patients were advised to come with empty stomach and the contents of stomach are aspirated through Ryle’s tube. The decoction of drugs are introduced into stomach and withdrawn through the tube.

   The trial of this procedure has been conducted on 265 patients and about 80% of patients showed relief.

3. Nimbidin:

   The compound Nimbidin is isolated form Neem seed oil by process of extraction. The drug has been administered to the patients of duodenal ulcer in the form of 100 mg. capsules thrice a day. The overall effect of the drug has been good and 78.89% showed positive response.

4. Other studies:

   The studies on a few other drugs Eg Narikela Lavana (70%) Yashtimadhu (68.81%) and Sutasekhara Rasa combinations (74%) have also shown good to response.

Conclusion

It may be seen that this condition could be successfully managed through Ayurvedic drugs and procedures.

14. Management of Psoriasis with Nimbidin

Clinical Trial

A combination of internal administration of Nimbidin an isolate from Neem seed oil and Lajjalu kera as external applications have been taken for trial

Drug

1. Nimbidin 200 mg. capsules twice daily for 60 days
2. Lajjalu kera (external application) q.s. for 60 days
Conclusion

Clinical trial has been conducted on 362 patients and about 60% of the patients have shown good control as evidenced by the relief of the signs and symptoms of the disease and no repulse was noticed.

15. Ayurvedic Management of Rheumatoid Arthritis

Clinical Studies

i) Sunthi Guggulu: A combination of equal parts of powder of Sunthi (Zingiber officinale) and Guggulu (Commiphora Wightii) has been given internally in the dose of 2 gm. three times a day for a period of six weeks. Dry fomentation with warm sand bag (Valuka Sweda) was applied on the affected parts. The trial was conducted on 497 patients and about 2/3rd patients (67%) have shown positive results.

ii) Maha Yogaraja Guggulu etc: A combination of 3 drugs Maha Yogaraja Guggulu 1 gm. three time a day with warm water, Vaishwanara churna 3gm. twice daily after meal and Simhanada Guggulu ½ gm. at bed time has been studied on 518 patients. Local fomentation was also given. About 60% (59.12%) of the patients have shown definite improvement in their clinical symptoms.

iii) Aswagandha (Withania somnifera) churna: A combination of Aswagandha churna 3 gms. thrice a day and Eranda taila 15 ml. at bedtime has been administered. The dry fomentation (Valuka Sweda) has also been given for the total duration of 6 weeks. 57% of the patients have shown improvement.

iv) Vachadi Ghana - Haridradi Ghana: The 2 groups of medicines mentioned in Susruta Samhita have been administered in the dose of 3 gm. three times a day with warm water in two separate groups of the patients. Vettumaran Gutika 1 tablet three times a day was given internally. The external application of the dry fomentation (Valuka Sweda) was also given. About 80% of patients have shown positive results.

Conclusion: The outcome of these studies indicates that the patients of Rheumatoid arthritis could be managed successfully with Ayurvedic therapies. It is also noted that the effects on these patients are lasting and relapse is rarely observed. One of the therapies, Sunthi-Guggulu is under process of commercialization.

16. Brahmyadi yoga in the Management of Schizophrenia

The Council has established an Ayurvedic Research Unit at NIMHANS, Bangalore since 1971 for research on various mental diseases. The formulation Brahmyadi yoga was developed by the Council for management of Schizophrenia, wherein both acute and chronic stages of the disease have been managed.

Composition of Brahmyadi yoga

i) Brahmi (Centella asiatica)
ii) *Vacha* (Acorus calamus)

iii) *Sarpagandha* (Rauwolfia serpentina)

iv) *Kushta* (Saussurea lappa)

v) *Tagara* (Valeriana wallichii)

vi) *Jatamansi* (Nardostachys jatamansi)

Clinical studies

Double blind clinical trial was taken on 108 patients divided into 4 groups. The effect of trial drug of *Brahmyadi yoga* and *Tagara* were compared with the placebo and known anti-psychotic drug chlorpromazine. The results were evaluated on the basis of clinical symptoms, psychological assessment and multiphase questionnaire. The data were statistically analyzed and it was concluded that the *Brahmyadi yoga* has statistically significant effect in comparison to placebo and *Tagara*. The effect is also comparable to chlorpromazine.

Dose: 8-12 gm daily in divided doses for a period of 75 days

17. Ayurvedic Management of Sciatica

The Council has taken up clinical trials of specific regimen of *Panchakarma therapy*, the popular Ayurvedic drug *Bhallataka* and a combination of formulation consisting of *Trayodasanga Guggulu* and *Vishatinduka Vati*.

Clinical trials

i) **Bhallataka**: The purified *Bhallataka* (marking nut) as per the procedure laid down in the Ayurveda has been given to the patients in gradually increasing doses and then gradually tapering the dose to the initial dose. Apart from such a course, the purified *Bhallataka* has also been given in a uniform dose of 250 mg. to 500 mg. three times a day on 128 patients.

The effect of the *Bhallataka* has been assessed on the basis of clinical improvement and functional tests. The observations indicate encouraging response and 52% of the patients have shown efficacy.

ii) **Trayodasanga Guggulu & Vishatinduka Vati**: The *Trayodasanga Guggulu* 1 gm. three times a day with warm water and *Vishatinduka Vati* 250 mg. three to four times a day has been given internally along with external application of oil massage and fomentation. The study was conducted on 128 patients.

The results have been assessed on the basis of clinical features and functional capacity of the patients. 57% of the patients showed encouraging response.

iii) **Panchakarma therapy**: The *Panchakarma* regimen has been consisting of *Snehana* (Oleation), *Swedana* (Sudation) and *Vasti* (Medicated enema). Different drugs
have been used for the preparation of massage oil and decoction for each study. A number of studies have been conducted with different drugs on a large number of patients. The effect of the therapy was encouraging and 75-100% patients under different studies have shown improvement.

Conclusion

It is observed that the single drug Bhallataka, classical formulation Trayodasanga Guggulu & Vishatinduka Vati and Panchakarma procedures have been considered for the management of Sciatica. The efficacy of the Panchakarma therapy is superior to the other approaches.

18. Ayurvedic Drugs in the Management of Urolithiasis

Clinical studies

i) The effect of Ayurvedic drugs Sweta Parpati with Pasanabheda and Gokshura in the management of Mutrashmari (Urolithiasis) was conducted. Under this study 30 cases of renal and ureteric calculi were included. One gm. of Sweta Parpati with 50 ml. of Pasanabheda and Gokshura quath was given thrice daily. The assessment of the response of the therapy was made on the basis of relief in presenting symptoms and the radiological findings.

ii) The effect of Palasa kshara in the management of Mutrashmari (Urolithiasis) was studied on 50 cases. Out of total 50 cases, 24 were having renal calculus and 26 were having Ureteric calculus. Palasa kshara was given in the dose of 1 gm. thrice daily with water for 30 days. Observations of the results of the treatment were made on the basis of clinical improvement and radiological findings before and after the treatment.

Conclusion

The results of both the studies have shown that Urolithiasis could be well managed with Ayurvedic therapies. The radiological findings also support the elimination of stone and reduction of their size.

19. Pippalyadi Yoga an Oral Contraceptive

Pippalyadi Yoga: Pippali (Piper longum) Vidanga (Embelia ribes) and Tankana (Borax).

These trials were conducted on fertile female volunteers in age group of 20-34 years having a menstrual cycle between 26-30 days (with 3-5 days menstruation period) and with inter-pregnancy period between 13-24 months.

Dose schedule was 500 mg. BD from 5th day to last day of the cycle consecutively for three cycles. Significant improvement in efficacy of the drug was observed with successive modifications. Further study of this drug with the dose of 500 mg. BD
from day one to last day of cycle consecutively for three cycles had shown 100% efficacy of the drug since no pregnancy was reported due to drug failure in this study.

20. Local Contraceptive (Spermicidal) Effect of Neem Oil

_Nimba_ (Neem / Azadirachta indica) is an important medicinal plant used in various forms in Ayurveda. The Neem seed oil is used for application on infected wounds and is attributed with stated to have anti-microbial properties. The spermicidal effect of Neem oil has been studied and the contraceptive efficacy of Neem oil has been taken up in fertile female volunteers.

**Method of administration**

1 ml. of Neem oil locally (introduced in Vagina through a plastic applicator) five minutes prior to coitus

**Clinical studies**

The study has been conducted on 225 fertile female volunteers in the age group of 18-35 years (mother with at least one child) in OPD of Central Research Institute (Ayurveda), Punjabi Bagh, New Delhi and selected population in community. The drug has been found very effective since only three women conceived due to drug failure. 43 volunteers continued up to 36 cycles and more.

**Conclusion**

It is well tolerated and accepted except foul smell. Further efforts are under way to make the drug more acceptable by modifying dosage forms.

21. 777Oil Siddha Preparation for Psoriasis

The Central Council for Research in Ayurveda & Siddha has developed a Siddha drug for the treatment of _Kalanjaga padai_ (Psoriasis) after conducting extensive pharmacological / toxicological studies and clinical trials. A patent has been obtained under the name ‘777’ oil.

**Composition:** ‘777’ oil contains oil soluble contents of _Vetpalai elai_ (Wrightia tinctoria – Leaves), obtained with equal quantity of coconut oil.

**Dose:** 5 ml. twice daily along with milk or as directed by the Physician

**External application**

- Requisite quantity to be applied over affected parts.
- Before application of this drug, clean the affected part with flour of green gram / Bengal gram, wash with Luke warm water and dry.
- After application of the oil, the affected part is exposed to the morning sunlight for 5-10 minutes.
Clinical studies:

The clinical trials have been conducted on 2823 patients over a period of 20 years. The response of the therapy was significant and more than 80% patients have shown improvement.

CCRAS Publications

I. Clinical Research Studies

1. Ayush-64 A New Anti-malarial Herbal Compound
2. Ayurvedic Drugs in the Management of Cancer
3. Ayush-56 An Ayurvedic Anti-Epileptic Drug
4. Ayurvedic Management of Arshas (Hemorrhoids)
5. Aetio-pathogenesis and Treatment of Timira with Saptamrita Loha and Maha Triphala Ghrita
6. Ayurvedic Management of Unmada (Schizophrenia)
7. Clinical and Experimental Trial of Guggulu (Medo-Roga)
8. Concept of Jatharagni and Dhatwagni in Ayurveda
9. Clinical Studies of Kamala (Jaundice) and Yakrit Roga (Liver Disorders) with Ayurvedic Drugs
10. Clinical and Experimental Studies on Rasayana Drugs and Panchakarma Therapy
11. Clinical and Experimental Studies on the Efficacy of ‘777’ oil a Siddha Preparation in the Treatment of Kalanjagapadai (Psoriasis)
12. Clinical and Experimental Studies on Thamira Chenduram - A Siddha Preparation in the Treatment Valigunnam (Peptic-Ulcer)
13. Effects of Varuna (Crataeva nurvala), In Enlarged Prostate Associated Urinary Disorders
14. Management of Bhagandara (Fistula in-Ano) with Kshara sutra
15. Management of Hemiplegia by Panchakarma and Samana Therapy
16. Management of Khanja and Pangu
17. Management of Mutrasmari By three Ayurvedic Drugs Varuna, Kuluitha and Gokshura
18. Parinamasoola - A Report on Assessment of Classical Therapy
20. Tamaka Swasa (Bronchial Asthma) - A Clinical Study
II. Literary Research

1. Abhinav Chintamani
2. A Check-List of Sanskrit Medical Manuscripts in India
3. Ashtanga Sangraha (Indu Tika)- Critical editions
4. Breshaja Kalpa
5. Dhanvantari Saranidhi
6. Netra Prakasika
7. Netra Roga Nidana
8. Nanavidha Vaidyam
9. Pathya Pathya Vinischaya
10. Sahasrayogam
11. The Development of Indian Medicine Sarangadhara’s Contribution

III. Drug Research Survey

1. A Report of Medicinal Plants of Kachchh (Gujarat)
2. Contribution to the Medico-Botany of East Godavari and West Godavari Districts of Andhra Pradesh
3. Glimpses of Medico-Botany of Bastar District (M.P.)
4. Medico-Botanical Exploration of Puri District (Orissa)
5. Medico-Ethno-Botany of Sonebhadra District
6. Medico-Ethno-Botanical Explorations of Sikkim Himalayas
7. Medicinal Plants of Nagpur and Wardha Forest Divisons (Maharashtra)
8. Medico-Botanical Exploration of Phulbani and Koraput Districts of Orissa
9. Observations of Medico-Botany of Andaman Nicobar Islands
10. Preliminary Techno Economical Survey of Natural Resources and Herbal Wealth of Laddakh
11. Tribal Pockets of Nilgiris Recordings of the Field Study on Medicinal Flora and Health Practices
12. Uttarakhand Vanoushadhi Darshika

IV. Cultivation

1. Cultivation of Guggulu
2. Experimental Cultivation of Saffron (Kumkum)

V. Pharmacognosy

1. Pharmacognosy of Indigenous Drugs

VI. Pharmacology

1. Pharmacological and Clinical studies of Guggulu (Commiphora wightii) in Hyperlipidaemia / Lipid Metabolism
2. Pharmacological Investigations of Certain Medicinal Plants and Compound Formulations used in Ayurveda and Siddha

VII. Phytochemistry
1. Application of Standardized Namburi Phased Spot Test in Identification of Bhasma and Sindura Preparations of Ayurveda
2. Phytochemical Investigations of Certain Medicinal Plants Used in Ayurveda
3. Pharmacopoeial Standards for Ayurvedic Formulations

VIII. Periodicals
1. Guidelines for Journal
2. Journal of Research in Ayurveda & Siddha
4. Bulletin of Indian Institute of History of Medicine
5. News Letter (Hindi & English)

IX. Video Films (DURATION: 28 MINUTES; PRICE: Rs.100/-each)
1. Science of Life
2. Resurgence
3. Guggulu - A Versatile Healer
4. Shilajatu - The Eternal Panacea
5. Panchakarma

Ayurvedic Pharmacopoeia Committee

Ayurvedic Pharmacopoeia Committee was constituted in 1963 with the following objectives:-

- To prepare an Ayurvedic Pharmacopoeia of India of single & Compound drugs.
- To prescribe the working standards for compound Ayurvedic Formulations including tests for identity, purity, and quality so as to ensure uniformity of the finished formulations.
- Keeping in view the time constraint, to identify such methods, procedures and of plan of work enable the formulary and standards of all commonly used drugs to be brought out in a phased manner.
- To prepare remaining parts of the official formulary of compound Preparations from the classical texts listed with 1st Schedule of the Drugs & Cosmetics Act including standardized compositions, method of preparations, dosage, toxicity and administrations with various Anupana of vehicles.
- The term of the Committee shall be for a period of 3 years from the date of its first meeting and the members shall hold office for that period.
• The Chairman of the Committee shall have the powers to form Sub-Committee whenever required and to co-opt experts from Outside such sub-committees.
• The Committee will have the power to frame rules and procedures of Functioning.

Rashtriya Ayurveda Vidyapeeth

Rashtriya Ayurveda Vidyapeeth was established on 11th Feb., 1988 with a major objective of promoting knowledge of Ayurveda and started regular functioning since 1991.
• The affairs of the Vidyapeeth are managed by its Governing Body consisting of 16 members including the President as per Memorandum of Association and orders of Govt. of India.
• The Vidyapeeth initiated the course of Member of RAV in an effort to revive the traditional method of Guru Kula system of informal education of India i.e., Guru Shishya Parampara to Ayurvedic graduates after formal education.
• In this course of RAV the student selects a particular text as per his specialization in post graduation and undertakes critical study of the text and intensive theoretical and practical training in the subjects under the guidance of a scholar well versed in the text/subject.
• The basic idea of this course is to provide in-depth knowledge and preparing young scholars proficient in texts of Ayurveda, who can become good teachers so that the tradition of education of Ayurvedic system of medicine, in its true sense, continues.
• The Vidyapeeth in an effort to preserve special clinical practices and formulations possessed by Vaidyas started the one-year course of Certificate of RAV in 1998.
• Vidyapeeth presently runs two types of courses (M.R.A.V. & C.R.A.V.) under Guru Shishya Parampara, besides holding seminars/workshops, publishing literature and according recognition/felicitation to eminent scholars of Ayurveda.
• It appoints eminent Vaidyas as Gurus and selects Shishyas having formal qualifications for the two courses.
• A retired Professor of P.G. institution or a retired professor of Under-graduate College possessing P.G. or Ph.D. qualification with good published work or recognized research work and excellent academic experience can be appointed as Guru for MRAV course.
Vaidyas of repute traditionally trained with or without any formal qualification but having excellent clinical expertise in any special technique/treatment with Ayurvedic medicine, can be appointed as Guru for CRAV course.

So far 70 students have completed MRAV course in the subjects of Charaka Samhita, Susruta Samhita, Vagbhata, Panchakarma, Dravyaguna, Rasasastra and Shurira Rachana.

A total of 143 students of CRAV completed their course.

The following are some of the books published by RAV:

1. *Kshara Sutra therapy in fistula-in-ano and other ano-rectal disorders*
   Dr. S.K. Sharma, Prof. K.R. Sharma and Prof. Kulwant Singh

2. *Medicinal plants used in Ayurveda*
   Prof. K.C. Chunekar, Dr. Chote Lal Yadav and Dr. S.K. Sharma

3. *Plants of Bhavaprakasa* (English)
   Prof. K.C. Chunekar, Dr. N.P. Hota and Dr. S.K. Sharma

4. *Plants of Sarangadhara* (Hindi)
   Dr. S.K. Sharma Prof. K.C. Chunekar, and Dr. K.N. Poudel

5. *Ayurvedic concepts of Healthy Mother and Happy Child* (Eng.)
   Prof. P.V. Tiwari, Dr. R.D. Sharma, and Dr. S.K. Sharma

6. *Plants and other Drugs of Susruta Samhita Sapthadhya yi*
   Ach. Priya Vrat Sharma and Vd. Sanjay R. Talmale

7. *Susruta Samhita Sutrasthana with original text and Dalhana's commentary along with Hindi translation.*
   Translated by Prof. Sudarshana Shastri, Prof. K.R. Sharma & Prof. Jyotirmitra

---

**Research**

**Definition:**

Research is a search for knowledge through meticulous study or investigation or experimentation aimed at the invention and explanation of new knowledge.

It is of two types according to the philosophical approach.

1. Empirical or Experimental Research
2. Theoretical Research.
Functionally it can be divided into 2 types as follows.

1. Basic Research
2. Applied Research

- Health research mostly follows the empirical approach i.e. it is based more upon observation and experience than upon theory and abstraction.
- Basic Research is usually considered to involve a search for knowledge without a defined goal of utility or specific purpose.
- Applied Research is problem oriented and is directed towards a defined and purposeful end.
- Research programme requires careful planning, management and administration in its development and implementation.

Qualities of a research worker

1. A spirit of adventure in seeking new facts.
2. Determination and patience.
3. Integrity to one's self and to the value of the scientific method.
4. An analytical mind able to participate in critical thinking.
5. Receptivity to criticism at the professional level.
6. Openness of mind and the ability to see the significance of the unexpected results.
7. Objectivity.

Construction of a research proposal

1. Statement of problem
2. Relevance of the problem to national or local health activities.
3. Fields of application of the proposed research results.
4. Review of literature
5. Statement of objectives.
6. Variables
7. Statement of Research Hypothesis

1. Statement of problem should be precise and clear.
2. Relevance of the problem: Why the proposed research on the problem should be undertaken and the importance and its priority should be spelled out.
3. Fields of application: Describe how the results of the study will be useful in various fields.
4. Review of literature: A review of existing information is important when preparing a proposal because it helps further understanding of the problem and may lead to refining of the statement of the problem and also to find out what others have reported on the topic etc.

5. Statement of objectives: To eliminate unnecessary confusion – there are two types. (a) General (b) specific.
   a. General objective or research is what is to be accomplished by the research project and why.
      Ex: To determine whether or not Panchakarma in prevention should be incorporated into public health programmes.
   b. Specific objectives in detail.
      Ex: In evaluating Panchakarma in prevention, in determining the degree of protection that is attributable to that therapy in a study population by comparing the therapy performed and non-performed groups.

6. Variables: It is necessary to identify the variables that will be involved in the research project being designed.
   - Independent variables
   - Dependent variables
   - Confounding or intervening variables
   - Background variables. Ex: Sex, age, education, marital status and social status.

7. Statement of Research Hypothesis.
   - A hypothesis can be defined as a provisional prediction or explanation of the relationship between two or more variables.
   - The value of the scientific work depends heavily on the originality and logic with which hypothesis are formulated.
   - A hypothesis, in other words, translates the problem statement into a precise and definite prediction of expected outcomes.

8. Research Methodology
   A. Summary (Abstract): Give one or two paragraphs summarizing the salient points of the research design and should not contain more than 150 words.
   B. Research Design:
      1. Selection of Research strategies
         - Descriptive Strategies
         - Observational Analytical
- Experimental
- Operational Strategies.

2. Selection of Research Setting

3. Sampling
- Simple Random
- Systematic & Stratified Sampling.
- Cluster Sampling.
- Multiphase
- Multistage etc.

4. Use of controls: Control or comparison groups are used in scientific research in order to increase the validity of the conclusions.

5. Study instruments:

   Instruments tools by which data is collected. They include
   I. Questionnaire and interview schedules
   II. Other methods of observations
      - Medical examination.
      - Lab tests
      - Screening Procedures
      - Design of recording forms.

6. Short description of plans for collecting data

7. Short description of plans for analysis of data and interpretation of results: Statistical Analysis.

Classification of the patients according to the age & sex

<table>
<thead>
<tr>
<th>S.No</th>
<th>Age</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt; 10 years</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>12%</td>
</tr>
<tr>
<td>2</td>
<td>11-20 years</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>3</td>
<td>21-40 years</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>16%</td>
</tr>
<tr>
<td>4</td>
<td>41-60 years</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>32%</td>
</tr>
<tr>
<td>5</td>
<td>&gt; 60 years</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>20%</td>
</tr>
</tbody>
</table>

Method of presenting interpretation of the data

I. Tables
   II. Graphs
   III. Charts
I. Tables

1. Tables should be as simple as possible. Instead of drawing a single large table containing many details it is preferred to go for two or three small tables.

2. They should be self-explanatory.

II. Graphs

A graph is a method of showing quantitative data using a coordinate system.

- It should be simple and self-explanatory.

1. Arithmetic scale line graph

No. of arthritis cases admitted in the Govt. Ayurvedic Hospital, Vijayawada, for the year 2002-2003.

2. Semi logarithmic scale line graph
3. Histogram

It is a graph used only for presenting frequency distribution of quantitative data. There is no space between the cells of a Histogram.

4. Frequency Polygon

If it is desired to present more than one set of data in terms of frequency distribution, the data should be presented in the form of a frequency polygon. The frequency polygon is constructed from a histogram.

5. Scatter Diagram

It is a special type of graph useful in pointing out relationships or associations between two variables.

III. Charts

1. Bar Charts
2. Pictogram
3. Pie Chart
4. Special Purpose Charts
   a. Flow charts
   b. Organization charts
1. Bar Charts

The bar chart has cells, all of the same column width with spaces between the columns. This will be suited for presenting comparative data.

2. Pictogram

The pictogram is a variation on the bar chart using a series of small identifying symbols to present the data.

3. Pie Chart

The charts, which use wedge shaped portions of a circle for comparison.

4. Special Purpose Charts
   a. Flow Chart
   b. Organization Chart
Subject wise writing of books

Educational institutions in India in general are of two kinds.

1. *Guru Kula system* - Real Indian Tradition

In the olden days Ayurveda was taught in the traditional way. During those days the disciples learned the subject by studying *Samhitas*, where as in the modern method of education, subject wise method of teaching is being introduced. Hence there is an acute need of subject wise textbooks of Ayurveda, to study in the colleges.

Two decades back C.C.I.M. introduced the uniform syllabus and curriculum in the Ayurvedic colleges throughout India. As per C.C.I.M. syllabus many a number of books are written in different subjects of Ayurveda.

The trend of writing books on Ayurveda, subject wise started in the 20th century. Many a number of books were written in different languages by various authors, as follows:

**Sanskrit works**

| Kaviraj Yamini Bhushan Roy | 1. *Roga Vinischaya*  
| 2. *Salya Tantra*  
| 3. *Prasuti Sastra*  
| 4. *Visha Vignan* |
|---|---|
| Kaviraj Gananath Sen | 1. *Pratyaksha Shareer*  
<p>| 2. <em>Siddhanta Nidana</em> |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Book/Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harana Chandra Chakravarti</td>
<td>‘Susrutardha Sandipani’ Commentary on Susruta Samhita.</td>
</tr>
<tr>
<td>Yogendranath Sen</td>
<td>‘Charakopaskara’ Commentary on Charaka Samhita</td>
</tr>
<tr>
<td>Purushottama Shastri</td>
<td>Sareera Tatwa Darshana</td>
</tr>
<tr>
<td>Damodara Sharma Goud</td>
<td>Prasuti Vignana</td>
</tr>
<tr>
<td>P.S. Varier</td>
<td>Ayurvedanga Sareera Sangraha</td>
</tr>
<tr>
<td>Upendranath Das</td>
<td>1. Tridosha Vignan</td>
</tr>
<tr>
<td></td>
<td>2. Pancha Bhuta Vignan</td>
</tr>
</tbody>
</table>

**Ayurvedic Literature in Hindi**

<table>
<thead>
<tr>
<th>Name</th>
<th>Book/Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaya Dev Vidyalankar of Guru</td>
<td>Hindi Commentaries on</td>
</tr>
<tr>
<td>Kula Ayurveda Vidyalaya</td>
<td>1. Charaka Samhita</td>
</tr>
<tr>
<td></td>
<td>2. Susruta Samhita</td>
</tr>
<tr>
<td></td>
<td>3. Bhaishajya Ratnavali</td>
</tr>
<tr>
<td></td>
<td>Text with Hindi Translation on</td>
</tr>
<tr>
<td></td>
<td>1. Chikitsakalika</td>
</tr>
<tr>
<td></td>
<td>2. Rasa Hridaya Tantra</td>
</tr>
<tr>
<td></td>
<td>3. Chakradutta</td>
</tr>
<tr>
<td>Vidyadharalankar</td>
<td>Text with Hindi Translation on</td>
</tr>
<tr>
<td></td>
<td>1. Yoga Ratnakara</td>
</tr>
<tr>
<td></td>
<td>2. Rasendra Sara Sangraha</td>
</tr>
<tr>
<td></td>
<td>3. Rasa Tarangini etc.</td>
</tr>
<tr>
<td>Ranajit Roy Desai</td>
<td>1. Sareera Kriya Vignan</td>
</tr>
<tr>
<td></td>
<td>2. Ayurvediya Padardha Vignan.</td>
</tr>
<tr>
<td></td>
<td>3. Ayurveda Hitopadesa.</td>
</tr>
<tr>
<td></td>
<td>4. Nidana Chikitsa Hastamalaka</td>
</tr>
<tr>
<td>Acharya Yadavji Trikamji</td>
<td>1. Rasamrita</td>
</tr>
<tr>
<td></td>
<td>2. Siddha Yoga Sangraha</td>
</tr>
<tr>
<td></td>
<td>3. Dravyaguna Vignan (2 parts)</td>
</tr>
<tr>
<td></td>
<td>4. Ayurvediya Vyadhi Vignan</td>
</tr>
<tr>
<td>Atridev Vidyalankar</td>
<td>Hindi commentaries on</td>
</tr>
<tr>
<td></td>
<td>1. Charaka Samhita</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Author</th>
<th>Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramesh Dwivedi</td>
<td>Monographs on single drugs such as Haritaki, Amalaki, Vibhitaki, Sunthi, Pippali, Maricha, Lasuna etc.</td>
</tr>
<tr>
<td>Ramnath Dwivedi</td>
<td>'Sousruti', especially for Salya and Salakya</td>
</tr>
<tr>
<td>Ambikadatta Shastry</td>
<td>Text with Hindi Translation on Bhavaprakasa, Bhaishajya Ratnavali, Rasendra Sangraha</td>
</tr>
<tr>
<td>Rajeswara Dutta Shastry</td>
<td>Swasthavritta Samucchaya</td>
</tr>
<tr>
<td>Yadunandan Upadhyaya</td>
<td>Addl. Commentary for Vidyodhini on Madhavanidana by correlating with modern system of medicine.</td>
</tr>
</tbody>
</table>
| Viswanath Dwivedi               | 1. Bhavaprakasa Hindi translation  
2. Taila Sangraha  
3. Yoga Sangraha               |
2. Aoupasargika Roga (3 vol). |
Subject wise writing of books and works of different subjects

CCIM introduced uniform syllabus and curriculum in Ayurvedic Colleges throughout in India.

Name of the Undergraduate course in Ayurveda : B.A.M.S.
Duration, 3 semesters of 1 ½ year each : 4 ½ years
Compulsory House-Surgeon ship : 1 year

1<sup>st</sup> Semester

<table>
<thead>
<tr>
<th>S.No</th>
<th>Subject</th>
<th>Papers</th>
<th>Theory</th>
<th>Viva</th>
<th>Practical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sanskrit</td>
<td>2</td>
<td>200</td>
<td>50</td>
<td>-</td>
<td>250</td>
</tr>
<tr>
<td>2.</td>
<td>Ashtanga Hridaya (Sutra Sthana)</td>
<td>1</td>
<td>100</td>
<td>50</td>
<td>-</td>
<td>150</td>
</tr>
<tr>
<td>3.</td>
<td>Ayurveda Ithihas</td>
<td>1</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>4.</td>
<td>Padardha Vignan</td>
<td>2</td>
<td>200</td>
<td>50</td>
<td>-</td>
<td>250</td>
</tr>
<tr>
<td>5.</td>
<td>Rachana Shareer</td>
<td>2</td>
<td>200</td>
<td>-</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>6.</td>
<td>Kriya Shareer</td>
<td>2</td>
<td>200</td>
<td>-</td>
<td>200</td>
<td>400</td>
</tr>
</tbody>
</table>

2<sup>nd</sup> Semester

<table>
<thead>
<tr>
<th>S.No</th>
<th>Subject</th>
<th>Papers</th>
<th>Theory</th>
<th>Viva</th>
<th>Practical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Swasthavritta</td>
<td>2</td>
<td>200</td>
<td>100</td>
<td>-</td>
<td>300</td>
</tr>
<tr>
<td>2.</td>
<td>Agada Tantra</td>
<td>1</td>
<td>100</td>
<td>-</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>3.</td>
<td>Dravyaguna</td>
<td>2</td>
<td>200</td>
<td>-</td>
<td>200</td>
<td>400</td>
</tr>
</tbody>
</table>
3rd Semester

<table>
<thead>
<tr>
<th>S.No</th>
<th>Subject</th>
<th>Papers</th>
<th>Theory</th>
<th>Viva</th>
<th>Practical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Charaka Sam. (U)</td>
<td>1</td>
<td>100</td>
<td>50</td>
<td>-</td>
<td>150</td>
</tr>
<tr>
<td>2.</td>
<td>Kayachikitsa</td>
<td>4</td>
<td>400</td>
<td>-</td>
<td>200</td>
<td>600</td>
</tr>
<tr>
<td>3.</td>
<td>Salya Tantra</td>
<td>2</td>
<td>200</td>
<td>-</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>4.</td>
<td>Salakya Tantra</td>
<td>2</td>
<td>200</td>
<td>-</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>5.</td>
<td>Prasuti Striroga</td>
<td>2</td>
<td>200</td>
<td>-</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>6.</td>
<td>Kaumarbhritya</td>
<td>1</td>
<td>100</td>
<td>-</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

1. Sanskrit

a. *Laghu Siddhanta Koumudi* of Varadaraja – Text with English version by Dr. Ghanashyam Dora
b. *Navina Anuvada Chandrika* by Ramakantha Tripathi
c. *Vaidyakiya Subhashita Sahitya* compiled by B.G. Ghanekar English translation by M.N. Joshi
d. *Ayurvediya Hitopadesa* by Ranajit Roy Desai
e. *Pancha Tantra - Aparikshita Karakam* with Sanskrit – Hindi Translation by Ganga Sagar Ray
f. *Pancha Tantra - Aparikshita Karakam* with Sanskrit – English Translation by Prof. Gyanendra Pandya
g. *Sanskritam for B.A.M.S.* by Dr. M. Rama Sundara Rao.

2. Ashtanga Hridaya (Sutra Sthana)

a. ‘*Ashtanga Hridaya’ Sutra Sthana* Text with Hindi Commentary by Pt. Kasinath Shastri
c. *Ashtanga Hridaya Sutra Sthana* Text with English Translation by Dr. R. Vidyanath
3. Ayurveda Itihhas

a. *Ayurved Ka Brihat Itihhas* by Vd. Atridev Vidyalankar  
b. *Ayurved Ka Vaignanik Itihhas* by Acharya Priya Vrat Sharma  
c. *Ayurved Ka Pramanik Itihhas* by Prof. Bhagavat Ram Gupta  
d. *A Hand Book of History of Ayurved* (English) by R. Vidyanath & K. Nishteswar  
e. *Illustrated History of Ayurveda* by Dr. B. Rama Rao & Dr. J.L.N. Shastri

4. Padardha Vignan

a. *Padardha Vignan* by Acharya Ramaraksha Pathak  
b. *Padardha Vignan* by B.K. Dwivedi  
c. *Ayurvedopayogi Padardha Vignan* by Acharya Niranjanadev Ayurvedalankar  
d. *Ayurvediya Padardha Vignan* by Dr. (Smt) Shailaja Srivastava  
e. *Padardha Vignan* (English) by Dr. K.V.L. Narasimhacharyulu  
f. *Padardha Vignan made easy* (English) by Dr. P. Gayatri Devi

5. Rachana Shareer

a. *Pratyaksha Shareer* by Kaviraj Gananath Sen  
b. *Sharira Rachana Vignan* by Dr. D.G. Thatte  
c. *Rachana Sharir* by Dr. K.K. Pandey  
d. *Sareera Rachana Vignan* by Dr. M. Rama Sundara Rao

6. Kriya Shareer

a. *Ayurvediya Kriya Shareer* by Vd. Ranajit Roy Desai  
b. *Abhinava Shareer Kriya Vignan* by P.V. Sharma  
c. *Shareer Kriya Vignan* (1 & 2 Parts) by Prof. S.C. Dhyani  
d. *Ayurvediya Kriya Shareer Vignan* by Shivkumar Sharma Goud  
e. *Kriya Shareer* by K.K. Pandey  
f. *Kriya Shareer* (English) by Dr. M. Rama Sundara Rao  
g. *Shareer Kriya Vignan* (English) by Dr. Nandini Dilip Dhargelkar

7. Swasthavritta

a. *Swasthavritta Samucchaya* by Pt. Rajeswara Datta Shastri
b. Swasthya Vignan by B.G. Ghanekar  
c. Abhinava Swasthavritta by Pt. Ambica Datta Shastri  
d. Ayurvediya Swasthavrittam by Vd. Dattatreya Shastri

8. Agada Tantra & Vyavahara Ayurveda  

a. Agada Tantra by Yamini Bhushan Roy  
b. Agada Tantra by Dr. Ramnath Dwivedi  
c. Agada Tantra By Dr. Ayodhya Prasad Achal  
d. Visha Vignan Evum Agada Tantra by Charuchandra Pathak  
e. Vyavaharayurveda Vignan by Vd. Indramohan Jha  
f. Agada Tantra (Illustrated - English) by Dr. U.R. Shekhar Namburi  
g. Agada Tantra (English) by Dr. K. Nishteswar & Dr. A. Anil Kumar

9. Dravyaguna  

a. Dravyaguna Vignan by P.V. Sharma  
b. Dravyaguna Vignan by Gyanendra Pandya  
c. Dravyaguna Vignan by Yadavji Trikamji Acharya  
d. A Text Book of Dravyaguna (English) by Dr. K. Nishteswar  
e. Dravyaguna Vignan (English) by Dr. J.L.N. Shastri

10. Rasasastra & Bhaishajya Kalpana  

a. Ayurvediya Rasasastra by Prof. Siddhinandan Mishra  
b. Ayurvediya Rasasastra by C.B. Jha  
c. Ayurvediya Rasasastra by Dr. Srikanth Pandya  
d. Ayurvediya Rasasastra (English) by K. Nishteswar & R.Vidyanath  
e. Rasasastra by (English) Prof Damodar Joshi  
f. Bhaishajya Kalpana by Prof. Siddhinandan Mishra  
g. Bhaishajya Kalpana Vignan by Dr. Ambica Datta Shastri  
h. Bhaishajya Kalpana Vignan (English) by Dr. K. Ramachandra Reddy
11. *Roga Vignana & Vikrita Vignana*
   - *Roga Vignan Tadha Vikrita Vignan* by Radhavallabha Sati
   - *Roga Vignana & Vikrita Vignana* (English) by Manoj Sankaranarayana

12. *Charaka Samhita (Purvardha)*
13. *Charaka Samhita (Uttarardha)*
   - *Charaka Samhita* Vidyodhini Hindi Commentary & Notes by Pt. Kasinath Shastri
   - *Charaka Samhita* with Hindi Commentary by Brahmanada Tripathi
   - *Charaka Samhita* Text with English translation by R.K. Sharma & Bhagawan Das
   - *Charaka Samhita* by P.V. Sharma

14. *Kayachikitsa*
   - *Kayachikitsa* by Dr. Ganga Sahay Pandya
   - *Kayachikitsa* by Acharya Rama Raksha Pathak
   - *Kayachikitsa* by Prof. Banvarilal Goud
   - *Kayachikitsa* by Prof Shiva Charan Dhyani
   - *Kayachikitsa* by Vd. Tarasankara Mishra
   - *Kayachikitsa* by H.S. Kasture
   - *Kayachikitsa* by Dr. S. Suresh Babu

15. *Salya Tantra*
   - *Salya Vignan* by Dr. K.K. Thakaral
   - *Salya Vignana* by Dr. Surendra Kumar Sharma
   - *Salya Tantra Samucchaya* by Vd. Vamdev Sharma
   - *Salya Tantra Vignanam* (English) by Dr. M. Rama Sundara Rao
   - *A Text book on Salya Tantra* by Dr. Rajneesh V. Giri

16. *Salakya Tantra*
   - *Salakya Vignan* by R.C. Chaudhari
   - *The Salakya Tantra* by Dr. D. Laxmanachari
17. Prasuti & Striroga

a. Ayurvediya Prasuti Tantra Evam Striroga by Prof. (Kum) P.V. Tiwari
b. Prasuti Vignan by Acharya Ramnath Dwivedi
c. Striroga Vignan by Acharya Ramnath Dwivedi
d. Prasuti Vignan by A.P. Achal
e. Striroga Vignan by A.P. Achal
f. Striroga Vignan by R.P. Bhatnagar

18. Kaumarbhritiya

a. Kaumarbhritiya by Dr. Raghuvir Prasad Trivedi
b. Kaumarbhritiya by A.P. Achal
c. Kaumarbhritiya in Ayurveda by Prof. (Kum) P.V. Tiwari
d. Kaumarbhritiya (English) by Dr. V.L.N. Shastry

Conferences, Seminars & Meetings

There are five chapters in Charaka Samhita in which proceedings of seminars are recorded and two types of debates are mentioned in the 8th chapter of Vimana Sthana.

1. Sandhaya Sambhasha or friendly debate which is participated with a view to ascertain the truth

2. Vigrihya Sambhasha or a debate conducted with the whole purpose of defeating the opponent.

In the 11th chapter of Siddhi Sthana there is a record of discussions about the best drugs to be used for Asthapanam Vasti. Each one of the chief participants viz. Sounaka, Vamaka, Gouthama, Badisa, Kapya and Bhadrasounaka mention one or the other drug as the best. But Lord Atreya, the chairman of the seminar, states that each one of the drug mentioned by the chief participants is effective only in certain specified conditions and so none of them could be considered as the best in all conditions. He, thereafter asserts that Madanaphala is the best drug which can be used for Vasti with adequate margin of safety in all possible conditions.

Similar debates are mentioned in Sutra Sthana 10th, 12th, 25th & 26th Chapters. In these debates, the Chairman doesn’t only disagree with the views expressed by the participants, but also reprimands the participants with regard to the way of presentation of facts.
The word *seminar* is derived from the Latin word *seminarium*, meaning “seed plot.”

A **seminar** is, generally, a form of academic instruction, either at a university or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone present is requested to actively participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. Normally, participants must not be beginners in the field under discussion.

The idea behind the seminar system is to familiarize students more extensively with the methodology of their chosen subject and also to allow them to interact with examples of the practical problems that always crop up during research work. It is essentially a place where assigned readings are discussed, questions can be raised and debates conducted. It is relatively informal, at least compared to the lecture system of academic instruction.

In some European universities, a *seminar* may be a large lecture course, especially when conducted by a renowned thinker (regardless of the size of the audience or the scope of student participation in discussion).

An **academic conference** is a conference for researchers (not always academics) to present and discuss their work. Together with academic or scientific journals, conferences provide an important channel for exchange of information between researchers.

Generally, work is presented in the form of short, concise presentations lasting about 10 to 30 minutes, usually including discussion. The work may be bundled in written form as academic papers and published as the conference proceedings. Often there are one or more keynote speakers (usually scholars of some standing), presenting a lecture that lasts an hour or so, and which is likely to be advertised before the conference. Panel discussions, roundtables on various issues, workshops may be part of the conference, the latter ones particularly if the conference is related to the performing arts.

Prospective presenters are usually asked to submit a short abstract of their presentation, which will be reviewed before the presentation is accepted for the meeting. Some disciplines require presenters to submit a paper of about 12-15 pages, which is peer reviewed by members of the program committee or referees chosen by them.
In some disciplines, such as English and other languages, it is common for presenters to read from a prepared script. In other disciplines such as the sciences, presenters usually base their talk around a visual presentation that displays key figures and research results.

A large meeting will usually be called a conference, while a smaller is termed a workshop. They might be single track or multiple track, where the former has only one session at a time, while a multiple track meeting has several parallel sessions with speakers in separate rooms speaking at the same time.

Depending on the theme of the conference, social or entertainment activities may also be offered; if it’s a large enough conference, academic publishing houses may set up displays offering books at a discount. At larger conferences, business meetings for learned societies or interest groups might also take place.

Academic conferences fall into three categories:

- The themed conference, small conferences organized around a particular topic;
- The general conference, a conference with a wider focus, with sessions on a wide variety of topics. These conferences are often organized by regional, national, or international learned societies, and held annually or on some other regular basis.
- The professional conference, large conferences not limited to academics, but with academically-related issues

Guidelines for Writing Research Papers

General style

Specific editorial requirements for submission of a manuscript will always supersede instructions in these general guidelines.

To make a paper readable

- Print or type using a 12 point standard font, such as Times, Geneva, Bookman, Helvetica, etc.
- Text should be double spaced on 8 1/2" x 11" paper with 1 inch margins, single sided
- Number pages consecutively
- Start each new section on a new page
- Adhere to recommended page limits

Mistakes to avoid

- Placing a heading at the bottom of a page with the following text on the next page (insert a page break!)
• Dividing a table or figure - confine each figure/table to a single page
• Submitting a paper with pages out of order

In all sections of your paper
• Use normal prose including articles ("a", "the," etc.)
• Stay focused on the research topic of the paper
• Use paragraphs to separate each important point (except for the abstract)
• Indent the first line of each paragraph
• Present your points in logical order
• Use present tense to report well accepted facts - for example, 'the grass is green'
• Use past tense to describe specific results - for example, 'When weed killer was applied, the grass was brown'
• Avoid informal wording, don't address the reader directly, and don't use jargon, slang terms, or superlatives
• Avoid use of surplus pictures - include only those figures necessary to presenting results

Title Page
Select an informative title as illustrated in the examples in your writing portfolio example package. Include the name and address of all authors, and date submitted.

Abstract
The summary should be two hundred words or less. An abstract is a concise single paragraph summary of completed work or work in progress. In a minute or less a reader can learn the rationale behind the study, general approach to the problem, pertinent results, and important conclusions or new questions.

Style:
• Single paragraph, and concise
• As a summary of work done, it is always written in past tense
• An abstract should stand on its own, and not refer to any other part of the paper such as a figure or table
• Focus on summarizing results - limit background information to a sentence or two, if absolutely necessary
• What you report in an abstract must be consistent with what you reported in the paper
• Correct spelling, clarity of sentences and phrases, and proper reporting of quantities (proper units, significant figures) are just as important in an abstract as they are anywhere else
Introduction

Your introductions should not exceed two pages (double spaced, typed). The purpose of an introduction is to acquaint the reader with the rationale behind the work, with the intention of defending it. It places your work in a theoretical context, and enables the reader to understand and appreciate your objectives.

- Describe the importance (significance) of the study - why was this worth doing in the first place? Provide a broad context.
- Defend the model - why did you use this particular organism or system? What are its advantages? You might comment on its suitability from a theoretical point of view as well as indicate practical reasons for using it.
- Provide a rationale. State your specific hypothesis and describe the reasoning that led you to select them.
- Very briefly describe the experimental design and how it accomplished the stated objectives.

Materials and Methods

There is no specific page limit, but a key concept is to keep this section as concise as you possibly can. People will want to read this material selectively. The reader may only be interested in one formula or part of a procedure. Materials and methods may be reported under separate subheadings within this section or can be incorporated together.

This should be the easiest section to write, but many students misunderstand the purpose. The objective is to document all specialized materials and general procedures, so that another individual may use some or all of the methods in another study or judge the scientific merit of your work. It is not to be a step by step description of everything you did, nor is a methods section a set of instructions. In particular, it is not supposed to tell a story. By the way, your notebook should contain all of the information that you need for this section.

What to avoid

- Materials and methods are not a set of instructions.
- Omit all explanatory information and background - save it for the discussion.
- Omit information that is irrelevant to a third party

Results

The page length of this section is set by the amount and types of data to be reported. Continue to be concise, using figures and tables, if appropriate, to present results most effectively.
The purpose of a results section is to present and illustrate your findings. Make this section a completely objective report of the results, and save all interpretation for the discussion.

Important: You must clearly distinguish material that would normally be included in a research article from any raw data or other appendix material that would not be published. In fact, such material should not be submitted at all unless requested by the instructor.

Content
- Summarize your findings in text and illustrate them, if appropriate, with figures and tables.
- In text, describe each of your results, pointing the reader to observations that are most relevant.
- Provide a context, such as by describing the question that was addressed by making a particular observation.
- Describe results of control experiments and include observations that are not presented in a formal figure or table, if appropriate.
- Analyze your data, then prepare the analyzed (converted) data in the form of a figure (graph), table, or in text form.

What to avoid
- Do not discuss or interpret your results, report background information, or attempt to explain anything.
- Never include raw data or intermediate calculations in a research paper.
- Do not present the same data more than once.
- Text should complement any figures or tables, not repeat the same information.
- Please do not confuse figures with tables - there is a difference.

Style
- As always, use past tense when you refer to your results, and put everything in a logical order.
- In text, refer to each figure as “figure 1,” “figure 2,” etc.; number your tables as well (see the reference text for details)
- Place figures and tables, properly numbered, in order at the end of the report (clearly distinguish them from any other material such as raw data, standard curves, etc.)
- If you prefer, you may place your figures and tables appropriately within the text of your results section.
Discussion

The objective here is to provide an interpretation of your results and support for all of your conclusions, using evidence from your experiment and generally accepted knowledge, if appropriate. The significance of findings should be clearly described.

Interpret your data in the discussion in appropriate depth. This means that when you explain a phenomenon you must describe mechanisms that may account for the observation. If your results differ from your expectations, explain why that may have happened. If your results agree, then describe the theory that the evidence supported. It is never appropriate to simply state that the data agreed with expectations, and let it drop at that.

- Decide if each hypothesis is supported, rejected, or if you cannot make a decision with confidence. Do not simply dismiss a study or part of a study as "inconclusive."
- Research papers are not accepted if the work is incomplete. Draw what conclusions you can based upon the results that you have, and treat the study as a finished work
- You may suggest future directions, such as how the experiment might be modified to accomplish another objective.
- Explain all of your observations as much as possible, focusing on mechanisms.
- Decide if the experimental design adequately addressed the hypothesis, and whether or not it was properly controlled.
- Try to offer alternative explanations if reasonable alternatives exist.
- One experiment will not answer an overall question, so keeping the big pic-
ture in mind, where do you go next? The best studies open up new avenues of research. What questions remain?
- Recommendations for specific papers will provide additional suggestions

The biggest mistake that students make in discussions is to present a superficial interpretation that more or less re-states the results. It is necessary to suggest why results came out as they did, focusing on the mechanisms behind the observations.

**Literature Cited (Bibliography)**

List all literature cited in your paper, in alphabetical order, by first author. In a proper research paper, only primary literature is used (original research articles authored by the original investigators). Be cautious about using web sites as references - anyone can put just about anything on a web site, and you have no sure way of knowing if it is truth or fiction. If you are citing an on line journal, use the journal citation (name, volume, year, page numbers). Some of your papers may not require references, and if that is the case simply state that “no references were consulted.”

*****
17th Chapter

Ayurvedic Journals and Magazines

In the present era media plays an important role for obtaining information regarding the day to day progress and development of various fields from different parts of the world. Magazines, periodicals or serials are publications, generally published on a regular schedule, containing a variety of articles, generally financed by advertising. A magazine will usually have a date on the cover which often is later than the date it is actually published. Current magazines are generally available at bookstores and newsstands, while subscribers can receive them in the mail. Many magazines also offer a ‘back issue’ service for previously published editions.

The Gentleman's Magazine, first published in 1731, is considered to have been the first general-interest magazine. The oldest consumer magazine still in print is The Scots Magazine, which was first published in 1739, though multiple changes in ownership and gaps in publication totaling over 90 years weaken that claim. Lloyd’s List was founded in Edward Lloyd’s London coffee shop in 1734; it is still published as a daily business newspaper.

Although similar to a magazine in some respects, an academic periodical featuring scholarly articles written in a more specialist register is usually called an “academic journal”. Such publications typically carry little or no advertising. Articles are scrutinized by referees or a board of esteemed academics in the subject area. They contain original research, review articles and book reviews.

A medical journal is a scientific journal devoted to the field of medicine. In the closing years of the 20th century most medical journals had a Web presence to increase their accessibility. That means Magazines are also published on the internet. Many magazines are available
both on the internet and in hard copy, usually in different versions, though some are only available in hard copy or only via the internet: the latter are known as online magazines.

Though television telecasts the live incidents, it is inferior to publications, as it has no replays. Hence journals and magazines play the dominant role in spreading all sorts of information to the generations of present and future. Similarly Ayurvedic Journals and Magazine also are useful to the society in the following ways.

- To know the development and progress of the system of Ayurvedic Medicine.
- To get the knowledge of practical experiences of popular Ayurvedic physicians, scientists and research scholars.
- To know the progress of the research work conducted by different scholars of various places.
- To continue the work done by other scientists.
- To exchange the views and thoughts.
- To bridge the gap among Ayurvedic institutions, researchers and manufacturers.
- To clarify the doubts that arise while conducting research work and also to study the difficult terms and ambiguous words of ancient Ayurvedic classics.
- By studying the journals and magazines regularly, one can acquaint oneself with the latest developments and techniques and adopt them in practice.
- Obtaining the knowledge pertaining to their profession will also benefit Young doctors and research workers.

These journals and magazines are being published in the following ways

i. Annual
ii. Half yearly
iii. Quarterly
iv. Bimonthly
v. Monthly
vi. Fortnightly
vii. Weekly etc.

The endeavor of publication of Ayurvedic journals and magazines has been taken up by the

a) Individuals
b) Institutions -
   1. Educational
   2. Pharmaceutical
c) Organizations –
   1. Govt. organizations
   2. Non- Govt. organizations

*Arogya Sudhanidhi:* This is the first monthly journal of Ayurveda published by Raja Vaidya Pt. Narayana Sharma from Calcutta in the year 1901.
Arogya Sudhakara: During 1901 Pt. Muralidhar started another monthly magazine named ‘Arogya Sudhakara’ from Farukh Nagar.

Sadvida Kaustubha: In the year 1905, publication of ‘Sadvida Kaustubha’ a monthly journal of Ayurveda was started by Sri Sankardaji Shastri Pade and was continued till his death i.e. up to 1909.

Sudha Nidhi: In the year 1907, a monthly Ayurvedic journal named ‘Sudha Nidhi’ was started by Raja Vaidya Vaidyanatha Sharma from Prayaga, and due to certain unavoidable circumstances it was not continued after a few months. Later in the year 1909 the same journal was started publishing on the same name by Pt. Jagannath Shukla from Prayaga and it was continued for a longer period i.e. more than 50 years. This may be the most successfully published journal for such a longer period by an individual.

Dhanvantari: Pt. D. Gopalacharyulu started publishing a monthly journal in Telugu and Tamil by name ‘Dhanvantari’ in the year 1919 from Madras. Due to the sudden demise of Panditji in the year 1920, Dr. Achanta Lakshmipati took over the responsibility of publishing that journal till 1944. Later on their disciple, Sri Veturi Sankara Shastry continued to publish the journal for a longer period.

Anubhuta Yogamala: It is an Ayurvedic Journal started publishing by Vaidyaraj Visveswara Dayalu from Baralokpur (Itava) in the year 1923. Initially started as a fortnightly and later on converted as monthly.

Ayurveda Vignan: It was started by Punjab Ayurvedic Pharmacy, Amritsar under the editorial ship of Dr. Swami Harisarananand in the year 1927.

Swasthya: It is a monthly journal started publishing since 1953 under the editorial ship of Dr. Baldev Sharma from Ajmir by Krishna Gopal Ayurved Bhavan. Currently Pt. Brahmananda Tripathi is the editor.

Vaidya Sammelan Patrika: It is a monthly journal started publishing since 1928 under the editorial ship of Yadavji Trikamji Acharya. Later on Pt. Jagannath Prasad Sukla and Pt. Jagannath Sharma Vajpayee were the editors of that journal.

Sri Chikitsaka: Smt. Yasoda Devi of Allahabad started an Ayurvedic journal exclusively covering the topics of female as well as children problems. The journal entitled Sri Chikitsaka was started publishing since 1923 and run it successfully until 1940.

Buti Darpan: It is an Ayurvedic Journal started publishing by Shri Saraswati Prasad Tripathi from Lahore in the year 1924. Rupa Lal Vaisya was the sub editor for that journal, in which description of herbs along with photographs were used to publish.

Swasthya Sandesh: Pt. Kapildev Tripathi established a publication division at Patna in the year 1941. From where under the editorial ship of Pt. Sukdev Sharma
started publishing an Ayurvedic monthly Journal entitled Swasthya Sandesh. At least 10 years it was published successfully.

Nagarjuna: This is one of the best monthly journals of Ayurveda started by Sri Lakshmikanth Pandya in English language and published from Calcutta in the year 1947.

Pranacharya: It was started publishing from Vijayghad (Alighad) by Vd. Bankelal in the year 1948. After some time it was stopped. Vaidya Ramnarayanji also published a monthly journal in the name of ‘Pranacharya’ in the year 1928 from Kanpur, for some time.

Ayurved: Pt. Govardhana Sharma Changani and his son Sivkaran Sharma Changani started to publish a monthly journal named ‘Ayurved’ from Nagpur in the year 1952. Later on it turned into a weekly.

Ancient Science of Life: It is started in the year 1980 as a quarterly journal of Ayurveda. It is being published by A.V.R. Educational foundation of Ayurveda, Coimbatore. This journal is publishing in English, full length of original papers and reviews on Ayurveda, allied disciplines and different forms of Traditional Medicine. It provides inter disciplinary forum for all aspects of Medicinal plants. Special attention is paid to theory and history of medicine, clinical studies, Ethno medicine and all aspects of traditional pharmacy.

Ayu: It is a monthly journal of Ayurveda and is being published by Gujarat Ayurveda University, Jamnagar.

Vagbhata: It is also a monthly journal that is being published by National Ayurvedic Academy, Trivandrum since 1982.

Journal of Indian Medicine: This is being published in English since 1966 by the Institute of Medical Sciences, Benaras Hindu University, Varanasi. In the beginning it was published as a half yearly journal. Later on it has been converted into quarterly.

Arya Vaidyan: Arya Vaidya Sala, Kottakkal, has been publishing it since 1986 as a quarterly journal. ‘Arya Vaidyan’ is intended to encourage scientific writing among intellectuals, scholars, academicians, practitioners and students of Ayurveda, on allied subjects like Siddha, Unani and Modern Medicine etc.

Ayurved Vikas: It has been started in the year 1952 by Dabur India Ltd. Calcutta, Delhi and now from Ghaziabad, U.P. It is being published both in English and Hindi as bimonthly and monthly respectively.

Sachitra Ayurveda: It is a monthly journal of Ayurveda and health, which is being published by Sri Baidyanath Ayurved Bhavan Ltd. Calcutta since 1948. Now it is coming from Patna. Some of the articles are being published in English also. They are
encouraging the authors by giving remuneration and also awarding prize money to the Best articles, essay writing and Theses works.

**Ayur Wave:** It is a monthly journal that has been published since 1999 by Prasanthi Ayurvedic Center, Bangalore.

**Arogya Darpan:** This is being published by Unzha Pharmaceuticals from Ahmedabad. The chief editor of this journal is Vaidya Gopinath Gupta. This is also giving valuable information to the Ayurvedic community.

**Manphar:** It is a monthly journal of Ayurveda being published by Manphar Pharmaceuticals, Vijayawada.

**Indian Medicine:** It is a monthly Magazine that is being published since a long time by IMIS Pharmaceuticals, Vijayawada. Journal of Indian Medicine was started in the year 1989 under the editorial-ship of Dr. D.L. Narayana & Dr. K. Nishteswar.

**Rheumatism:** It is a monthly journal started in the year 1964 by M.M.L. Center for Rheumatic diseases, New Delhi. It is devoted to publish well documented clinical as well as conceptual studies about Arthritis.

**Indian Journal of Traditional Knowledge:** It is a Quarterly journal started to publish since July 2002 by National Institute of Science Communication and Information Resources, (NISCAIR) CSIR- New Delhi. The journal publishes original research papers, review articles, short communications etc. concerned with the observation and experimental investigation on the materials from plants, animals and minerals used in Ayurveda, Unani and Siddha etc.

**Journal of Indian Systems of Medicine & Homeopathy:** It is a quarterly journal started in the year 1999 by the office of the Commissioner of AYUSH Dept. Hyderabad. Govt. of A.P.

**Journal of Research in Ayurveda and Siddha:** It is quarterly journal started in the year 1979 by Central Council for Research in Ayurveda and Siddha (CCRAS) from New Delhi. The findings of Research Programs pertaining to Clinical, Drug Research and Literary aspects are being published in this journal.

**Vaidya Kala:** It is a Telugu monthly journal started publishing from Vijayawada since 1937 by Sri Ram Mohana Ayurveda Dharma Vaidya Sala Sangham.

**Deerghayu:** It is a quarterly International journal of Indian Medicine started in the year 1983 by the Institute of Indian Medicine, Pune.

**Ayurveda Samachar:** It is a monthly journal published by D.K. Sandu Bros. from Bombay since 1977.

**Ayurveda:** It is monthly journal publishing since 1954 in Telugu by Andhra Ayurveda Parishad from Vijayawada.
Sanjeevani Medical Times: It is a North India’s leading medical monthly newspaper, published by Sanjeevani house, New Delhi.

Health: It is a monthly journal devoted to healthful living started publishing since 1923, by professional publications (p) Ltd. Madurai, Tamilnadu.

AAMRA: It is a quarterly journal of Allied Ayurvedic Medical Research Abstracts publishing since 1997 by Sri Venkata Rama Publications, Tirupati, A.P. It is publishing titles of Theses submitted at P.G. Institutions and documentation of Researches conducted at various Ayurvedic Institutes.

Journal of Ayurvedic Maha Sammelan: This was started publishing in the year 1913 by Akhila Bharata Varshiya Ayurveda Vaidya Maha Sammelan. Popular Ayurvedic physicians like Pt. Shiva Sharma, Yadavji Trikamji and Pt. Jagannath Sharmaji etc. were the editors of this journal for various periods. In this journal they used to publish the scientific papers along with the news bulletin of Ayurveda Maha Mandali, Nikhila Bharata Ayurveda Vidyapeeth etc. Without any break it is being published since its establishment.

I. J. M. R.:

- The Indian Journal of Medical Research (IJMR) is one of the oldest medical journals in India being published continuously since 1913.
- It was issued as quarterly until 1957, as bimonthly until 1963 and was made monthly in 1964. The Journal is available full text free on the website from 2004.
- In the Platinum Jubilee year of the Journal, i.e. 1989 a decision was taken to bifurcate the journal on an experimental basis and to introduce several new features.
- Since January 1989 the journal was published in two Sections, viz.,
  - Section A: Infectious Diseases and
  - Section B: Biomedical Research other than Infectious Diseases.
- The features introduced include publication of review articles on topics of national interest and relevance and also reprinting of path-breaking researches which are considered as major national/ international landmarks in medical research as IJMR Classics.

Some of these include
- U.N. Brahmachari’s original research on the chemotherapy of Kala-azar,
- R.N. Chopra’s research on medicinal plants
- C.G. Pandit’s classical work on endemic fluorosis and
- Classical studies on the effects of low proteins on intermediary metabolism of hepatic ferritin by S.G. Srikantia.

**The Journal of Research and Education in Indian Medicine:** It is an International Quarterly Journal publishing since 1994 from Benaras Hindu University, Varanasi under the editorialship of Prof. R.H. Singh.

**Journal of Ayurveda:** It is a Quarterly Journal publishing since Jan. 2007 from National Institute of Ayurveda, Jaipur under the editorialship of Prof. Mahesh Chandra Sharma. Editorial board is inviting the contributions in the form of Research Papers, Short Communications, Correspondence, Images in Practice.

**DAV’s Ayurveda for Holistic Health:** It is Bimonthly Health Magazine Published by Dayanand Ayurveda College, Jalandhar since 2007.

**Chikitsa Pallava:** It is a Monthly Journal of Ayurveda publishing since 1998. It is being published by AYUSH Medical Association, Panegara, Banda, U.P. During its 10th Anniversary, a special issue on *Ayurvedic treatment for Cancer* is being published in the month of Jan’2008 under the editorialship of Dr. Madan Gopal Vajpayee.

**Natural Product Radiance:** It is a Bimonthly Journal on Natural Products and is being published since 2002 by National Institute of Science Communication and Information Resources (NISCAIR), CSIR – New Delhi. Currently Dr. (Mrs.) Sunita Garg is the editor in chief for this journal. Medicinal and Aromatic Plants Abstracts and Indian Science Abstracts are also available in this journal.

**Ayurved Line:** It is a leading Quarterly Journal published from Bangalore contains the latest research articles, wide range of coverage all about Ayurveda today and Ayurvedic Drug Index, which will be very much useful for general practitioners as well as research scholars. The editor in chief is Brahmanand Naik and is printed and published by Dr. Seetharam Prasad.

**Liv Line:** It is a Quarterly Journal started publishing since 2007 by Himalaya Drug Company, Bangalore and the editor is Dr. S. K. Mitra.

*****
Though it is the responsibility of the state Government to look after the health of its people, central Government has the right to supervise various health programs of different states. For the maintenance of the health of the people, the Govt. of India has taken the support of some International organizations like W.H.O.; UNICEF; Red-cross society etc. These organizations are helpful by giving support in the form of money, required articles and doing service whenever necessary.

W.H.O. is the directing and coordinating authority for health within the United Nations system. It is a specialized, non political, health agency of the U.N.O. with its head quarters at Geneva, Switzerland. When diplomats met to form the United Nations in 1945, one of the things they discussed was setting up a global health organization.

In the year 1946 its constitution was drafted by the technical preparatory committee under the chairmanship of Rana Sand and was approved in the same year in the International Health Conference of 51 Nations in New York. The constitution came into force on 7th April 1948. Hence 7th April is being celebrated every year as World Health Day. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends.

Objectives:

- To attain the highest level of health by all people.
  Health is defined as a state of complete Physical, Mental and Social well being and not merely the absence of disease. Nowadays the fourth dimension i.e. the Spiritual one is also being incorporated by W.H.O.

- The enjoyment of highest attainable standard of health is one of the fundamental rights of every human being without any distinction of race, religion, political belief, and economical and social condition.
- Governments have the responsibility for maintaining the health of their people.

Membership:
- It is open to all countries of U.N.O.
- Others may join when the Health Assembly approves their application.
- Each member state contributes yearly to the budget.
- W.H.O. started with 51 Nations and by the end of 1970, 181 Nations joined as members of this organization.
- 193 nations had the membership in W.H.O. by the end of 2007.

W.H.O. Head Quarters, Geneva

Structure:

a) The World Assembly
b) The Executive Board
c) The Secretariat

a) The World Assembly:
- The World Health Assembly is the supreme decision-making body for W.H.O.
- It generally meets in Geneva in May each year, and is attended by delegations from all 193 Member States.
- Its main function is to determine the policies of the Organization.
- The Health Assembly appoints the Director-General, supervises the financial policies of the Organization, and reviews and approves the proposed programme budget.
- It similarly considers reports of the Executive Board, which it instructs in regard to matters upon which further action, study, investigation or report may be required.

b) The Executive Board:
- The Executive Board is composed of 34 members technically qualified in the field of health and the members are elected for three-year terms.
- The main Board meeting, at which the agenda for the forthcoming
Health Assembly is agreed upon and resolutions for forwarding to the Health Assembly are adopted, is held in January, with a second shorter meeting in May, immediately after the Health Assembly, for more administrative matters.

- The main functions of the Board are to give effect to the decisions and policies of the Health Assembly, to advise it and generally to facilitate its work.

c) The Secretariat:

- The Secretariat of WHO is staffed by some 8000 health and other experts and support staff on fixed-term appointments, working at headquarters, in the six regional offices, and in countries.
  - W.H.O. is headed by Director General, who is appointed by the Health Assembly on the nomination of the Executive Board.
  - 14th World Health Assembly met in New Delhi in the year 1961.

### Directors-General of W.H.O.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name</th>
<th>Country/Region</th>
<th>Term of Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Brock Chisholm</td>
<td>Canada</td>
<td>1948–1953</td>
</tr>
<tr>
<td>7.</td>
<td>Anders Nordström</td>
<td>Sweden</td>
<td>2006</td>
</tr>
<tr>
<td>8.</td>
<td>Margaret Chan</td>
<td>Hong Kong, China</td>
<td>January 4, 2007–</td>
</tr>
</tbody>
</table>

- Dr. Margaret Chan was appointed by the World Health Assembly on 9 November 2006, as the Director General
- Before being appointed Director-General, Dr Chan was WHO Assistant Director-General for Communicable Diseases as well as Representative of the Director-General for Pandemic Influenza.
- Prior to joining WHO, she was Director of Health in Hong Kong. During her nine-year tenure as director, Dr Chan con-
fronted the first human outbreak of H5N1 avian influenza in 1997.

- She successfully defeated the spate of severe acute respiratory syndrome (SARS) in Hong Kong in 2003. She also launched new services to prevent disease and promote better health

- For the sake of administrative convenience regional centers were also established as under.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Region</th>
<th>Head Quarters</th>
<th>Regional Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>South East Asia</td>
<td>New Delhi</td>
<td>Dr. Samlee Plianbangchang</td>
</tr>
<tr>
<td>2</td>
<td>Africa</td>
<td>Brazzaville (Congo)</td>
<td>Dr. L. Sambo</td>
</tr>
<tr>
<td>3</td>
<td>America</td>
<td>Washington DC</td>
<td>Dr Mirta Roses</td>
</tr>
<tr>
<td>4</td>
<td>Europe</td>
<td>Denmark</td>
<td>Marc Danzon</td>
</tr>
<tr>
<td>5</td>
<td>Eastern Mediterranean</td>
<td>Egypt</td>
<td>Dr Hussein Abdel-Razzak</td>
</tr>
<tr>
<td>6</td>
<td>Western Pacific</td>
<td>Philippines</td>
<td>Dr. Shigeru Omi</td>
</tr>
</tbody>
</table>

**Functions:**

- W.H.O. is the World’s directing and coordinating authority on all International Health Schemes.
- It’s most important single function is to help countries for strengthening and improving their own health services.
- Improvement of family health
- Control of communicable diseases.
- Maintenance of Environmental health
- Surveillance of Non-communicable diseases like – Cancer, Cardio-vascular disorders, mental health etc.
- Epidemiological surveillance of communicable diseases
- International health regulations
- Health statistics
- International standardization of drugs
- Publication and documentation

**W.H.O. – Health Education:**

Health Education has been defined as a process, which effect changes in the health practices of people and in the knowledge and attitudes related to such changes.
Aims:

W.H.O. has formulated the aims of Health Education as follows.

- To ensure that health is valued as an asset in the community
- To equip the people with skills, knowledge and attitudes to enable them solve their health problems by their own actions and efforts.
- To promote the development and proper use of health services.

Alma Ata:

In the year 1978 the General Assembly of W.H.O. met in Alma-Ata, Kazakhstan (Russia) to discuss the measures to be taken for the Primary Health Care of the people. This can be mentioned as one of the historical events. In these conference representatives of 134 countries, 67 members belonging to various fields of U.N.O. and others pertaining to Non Government Organizations participated and passed a resolution “Health for All By 2000 AD”. In that conference, Ayurveda, Unani, Homeopathy, Acupuncture etc. have been recognized by W.H.O. as alternative systems of medicine.

*****
19th Chapter

Important Questions & M.C.Q.s’ on

History of Ayurveda

Important Essay Questions

1. Write an essay about the status of Ayurveda in the 20th century
2. Write a brief note on the importance of Nighantus and describe the specialty of Bhavaprakasa.
3. Describe in detail about Atreya Sampradaya
4. Explain the development and specialty of Rasasastra in detail
5. Write about Acharya Nagarjuna
6. Write about the period of the author of Kasyapa Samhita and his style of presentation
7. Write about the status of Ayurveda during the reign of Ashoka
8. Write an essay about Sangraha Kala and the style of presentation of Madhavakara
9. Describe in detail about Vagbhata
10. Write a brief note on the period and specialty of Raja Nighantu
11. Write an essay about Samhita Kala and the period of Charaka as well as his mode of presentation
12. Describe in detail about Dhanvantari Sampradaya
13. Write about the Research activities going on in Rasasastra
14. What do you know about Rasa Vagbhata?
15. Write an essay about the Recent advances in Research in Indian Medicine
16. Write about the important journals of Ayurveda and their utility
17. Describe in detail about the status of Ayurveda during Vedic period
18. Write an essay about the descent of Ayurveda
19. Write about Ayurveda in Jain literature
20. Explain the services rendered by Acharya Yadavji Trikamji for the development of Ayurveda
21. Explain the status of Ayurveda during post independent period
22. Explain the reasons for the setback of Ayurvedic literature
23. Write a brief note on the opinion of Megastanese regarding Ayurveda
24. What does Ashoka’s Rock Edicts tell about medicine?
25. Write about Samhitas in brief
26. What do you know about Hippocrates?
27. Write about Anaditwa, Saswata and Nityatwa of Ayurveda
28. Write about the services rendered to Ayurveda by Gananath Sen
29. What do you know about the author of Bhaishajyaratnavali?
30. How can you prove that Hippocrates knows Indian Medicine?
31. How the Journals and Magazines did help for the progress and development of Ayurveda?
32. What are Upa Vedas and write about Ayurveda in Adharvana Veda
33. How can you say that Ayurveda originated from Brahma
34. What is meant by ‘Dhanvantari’ and Write a brief note on Divodasa Dhanvantari and Bhagawan Dhanvantari
35. Write about the specialty of Charaka Samhita
36. Write an essay about the Indo-Greek relationship in ancient days and the spread of Ayurveda in Greece through Alexander
37. Explain the services rendered by Pt. Deevi Gopalacharyulu for the development of the science of Indian Medicine in India
38. Write about the period of Vedas and the medical miracles of Aswin twins
39. Write an essay about Jivaka, described in Buddhist literature
40. Describe in detail about Chakrapanidutta
41. Write a brief note on Pasu Ayurveda
42. Write an essay about the influence of Ayurveda over the indigenous systems of medicine in Sumer, Babul, Asura and Misra Desa
43. What is meant by Brihat Trayee and Laghu Trayee and Write about any one of the texts belongs to Laghu Trayee in detail
44. Explain Atreya Sampradaya and write on important Acharyas of the tradi-
45. Explain the contribution of Ashoka to Ayurveda
46. Describe in detail about the medical information available in Vedic literature
47. Explain in detail the similarities in ancient Indian and Greek Medical concepts.
48. Explain the origin of Rasasastra and Write a brief note on two important works of Rasasastra
49. Write about the details of Ashtanga Hridaya
50. Describe in detail about the efforts going on in the field of research in Ayurveda
51. Explain the matter related to Ayurveda in Upanishads.
52. Describe in detail about Bhavamishra
53. Write about the influence of Ayurveda over Hippocrates, the father of medicine
54. When and where the 1st Ayurvedic Post-Graduate institute was established in India? What are the reasons for the establishment of that Institute and also write about the recommendations made by Udupa Committee.
55. Write about the status of Ayurveda after independence
56. Explain the ancient Greek medical concepts
57. Explain in detail about the treatments of celestial physicians
58. Describe in detail about the medical information available from inscriptions
59. Describe in detail about the recognition to Ayurveda in the present days
60. Write briefly about the theories of various Darshanas and their influence on Ayurveda
61. Write about Chopra Committee
62. Write a brief note on Ayurveda in Brahmans, Aranyakas and Upanishads
63. Explain the status of Ayurveda during Buddha period
64. Write about the opinions of different scholars regarding Charaka and his period
65. What are the texts available in the field of Rasasastra and write in detail about Rasatarangini
66. Write in detail about the descriptions of Kayachikitsa and Prasuti Tantra available in Vedic literature
67. Explain the services rendered by Pt. Shiva Sharma to the Indian Medical System
68. Explain in detail about Ayurveda in Koutilya Ardhasastra
69. Write an essay about Sramana Vangmaya
70. Explain in detail about the research in Ayurveda during Pre and Post Independent period
71. Write about Ayurveda in Buddhist literature
72. Write about the role of Jainacharyas in the development of Ayurvedic literature
73. Describe Dhanvantari tradition and write about Susruta Samhita
74. Explain the eight branches of Ayurveda and Describe in detail about the important works on these branches.
75. Write an essay about the World Heath Organization

**Important Short Questions**

1. Descent of Ayurveda
2. Charaka
3. Aswin twins
4. Hippocrates
5. Ashtanga Hridaya
6. Chopra Committee
7. Kasyapa Samhita
8. Chakrapanidutta
9. Bhavaprakasa
10. Madhavanidana
11. Hemadri
12. Role of Alexander in the spread of Indian Medicine
13. Influence of Vedas on Ayurveda
14. Vrikshayurveda
15. Research in Ayurveda
16. World Health Organization
17. Jejjata
18. Bhela Samhita
19. Descent of Ayurveda according to Atreya Sampradaya
20. Laghu Trayee
21. Bhaishajyaratnavali
22. Charaka Samhita
23. Relationship between Yoga & Ayurveda
24. Contribution of Nakula to Ayurveda
25. Ayurveda in Adharvana Veda
26. Palakapya
27. Punarvasu Atreyya
28. Topics of Ayurveda in Sramana Vangmaya (Jaina – Bouddha literature)
29. Nagarjuna
30. Dhanvantari Sampradaya
31. Ayurveda in Koutilya’s Ardhasastra
32. Dalhana
33. Commentaries on Ashtanga Hridaya
34. Kasyapa
35. Patanjali
36. Harita Samhita
37. Sarangadhara
38. Commentaries and commentators on Charaka Samhita
39. Dridhabala
40. Development of Rasasastra
41. Role of Magazines & Journals in the spread and development of Ayurveda
42. Bharadwaja
43. Daksha Prajapati
44. Nalanda Viswavidyalaya
45. Ayurveda in Puranas
46. Basawarajeeyam
47. Commentaries on Ashtanga Sangraha
48. Achanta Lakshmipati
49. Yadavji Trikamji
50. Gradual development of Ayurvedic teaching and education in India
51. Jatukarna
52. Ksharapani
53. Ranajit Roy Desai
54. Role of State Government for the development of Ayurveda
55. Spread of Ayurvedic medicine in Greece.
56. Gananath Sen
57. Aswaghosha
58. C.C.I.M.
59. C.C.R.A.S.
60. Siddha Nagarjuna
61. Tripitaka
62. Specialty of Madhavanidana
63. Susruta Samhita
64. Usman Committee
65. Udupa Committee
66. The Edicts of King Ashoka
67. Ayurveda in Ramayana
68. Ayurveda in Mahabharata
69. Indra
70. Agnivesa
71. Jivaka
72. Nimi
73. Brahma
74. Churning of Ocean & Emergence of Amruta and Dhanvantari
75. Yaminibhusan Roy

M. C. Q. On History of Ayurveda

1. Author of Rasatarangini
   a) Govindacharya
   b) Sadanand Sharma
   c) Rasa Vaghbata
   d) Nagarjuna

2. Lokasamyata in Dwapara Yuga
   a) Balyavastha
   b) Youvanavastha
   c) Vriddhavastha
   d) None of the above

3. Who is the Author of Chikitsasarasangraha?
   a) Chakradutta
   b) Vangasena
   c) Shodhala
   d) Indu

4. Period of Lolambaraja
   a) 16th Century AD
   b) 20th Century AD
   c) 17th Century AD
   d) 18th Century AD

5. Description of ‘Ritu Haritaki’ is available in
   a) Sarangadhara Samhita
   b) Susruta Samhita
   c) Charaka Samhita
   d) Bhavaprakasa
6. Author of the commentary entitled ‘Jalpakalpataru’
   a) Gangadhar Roy  
   b) Yogendranath Sen  
   c) Jejjata  
   d) Jyotishchandra Saraswati

7. Gudardha Dipika is the commentary written on
   a) Ashtanga Hridaya  
   b) Ashtanga Sangraha  
   c) Madhavanidana  
   d) Sarangadhara Samhita

8. Description of Vilambika is first mentioned in
   a) Charaka Samhita  
   b) Susruta Samhita  
   c) Ashtanga Sangraha  
   d) Harita Samhita

9. Udupa Committee is formed in the year
   a) 1958  
   b) 1955  
   c) 1961  
   d) 1962

10. Author of ‘Aswa Vaidyaka’
     a) Nala  
     b) Bhoja Raj  
     c) Jaya Dutta  
     d) Krishna ram Bhatt

11. Name of the commentary written on Sarangadhara Samhita by Adhamalla is
     a) Dipika  
     b) Gudardha Dipika  
     c) Ayurveda Rasayana  
     d) Seshilekha

12. Author of ‘Madana Vinoda’
     a) Nala  
     b) Dhanvantari  
     c) Madanapala  
     d) Shodhala

13. Author of ‘Charaka Samhita’
     a) Charaka  
     b) Atreya  
     c) Dridhabala  
     d) Hutavesa

14. The title ‘Susruta Sahasranayana’ belongs to
     a) Dridhabala  
     b) Nagarjuna  
     c) Agnivesa  
     d) Chakrapani

15. Period of ‘Dhanvantari Nighantu’
     a) 8th Century AD  
     b) 15th Century AD  
     c) 10th Century AD  
     d) 13th Century AD

16. No. of Sutras exists in Brahma Samhita
     a) 10,000  
     b) 1,00,000  
     c) 10,00,000  
     d) None of the above

17. Author of Ashtanga Hridaya & his Period
     a) Vriddha Vagbhata 5th Century AD
b) Laghu Vagbhata 5th Century AD
c) Laghu Vagbhata 7th Century AD
d) Laghu Vagbhata 8th Century AD

18. Author of ‘Introduction to Kayachikitsa’
   a) P.V. Sharma       b) C. Dwarakanath
   c) Capt. G. Srinivasa Murthy  d) R.H. Singh

19. Atankadarpana, commentary on Madhavanidana is written by
   a) Pt. D. Gopalacharyulu   b) Vijayarakshita
   c) Srikantha Murthy       d) Vachaspati Mishra

20. Dalhana’s commentary on Susruta Samhita is
   a) Bhanumati       b) Nirukta
   c) Ayurveda Dipika  d) Nibandha Sangraha

21. Chakrapani’s commentary on Charaka Samhita is
   a) Sarvanga Sundara   b) Bhanumati
   c) Nibandha Sangraha  d) Ayurveda Dipika

22. Gudardha Dipika, a commentary on Sarangadhara Samhita
    is written by
   a) Adhamalla       b) Rudra Bhatt
   c) Kasiram Vaidya  d) Jejjata

23. Ayurveda University is located at
   a) Jodhpur       b) Benarus
   c) Jaipur       d) Trivandrum

24. Disciple of Atreya
   a) Harita       b) Aurabhra
   c) Gopurarakshita  d) None of the above

25. Founder of Baidyanath Ayurved Bhavan Ltd.
   a) Ramgopalashastry  b) Ramnarayan Sharma
   c) Siddhinandan Mishra  d) Pt. Ramgopal Sharma

26. Gurukul Kangdi Ayurveda College is located at
   a) Kasi       b) Rishikesh
   c) Haridwar  d) Bodh Gaya

27. Bhela Samhita consists number of Sthanas
   a) 6       b) 7
   c) 8       d) 5

28. Author of Priya Nighantu
   a) Acharya Yadavji Trikamji  b) Priyaranjan Das
29. Period of ‘Saligrama Nighantu’  
a) 18th Century AD  
b) 14th Century AD  
c) 19th Century AD  
d) 16th Century AD

30. Number of chapters redacted by Dridhabala in Charaka Chikitsa  
a) 41  
b) 12  
c) 17  
d) 24

31. The expounnder of Charaka Samhita  
a) Charaka  
b) Atreya  
c) Agnivesa  
d) Dridhabala

32. No. of Chapters in Charaka Samhita Indriya Sthana  
a) 8  
b) 12  
c) 6  
d) 30

33. ‘Dundhubi Swariyam’ is described in  
a) Susruta Samhita  
b) Charaka Samhita  
c) Bhela Samhita  
d) Harita Samhita

34. No. of Chapters in Susruta Samhita Chikitsa Sthana  
a) 30  
b) 24  
c) 46  
d) 40

35. Who is the Author of Hathayoga Pradipika?  
a) Patanjali  
b) Vyasa  
c) Gorakshanath  
d) Ravana

36. Susrutardha Sandipani was written by  
a) Gangadhar Sen  
b) Haranachandra  
c) Jejjata  
d) Dalhana

37. Vriddda Jivaka Tantra is also known as  
a) Kasyapa Samhita  
b) Vangasena Samhita  
c) Jivaka Samhita  
d) None of the above

38. Badanta Nagarjuna belongs to  
a) Kerala  
b) Tamilnadu  
c) Karnataka  
d) Andhra

39. Who is the Author of Yogaratnakara?  
a) Lolambaraja  
b) Vangasena  
c) Shodhala  
d) None of the above

40. Author of Rasendra Mangala  
a) Sadanand Sharma  
b) Nagarjuna
c) Rasa Vagbhata d) Govinda Bhagavatpadacharya

41. Haranachandra belongs to
   a) 16th Century AD b) 20th Century AD
c) 17th Century AD d) 18th Century AD

42. Who is the Author of Rasa Hridaya Tantra?
   a) Govindadas Sen b) Govindacharya
c) Yasodara Bhatt d) Bhikshu Govinda Padacharya

43. Who is the father of Dridhabala?
   a) Viswamitra b) Gajabala
c) Kapilabala d) Simhabala

44. Period of Rasaratnasamucchaya
   a) 15th Century AD b) 12th Century AD
c) 11th Century AD d) 13th Century AD

45. Who is the Author of Sarvanga Sundari?
   a) Hemadri b) Arunadatta
c) Dalhana d) Indu

46. Commentator on Sarangadhara Samhita
   a) Adhamalla b) Chandrata
c) Tisata d) Indu

47. Who is the disciple of Kasiram?
   a) Ugradityacharya b) Adhamalla
c) Rudra Bhatt d) Krishna ram

48. Name of the commentary written by Jejjata on Charaka Samhita
   a) Tatwa Dipika b) Tatwa Chandrika
c) Panjika d) Nirantarapada Vyakhya

49. Subject dealt in ‘Ayurveda Prakasa’
   a) Dravyaguna b) Rasasastra
c) Bhaishajya Kalpana d) None of the above

50. Vijayarakshita wrote a commentary on
   a) Siddhanta Nidana b) Anjana Nidana
c) Madhavanidana d) All the above

51. Amlapitta is first described by
   a) Madhavakara b) Chakrapani
c) Bhavamishra d) Sarangadhara

52. Total number of chapters in Sarangadhara Samhita
   a) 30 b) 32
53. Period of Madhavakara
   a) 6th Century AD  
   b) 9th Century AD
   c) 11th Century AD  
   d) 7th Century AD

54. Redactor of Susruta Samhita
   a) Susruta  
   b) Dridhabala
   c) Chakrapani  
   d) Nagarjuna

55. Parasika Yavani is first described by
   a) Bhavamishra  
   b) Sarangadhara
   c) Kaiyyadeva  
   d) Narahari

56. Pratisamskarta of Kasyapa Samhita
   a) Vriddha Jivaka  
   b) Maricha
   c) Krishnatreya  
   d) Punarvasu Atreya

57. Ayurveda is considered as Panchama Veda by
   a) Charaka  
   b) Susruta
   c) Kasyapa  
   d) Vagbhata

58. Who is the Author of Chikitsa Kalika?
   a) Yadavji  
   b) Tisata
   c) Chandrata  
   d) Chakrapani

59. Who is the Author of Siddhanta Nidana?
   a) Gananath Sen  
   b) Shivadas Sen
   c) Yogendranath Sen  
   d) None of the above

60. Period of Charaka
   a) 200 AD  
   b) 200 BC
   c) 1000 BC  
   d) 1500 BC

61. No. chapters contains in Susruta Vimana Sthana
   a) 8  
   b) 6
   c) 12  
   d) None of the above

62. The following work belongs to Dundukanath
   a) Rasendra Chintamani  
   b) Rasa Chintamani
   c) Rasendra Chudamani  
   d) Rasaprakasa Sudhakara

63. Madhavanidana is also known as
   a) Rigvinishchaya  
   b) Roga Nidana
   c) Nidana Hastamalaka  
   d) Madhukosa

64. Period of Bhavamishra
   a) 7th Century AD  
   b) 9th Century AD
65. Khila Sthana is available in
   a) Harita Samhita  
   b) Bhela Samhita  
   c) Kasyapa Samhita  
   d) All the above

66. Pathyapathy Vibodhaka is otherwise called as
   a) Anupana Pathya manjari  
   b) Kaiyyadeva Nighantu  
   c) Pathya manjari  
   d) None of the above

67. Who is the Author of Nighantu Adarsa?
   a) Gananath Sen  
   b) Lolambaraja  
   c) Bapalal Vaidya  
   d) Trayambakanath Sharma

68. Author of Rasa manjari
   a) Govindacharya  
   b) Salinath  
   c) Sadanand Sharma  
   d) Somadeva

69. Period of Rasatarangini
   a) 12th Century AD  
   b) 20th Century AD  
   c) 16th Century AD  
   d) 14th Century AD

70. Author of Jalpakalpataru
   a) Gangadhar Roy  
   b) Naradatta  
   c) Yogendranath Sen  
   d) Gayadas

71. Period of Rasaratnasamucchaya
   a) 10th Century AD  
   b) 9th Century AD  
   c) 13th Century AD  
   d) 14th Century AD

72. Author of Siddhabheshajamanimala
   a) Chandrata  
   b) Tisata  
   c) Krishna Gopal Bhatt  
   d) Kasiram Bhatt

73. Preceptor of Agnivesa
   a) Punarvasu  
   b) Bharadvaja  
   c) Krishnatreya  
   d) Charaka

74. Author of Rasamrita
   a) Somadeva  
   b) Trayambakanath Sharma  
   c) Nityanatha  
   d) Rasa Vagbhata

75. Author of the commentary ‘Brihat Tantra Pradipika’
   a) Ashadha Varma  
   b) Shivadas Sen  
   c) Krishna Gopal Bhatt  
   d) Naradatta

76. Total no. of chapters of Ashtanga Sangraha
   a) 120  
   b) 186
77. Description of ‘Maha Mayuri Vidya’ is available in
   a) Charaka Samhita  b) Ashtanga Sangraha
   c) Harita Samhita  d) Bhela Samhita

78. Total no. of verse found in Susruta Samhita
   a) 8100  b) 8800
   c) 8300  d) 9100

79. Upanishads belongs to
   a) 500 BC  b) 1000 – 1500 BC
   c) 1500 – 2000 BC  d) 500 – 1000 BC

80. Total no. of Sakhas found in Adharvana Veda
   a) 5  b) 12
   c) 7  d) 9

81. Pariharavartika is
   a) The commentary on Charaka Samhita written by Ashadha Varma
   b) The commentary on Charaka Samhita written by Naradatta
   c) The commentary on Sarangadhara Samhita written by Adhamalla
   d) None of the above

82. Which one of the following statements is correct
   a) Nyaya Panjika is the commentary written by Gayadas on Susruta
      Samhita Nidana Sthana
   b) Nyaya Panjika is the commentary written by Gayadas on Charaka
      Samhita
   c) Nyaya Panjika is the commentary written by Gayadas on Susruta
      Samhita Sutra Sthana
   d) Nyaya Panjika is the commentary written by Swami Kumar on
      Charaka Samhita

83. Who is the father of Susruta
   a) Dhanvantari  b) Vyasa
   c) Viswamitra  d) None of the above

84. Author of Rasasara
   a) Govindacharya  b) Somadeva
   c) Nagarjuna  d) Rasa Vagbhata

85. Author of Rasendra Sara Sangraha
   a) Yadavji  b) Yasodara Bhatt
   c) Krishna ram Bhatt  d) Sadashiva Sharma
86. Bhanumati commentary is otherwise known as
   a) Brihat Panjika  b) Tatparya Tika
   c) Tippani        d) Chikitasa Darpan

87. Total no. of chapters of Susruta Sharir
   a) 12             b) 8
   c) 16             d) 10

88. Period of Gangadhar
   a) 16th Century AD b) 19th Century AD
   c) 18th Century AD d) 20th Century AD

89. Upaveda of Rigveda is
   a) Ayurveda        b) Sthapya Veda
   c) Gandharva Veda  d) None of the above

90. 1st Commentary written on Charaka Samhita
   a) Charakopaksara  b) Charaka Panjika
   c) Charaka Tatwa Pradipika d) Charakanyasa

91. Name of the father of Charaka
   a) Ananta         b) Visuddha
   c) Kapilabala     d) None of the above

92. Author of Rasa Kamadhenu
   a) Chudamani Mishra b) Sureswar
   c) Salinath        d) Somadeva

93. Toxicological aspects dealt in which section of Susruta Samhita
   a) Uttara Tantra   b) Sutra Sthana
   c) Chikitsa Sthana d) Kalpa Sthana

94. Pandit Committee was appointed in the year
   a) 1947            b) 1946
   c) 1949            d) 1955

95. B.G. Ghanekar’s commentary on Susruta Samhita
   a) Tatparya Tika   b) Siddhant Sharir
   c) Ayurveda Tatwa Sandipika d) Tatparya Tika

96. Author of Vaidya Jivana
   a) Lolambaraja    b) Tisata
   c) Jejjata        d) Chandrata

97. Author of Vaidyaka Sabda Sindhu
   a) Umeshchandra Gupta b) Amarasinha
   c) Bapalal Vaidya    d) Yadavji
98. Author of Yoga Tarangini
   a) Krishna ram Bhatt    b) Chudamani Mishra
   c) Trimallabhatta       d) Sadanand Sharma

99. Author of Pratyaksha Shareer
   a) Ranajit Roy Desai   b) Gananath Sen
   c) Rama Sundara Rao    d) Ghanekar

100. Author of Ashtadhyayi
     a) Koutilya            b) Panini
     c) Bana                d) Kalidas

101. Author of ‘Vedom me Ayurved’
     a) Atridev Vidyalankar b) G.N. Mukharji
     c) P.V. Sharma        d) Ram Gopala Shastry

102. Takma is the term used for the following disease in Vedas
     a) Tamaka Swasa        b) Hikka
     c) Jwara              d) Kasa

103. Palakapya Tantra is also known as
     a) Vrikshayurveda      b) Aswa Ayurveda
     c) Gajayurveda        d) None of the above

104. Text which specially dealt the subject of Vajeekarana
     a) Rasayana Tantra     b) Nimi Tantra
     c) Ravana Tantra      d) Kuchumara Tantra

105. Medicinal Plant Board was Estd. by Govt. of India in the year
     a) July 2000           b) July 2002
     c) August 2001        d) July 1999

106. CCRAS was established in the year
     a) 30th March 1978     b) 13th March 1978
     c) 30th March 1979     d) 13th March 1977

107. ‘Padmasri’ was awarded to an Ayurvedic physician in 1977
     a) Vasanth Lad        b) Subhash Ranade
     c) Balendu Prakash    d) Yadavji

108. The 1st Ayurvedic Pharmacopoeia Committee was constituted in
     a) 1960 – 61           b) 1962 – 63
     c) 1971 – 72           d) 1978 – 79

109. Charaka Vimana Sthana is otherwise known as
     a) Sloka Sthana        b) Ashraya Sthana
     c) Vikalpa Sthana      d) Manasa Sthana
110. Founder Director of History of Indian Medicine
   a) B. Rama Rao  b) Dr. Subba Reddy
   c) V.J. Thakar  d) P.M. Mehta

111. Taken charge as CCRAS Director in the year 2003
   a) B. Rama Rao  b) Dr. V.V. Prasad
   c) Dr. G. S. Lavekar  d) Dr. S.K. Sharma

112. As per the recommendations of Usman committee the first Ayurveda college was started at
   a) Chennai  b) New Delhi
   c) Mumbai  d) Kolkata

113. Founder director of CCRIMH
   a) P. J. Mehta  b) Kurup
   c) K.N. Udupa  d) C. Dwarakanath

114. The 1st Nikhila Bharatiya Vaidya Sammelan was conducted at
   a) New Delhi  b) Mumbai
   c) Kolkata  d) Nasik

115. N.I.A. was established in the year
   a) 1978  b) 1976
   c) 1970  d) 1969

116. ‘Gold therapy in Ayurveda’ was written by
   a) A. Lakshmipati  b) K.N. Udupa
   c) C. Dwarakanath  d) Pt. Shiva Sharma

117. Indian Institution of Panchakarma is located at
   a) Trivandrum  b) Kottakkal
   c) Cheruthurthy  d) Coimbatore

118. Ahiphena was introduced into Indian therapeutics during
   a) 13th A  b) 11th AD
   c) 14th AD  d) 16th AD

119. Redactor of Kasyapa Samhita
   a) Anayasa  b) Jivaka
   c) Kapila  d) Vatsya

120. 1st Ayurvedic Research centre in India was Estd. at
   a) Trivandrum  b) Benaros
   c) Jamnagar  d) New Delhi

121. Author of ‘Fundamental Principles of Ayurveda’
   a) Capt. G. Srinivasa Murthy  b) C. Dwarakanath
c) S.C. Dhyani  d) R.H. Singh

122. Vata, Pitta & Kapha were defined for the 1st time by
   a) Bhela  b) Harita
c) Vagbhata  d) Susruta

123. ‘Visikhanupravesadhyaya’ is found in
   a) Susruta Samhita  b) Kasyapa Samhita
c) Bhela Samhita  d) None of the above

124. Author of ‘Nidana Chikitsa Hastamalaka’
   a) Yadavji  b) Raghuvir Prasad Trivedi
c) Ranajit Roy Desai  d) Jyotirmitra

125. ‘Ayurveda Rahasya Dipika’ a commentary on Susruta was written by
   a) R.R. Pathak  b) B.G. Ghanekar
c) Dalhana  d) Siddhinandan Mishra

126. Founder of Patna Baidyanath Ayurveda Bhavan Ltd.
   a) R.N. Sharma  b) Gowtham Ghosh
c) J.L. Joshi  d) Ramdayal Joshi

127. ‘Introduction to Kayachikitsa’ was written by
   a) C. Dwarakanath  b) P.V. Sharma
c) S.C. Dhyani  d) R.H. Singh

128. ‘Susruta Shareer’ dealt the subject matter related to
   a) Anatomy  b) Physiology
c) Midwifery  d) All the above

129. ‘Jivaka’ was the student of
   a) Kasi Viswavidyalaya  b) Nalanda Viswavidyalaya
c) Taxila Viswavidyalaya  d) Vikramasila Viswavidyalaya

130. ‘Kharanada Samhita’ dealt the subject matter related to
   a) Salya  b) Bhuta Vidya
c) Salakya  d) Midwifery

131. Number of Vedangas
   a) 6  b) 4
c) 8  d) None of the above

132. ‘Saraswati Mahal Library’ is located at
   a) Tanjore  b) Hyderabad
c) Kasi  d) Jamnagar

133. ‘Fahian’ Chinese traveler visited India during the reign of
   a) Ashoka  b) Akbar
c) Chandragupta –II  d) Harshavardhana

134. Nobody knows about Indus valley civilization up to
   a) 15th Century AD  b) 20th Century AD
   c) 17th Century AD  d) 18th Century AD

135. Preta Khanda is one of the divisions of
   a) Garuda Purana  b) Brahma Purana
   c) Siva Purana  d) Vishnu Purana

136. Number of Tantra Yuktis mentioned in Koutilya’s Ardhasastra
   a) 36  b) 40
   c) 28  d) 32

137. Period of Ashtadhyayi
   a) 1st Century AD  b) 2nd Century BC
   c) 7th Century BC  d) 3rd Century BC

138. The following is the work credited with the authorship of Aswins
   a) Bhaskara Samhita  b) Nadi Nidana
   c) Kama Tantra  d) None of the above

139. King Milinda belonged to
   a) India  b) Nepal
   c) Tibet  d) Greece

140. Pancha Bheshaja (combination of 5 drugs viz. Ghrita, Navanita, Madhu, Taila & Guda) is mentioned in
   a) Bhela Samhita  b) Vinaya Pitaka
   c) Harita Samhita  d) Ashtanga Sangraha

141. Sramana Vangmaya means the literature pertaining to
   a) Buddhism  b) Jainism
   c) Both  d) None

142. ‘Kalyanakarika’ was composed by
   a) Ugradityacharya  b) Samanthabhadra
   c) Pujayapada  d) Mahavira

143. Disciple of Bhikshu Atreya
   a) Jivaka  b) Agnivesa
   c) Bhela  c) Both b & c

144. Poorva Khanda of Sarangadhara Samhita contains
   a) 12 Chapters  b) 7 Chapters
   c) 13 Chapters  d) 32 Chapters
145. Commentator of ‘Chikitsakalika’
   a) Tisata  b) Vagbhata
c) Vrinda  d) Chandrata

146. Vidyodhini commentary on Bhaishajyaratnavali was written by
   a) Govindadas  b) Chandrachuda
c) Ambikadatta Shastry  d) Yadavji

147. Author of Kakshaputa Tantra
   a) Siddha Nagarjuna  b) Bhairava
c) Yasodara Bhatt  d) Somadeva

148. Yadavji Trikamji was born in the year
   a) 1889  b) 1881
c) 1899  d) 1887

149. Founder Principal of Govt. School of Indian Medicine
c) C. Dwarakanath  d) Nori Rama Shastry

150. Arya Vaidya Sala, Kottakkal was Estd. in the year
   a) 1902  b) 1907
c) 1905  d) 1903

151. ‘Vignana Chandrika Mandali’ a publication division was started by
   a) Yadavji  b) Kaviraj Gangadhar Sen
c) Achanta Lakshmipati  d) P.S Varier

152. Royal Physician for Jam Saheb of Jamnagar
   a) V.J. Thakar  b) P.M. Mehta
c) C.P. Sukla  d) M.P. Shaw

153. Usman committee was appointed in the year
   a) 1919  b) 1917
c) 1905  d) 1921

154. ‘Nagarjuna’ a monthly English journal was started from
   Calcutta in the year
   a) 1947  b) 1957
c) 1945  d) 1950

155. W.H.O. was constituted on
   a) 7th Apr. 1948  b) 7th Apr. 1947
c) 7th Apr. 1949  d) 7th Apr. 1946

156. Head quarters of WHO for Europe region
   a) Egypt  b) Washington
c) Denmark  
d) Congo

157. Ayurveda according to Charaka
   a) Saswata  
b) Anitya
   c) Parampara Vaidya  
d) Nitya

158. According to Susruta Ayurveda was formulated by Brahma
   a) After Srishti  
b) Before Srishti
   c) During creation  
d) None of the above

159. According to Kasyapa the following Rishi learnt Ayurveda from Indra
   a) Bharadwaja  
b) Vasishta
   c) Agasthya  
d) Dhanvantari

160. Brahmavaivarta Purana quotes the following Sampradaya of Ayurveda
   a) Dhanvantari  
b) Kasyapa
   c) Atreyya  
d) Bhaskara

161. Author of ‘Vyadhi Sindhu Vimardana’
   a) Divodasa  
b) Nakula
   c) Yama  
d) Sahadeva

162. The disease which was described in detail in Vedic literature
   a) Kilasa  
b) Durnama
   c) Takma  
d) Kushta

163. Krimi was described in detail in which Veda
   a) Adharvana Veda  
b) Rigveda
   c) Sama Veda  
d) Yajurveda

164. The period of ‘Indus Valley Civilization’
   a) 3250 – 2750 BC  
b) 4500 - 4000 BC
   c) 100 -150 AD  
d) 1000 -500BC

165. Father of Dhanvantari
   a) Dirghatamas  
b) Ketuman
   c) Dhanva  
d) Divodasa

166. According to Susruta the number of years to one Yuga
   a) 100 years  
b) 1000 years
   c) 5 years  
d) 10 years

167. Susruta enumerates the starting new year from
   a) Sisira Ritu  
b) Saradritu
   c) Grishma Ritu  
d) Vasanta Ritu
168. The commentator who states that Dridhabala completed the half of the part of Samhita left by Charaka
   a) Chakrapanidutta   b) Indu
   c) Hemadri           d) Arunadatta

169. Upayahridayam was written by
   a) Chandrata         b) Haranachandra
   c) Bahata            d) Nagarjuna

170. Sage Nagarjuna was contemporary to
   a) Harsha            b) Kanishka
   c) Chandragupta      d) Samudra gupta

171. The last man to correct the currently available Susruta Samhita
   a) Nagarjuna         b) Chandrata
   c) Ugraditya         d) Tisata

172. Susruta suggests the following age for marriage among male & female
   a) Male 25 yrs. & Female 12 yrs.
   b) Male 21 yrs. & Female 18 yrs
   c) Male 25 yrs. & Female 21 yrs
   d) Male 21 yrs. & Female 15 yrs

173. ‘Ayaskriti’ was quoted first by
   a) Nagarjuna         b) Susruta
   c) Vagbhata          d) Agnivesa

174. ‘Sitalika’ was included among Aoupasargika by
   a) Chakrapanidutta   b) Susruta
   c) Dalhana           d) Charaka

175. According to Charaka, ‘Vaidya’ is
   a) Tritiya Jati      b) Pradhama Janmana
   c) Dwijanmana        d) Narayana

176. The style of narration of Charaka Samhita matches with
   a) Mahabhashya        b) Ramayana
   c) Mahabharata       d) Ardhasatra

177. Charaka club was Estd. in the year 1898 at
   a) London            b) New York
   c) New Delhi         d) Washington

178. Ayurvedic work which described the blood circulation and pulse rate
   a) Bhaishajyaratnavali b) Ayurveda Vignan
   c) Yogaratnakara     d) Vaidya Chintamani
179. The work which mention Jyotisha & Ayurveda
   a) Yogaratnakara  b) Todarananda
   c) Yoga Sataka    d) Siddhasara Samhita

180. Vopadeva has written commentaries on
   a) Siddhamantra & Sarangadhara Samhita
   b) Siddhamantra & Charaka Samhita
   c) Ashtanga Hridaya & Chikitsakalika
   d) Susruta Samhita & Chikitsakalika

181. ‘Ayurveda Sara Sangraha’ was written by
   a) Yogendranath Sen  b) Gananath Sen
   c) Gangadhar Sen     d) Devendranath Sen & Upendranath Sen

182. ‘Susruta Panjika’ (commentary on Susruta Samhita) was written by
   a) Bhaskar         b) Gadadhara
   c) Eswara Dutt     d) Bhavya Dutt

183. Who wrote commentary on both Madhavanidana & Vrinda Madhava
   a) Vijayarakshita  b) Srikanthadatta
   c) Madhava        d) None of the above

184. Vijayarakshita wrote commentary Madhavanidana up to
   a) Ashmari        b) Vatarakta
   c) Yonivyapat    d) Prameha

185. Pratisamskarta (Redactor) of Kharanada Samhita
   a) Chandranandana b) Chandrata
   c) Nischalakara   d) Bhattara Harischandra

186. ‘Pariharavartika’ a commentary on Charaka Samhita, written by
   a) Ksheera Swamy  b) Ashadha Varma
   c) Chelladeva    d) Nandi

187. The commentator who wrote commentaries on all the works of
     Brihat Trayee
   a) Gayadasa        b) Chakrapanidutta
   c) Jejjata        d) Chandrata

188. ‘Padardha Chandrika’ was written by Chandranandana on
    a) Charaka Samhita  b) Susruta Samhita
    c) Ashtanga Hridaya d) Ashtanga Sangraha

189. Two varieties of Alochaka Pitta was quoted by
    a) Charaka        b) Bhela
    c) Harita        d) Susruta
190. A separate chapter is allocated by Bhela for which type of fever
   a) Vishama Jwara       b) Sannipata Jwara
   c) Punaravartaka Jwara d) Agantuka Jwara

191. Bhela observes Madyapana prevents
   a) Kushta              b) Amlapitta
   c) Apasmarra          d) Madhumeha

192. Who suggests to salute wife also along with father, mother
     and teacher
   a) Susruta            b) Charaka
   c) Bhela             d) Harita

193. Jwara is classified according to caste by
   a) Bhoja             b) Harita
   c) Vrinda           d) Lolambaraja

194. Lord Vishnu took his ........... incarnation as Dhanvantari
   a) 13\textsuperscript{th}    b) 11\textsuperscript{th}
   c) 12\textsuperscript{th}    d) None of the above

195. Director-General of WHO, appointed in the year 2006
   a) Dr. Lee Jong-wook   b) Dr Margaret Chan
   c) Dr. Julio Frenk    d) Dr. Shigeru Omi

196. Chikitsa Sangraha is otherwise known as
   a) Chikitsakalika     b) Chikitsa manjari
   c) Chakradutta       d) Yogasangraha

197. Vangasena is otherwise known as
   a) Siddhayoga         b) Vrindayogasmucchaya
   c) Chikitsasarasangraha d) Rasayogasagara

198. ‘Dravyaguna Satasloki’ was written by
   a) Trimallabhatta    b) Yadavji
   c) Chunekar         d) P.V. Sharma

199. The first text of Ayurveda to mention tobacco
   a) Siddhabheshajamanimala b) Yogaratnakara
   c) Basarwajeeyam      d) Gadanigraha

200. The author of ‘Laghu Pathya Nirmaya’
    a) Prataparudra Gajapathi b) Raghunatha Prasad
    c) Deepa Chandra Yachaka d) Jagannath Prasad

201. Esabgol was described in
    a) Siddhabheshajamanimala b) Ayurveda Vignan
c) Saligrama Nighantu   d) All the above

202. The following drug was not mentioned in Brihat Trayee
   a) Kumari          b) Kupilu
   c) Chandrasura     d) All the above

203. Guna Sangraha & Nama Sangraha are related to
   a) Arunadutta Nighantu   b) Nimi Nighantu
   c) Shodhala Nighantu    d) Chandra Nighantu

204. Ananda kanda was written by
   a) Mandhana Bhairava    b) Agasthya
   c) Gorakshanath        d) Dhanpathi

205. Anangarangga discussed the following branch of Ayurveda
   a) Bhuta Vidya          b) Rasayana
   c) Vajeekarana          d) Damshtra Chikitsa

**KEY**

<p>| | | | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. b</td>
<td>24. a</td>
<td>47. c</td>
<td>70. a</td>
<td>93. d</td>
<td>116. c</td>
<td>139. d</td>
<td>162. c</td>
<td>185. d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. c</td>
<td>25. b</td>
<td>48. d</td>
<td>71. c</td>
<td>94. c</td>
<td>117. c</td>
<td>140. b</td>
<td>163. a</td>
<td>186. b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. b</td>
<td>26. c</td>
<td>49. b</td>
<td>72. d</td>
<td>95. b</td>
<td>118. a</td>
<td>141. c</td>
<td>164. a</td>
<td>187. c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. c</td>
<td>27. c</td>
<td>50. c</td>
<td>73. a</td>
<td>96. a</td>
<td>119. d</td>
<td>142. a</td>
<td>165. c</td>
<td>188. c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. d</td>
<td>28. d</td>
<td>51. a</td>
<td>74. b</td>
<td>97. a</td>
<td>120. c</td>
<td>143. a</td>
<td>166. c</td>
<td>189. b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. a</td>
<td>29. c</td>
<td>52. b</td>
<td>75. d</td>
<td>98. c</td>
<td>121. b</td>
<td>144. b</td>
<td>167. a</td>
<td>190. a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. d</td>
<td>30. c</td>
<td>53. d</td>
<td>76. c</td>
<td>99. b</td>
<td>122. a</td>
<td>145. d</td>
<td>168. b</td>
<td>191. d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. b</td>
<td>31. b</td>
<td>54. d</td>
<td>77. b</td>
<td>100. b</td>
<td>123. a</td>
<td>146. c</td>
<td>169. d</td>
<td>192. c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. a</td>
<td>32. b</td>
<td>55. a</td>
<td>78. c</td>
<td>101. d</td>
<td>124. c</td>
<td>147. a</td>
<td>170. b</td>
<td>193. b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. c</td>
<td>33. a</td>
<td>56. b</td>
<td>79. c</td>
<td>102. c</td>
<td>125. b</td>
<td>148. b</td>
<td>171. b</td>
<td>194. a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. a</td>
<td>34. d</td>
<td>57. c</td>
<td>80. d</td>
<td>103. c</td>
<td>126. d</td>
<td>149. a</td>
<td>172. a</td>
<td>195. b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. c</td>
<td>35. c</td>
<td>58. b</td>
<td>81. a</td>
<td>104. d</td>
<td>127. a</td>
<td>150. a</td>
<td>173. b</td>
<td>196. c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. d</td>
<td>36. b</td>
<td>59. a</td>
<td>82. a</td>
<td>105. a</td>
<td>128. d</td>
<td>151. c</td>
<td>174. c</td>
<td>197. b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. d</td>
<td>37. a</td>
<td>60. b</td>
<td>83. c</td>
<td>106. a</td>
<td>129. c</td>
<td>152. b</td>
<td>175. a</td>
<td>198. a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. c</td>
<td>38. a</td>
<td>61. d</td>
<td>84. a</td>
<td>107. c</td>
<td>130. d</td>
<td>153. d</td>
<td>176. d</td>
<td>199. b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. b</td>
<td>39. d</td>
<td>62. a</td>
<td>85. a</td>
<td>108. b</td>
<td>131. a</td>
<td>154. a</td>
<td>177. b</td>
<td>200. c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. c</td>
<td>40. b</td>
<td>63. a</td>
<td>86. b</td>
<td>109. d</td>
<td>132. a</td>
<td>155. a</td>
<td>178. b</td>
<td>201. d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. b</td>
<td>41. b</td>
<td>64. c</td>
<td>87. d</td>
<td>110. b</td>
<td>133. c</td>
<td>156. c</td>
<td>179. b</td>
<td>202. d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. d</td>
<td>42. d</td>
<td>65. c</td>
<td>88. b</td>
<td>111. c</td>
<td>134. b</td>
<td>157. a</td>
<td>180. a</td>
<td>203. c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. d</td>
<td>43. c</td>
<td>66. b</td>
<td>89. a</td>
<td>112. a</td>
<td>135. a</td>
<td>158. b</td>
<td>181. d</td>
<td>204. a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. d</td>
<td>44. d</td>
<td>67. c</td>
<td>90. d</td>
<td>113. b</td>
<td>136. d</td>
<td>159. b</td>
<td>182. a</td>
<td>205. c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. c</td>
<td>45. b</td>
<td>68. b</td>
<td>91. b</td>
<td>114. d</td>
<td>137. c</td>
<td>160. d</td>
<td>183. b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. a</td>
<td>46. a</td>
<td>69. b</td>
<td>92. a</td>
<td>115. b</td>
<td>138. b</td>
<td>161. d</td>
<td>184. a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*****
Annexure – I

List of Commentaries and Commentators on Brihat Trayee, Laghu Trayee & Nighantus along with their period

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Commentator</th>
<th>Name of the Commentary</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bhattara Harischandra</td>
<td>Charakanyasa</td>
<td>4-5&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>2</td>
<td>Swami Kumara</td>
<td>Charaka Panjika</td>
<td>6&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>3</td>
<td>Jejjata</td>
<td>Nirantarapada Vyakhya</td>
<td>6&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>4</td>
<td>Chakrapani Datta</td>
<td>Ayurveda Dipika</td>
<td>11&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>5</td>
<td>Shivadas Sen</td>
<td>Tatwa Dipika</td>
<td>15&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>6</td>
<td>Gangadhar Rai</td>
<td>Jlapakalpataru</td>
<td>19&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>7</td>
<td>Yogendranath Sen</td>
<td>Charakopaskara</td>
<td>20&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>8</td>
<td>Jyotisha Chandra Saraswati</td>
<td>Charaka Pradipika</td>
<td>20&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Commentator</th>
<th>Name of the Commentary</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sri Madhava</td>
<td>Tippani</td>
<td>9&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>2</td>
<td>Brahma Deva</td>
<td>-</td>
<td>10&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>3</td>
<td>Jejjata</td>
<td>-</td>
<td>6&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>4</td>
<td>Gayadasa</td>
<td>Nyaya Chandrika(or) Panjika</td>
<td>11&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>5</td>
<td>Chakrapani</td>
<td>Bhanumati</td>
<td>11&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>6</td>
<td>Dalhana</td>
<td>Nibandha Sangraha</td>
<td>12&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
<tr>
<td>7</td>
<td>Harana Chandra Chakravarti</td>
<td>Susrutardha Sandipani</td>
<td>20&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Commentator</th>
<th>Name of the Commentary</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indu</td>
<td>Seshilekha</td>
<td>9-10&lt;sup&gt;th&lt;/sup&gt; cent. AD</td>
</tr>
</tbody>
</table>
### Astanga Hridaya

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Commentator</th>
<th>Name of the Commentary</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aruna Datta</td>
<td>Sarvanga Sundari</td>
<td>12-13 cent. AD</td>
</tr>
<tr>
<td>2</td>
<td>Indu</td>
<td>Indumati</td>
<td>9-10 cent. AD</td>
</tr>
<tr>
<td>3</td>
<td>Hemadri</td>
<td>Ayurveda Rasayana</td>
<td>13th cent. AD</td>
</tr>
<tr>
<td>4</td>
<td>Chandranandana</td>
<td>Padardha Chandrika</td>
<td>10th cent. AD</td>
</tr>
<tr>
<td>5</td>
<td>Sridasa Pandita</td>
<td>Hridaya Bodhika (or)</td>
<td>14th cent. AD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hridaya Bodhini</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Shivadas Sen</td>
<td>Tatwa Bodha</td>
<td>15th cent. AD</td>
</tr>
</tbody>
</table>

### Madhava Nidana

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Commentator</th>
<th>Name of the Commentary</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vijayarakshita &amp; Srikanthadatta</td>
<td>Madhukosa</td>
<td>12th cent. AD</td>
</tr>
<tr>
<td>2</td>
<td>Vachaspati Vaidya</td>
<td>Atankadarpana</td>
<td>14th cent. AD</td>
</tr>
</tbody>
</table>

### Sarangadhara Samhita

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Commentator</th>
<th>Name of the Commentary</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adhamalla</td>
<td>Dipika</td>
<td>14th cent. AD</td>
</tr>
<tr>
<td>2</td>
<td>Kasiram Vaidya</td>
<td>Gudardha Dipika</td>
<td>17th cent. AD</td>
</tr>
<tr>
<td>3</td>
<td>Rudra Bhatt</td>
<td>Ayurveda Dipika</td>
<td>17th cent. AD</td>
</tr>
<tr>
<td>4</td>
<td>Vopadeva</td>
<td>-</td>
<td>14th cent. AD</td>
</tr>
</tbody>
</table>

### Nighantus

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Nighantu</th>
<th>Name of the Author</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amara Kosha</td>
<td>Amarasimha</td>
<td>7th cent. AD</td>
</tr>
<tr>
<td>2</td>
<td>Ashtanga Nighantu (or)</td>
<td>Vagbhata</td>
<td>8th cent. AD</td>
</tr>
<tr>
<td></td>
<td>Ashtanga Hridaya Nighantu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Paryaya Ratnamala</td>
<td>Madhava</td>
<td>8th-9th cent. AD</td>
</tr>
<tr>
<td>4</td>
<td>Dhanvantari Nighantu</td>
<td>Mahendra Bhogika</td>
<td>10th cent. AD</td>
</tr>
<tr>
<td>No.</td>
<td>Book Details</td>
<td>Author(s)</td>
<td>Date</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------</td>
<td>--------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>5</td>
<td><em>Madanadi Nighantu</em> (or) <em>Guna Nigraha</em></td>
<td>Chandranandana</td>
<td>10th-11th cent. AD</td>
</tr>
<tr>
<td>6</td>
<td><em>Dravyaguna Sangraha</em></td>
<td>Chakrapanidutta</td>
<td>11th cent. AD</td>
</tr>
<tr>
<td>7</td>
<td><em>Vaidya Vatamsa</em></td>
<td>Lolambaraja</td>
<td>11th cent. AD</td>
</tr>
<tr>
<td>8</td>
<td><em>Shodhala Nighantu</em> (or) <em>Nama Guna Sangraha</em></td>
<td>Shodhala</td>
<td>12th cent. AD</td>
</tr>
<tr>
<td>9</td>
<td><em>Siddhamantra</em></td>
<td>Kesava</td>
<td>12th cent. AD</td>
</tr>
<tr>
<td>10</td>
<td><em>Nighantu Sesa</em></td>
<td>Hem Chandra Suri</td>
<td>12th cent. AD</td>
</tr>
<tr>
<td>11</td>
<td><em>Hridaya Deepaka</em></td>
<td>Vopadeva</td>
<td>13th cent. AD</td>
</tr>
<tr>
<td>12</td>
<td><em>Madhava Dravyaguna</em></td>
<td>Madhava</td>
<td>13th cent. AD</td>
</tr>
<tr>
<td>13</td>
<td><em>Madanapala Nighantu</em> (or) <em>Madana Vinoda</em></td>
<td>Madanapala</td>
<td>14th cent. AD</td>
</tr>
<tr>
<td>14</td>
<td><em>Raja Nighantu</em> (or) <em>Nighantu Raja</em> (or) <em>Abhidana Chudamani</em></td>
<td>Narahari</td>
<td>14th cent. AD</td>
</tr>
<tr>
<td>15</td>
<td><em>Kaiyyadeva Nighantu</em> (or) <em>Pathyapathy Vibodhini</em></td>
<td>Kaiyyadeva</td>
<td>15th cent. AD</td>
</tr>
<tr>
<td>16</td>
<td><em>Bhavaparakasa Nighantu</em></td>
<td>Bhavamishra</td>
<td>16th cent. AD</td>
</tr>
<tr>
<td>17</td>
<td><em>Rajavallabha Nighantu</em></td>
<td>Vd. Rajavallabha</td>
<td>17th cent. AD</td>
</tr>
<tr>
<td>18</td>
<td><em>Shiva Kosha</em> (or) <em>Nanardha Oushadha Kosha</em></td>
<td>Shiva Mishra</td>
<td>17th cent. AD</td>
</tr>
<tr>
<td>19</td>
<td><em>Dravyaguna Sataka</em> (or) <em>Dravyaguna Satasloki</em></td>
<td>Trimalla Bhatt</td>
<td>17th cent. AD</td>
</tr>
<tr>
<td>20</td>
<td><em>Nighantu Ratnakara</em></td>
<td>Vishnu Vasandeva Godabole</td>
<td>1867 AD</td>
</tr>
<tr>
<td>21</td>
<td><em>Vaidyaka Sabda Sindhu</em></td>
<td>Umesh Chandra Gupta</td>
<td>1888 AD</td>
</tr>
<tr>
<td>22</td>
<td><em>Saligrama Nighantu</em></td>
<td>Lala Saligrama Vaidya</td>
<td>1896 AD</td>
</tr>
<tr>
<td>23</td>
<td><em>Siddha Bheshaja Manimala</em></td>
<td>Krishna ram Bhatt</td>
<td>1896 AD</td>
</tr>
<tr>
<td>24</td>
<td><em>Vanoushadhi Darpan</em></td>
<td>Kaviraj V. C. Gupta</td>
<td>1908 AD</td>
</tr>
<tr>
<td>25</td>
<td><em>Vanaspati Sastra</em></td>
<td>Jaya K. I. Thakur</td>
<td>1910 AD</td>
</tr>
<tr>
<td>26</td>
<td><em>Sandigdha Nirmayas</em></td>
<td>Bhagiradha Swami</td>
<td>1936 AD</td>
</tr>
<tr>
<td>27</td>
<td><em>Vanoushadhi Darsika</em></td>
<td>Thakur Balwant Singh</td>
<td>1950 AD</td>
</tr>
<tr>
<td>No.</td>
<td>Book Title</td>
<td>Author</td>
<td>Date</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------</td>
<td>-------------------</td>
<td>------------</td>
</tr>
<tr>
<td>28</td>
<td><em>Abhinava Nighantu</em></td>
<td>Pt. Dattaram Chube</td>
<td>20th cent. AD</td>
</tr>
<tr>
<td>29</td>
<td><em>Nighantu Adarsa</em></td>
<td>Bapalal Vaidya</td>
<td>20th cent. AD</td>
</tr>
<tr>
<td>30</td>
<td><em>Priya Nighantu</em></td>
<td>Acharya P.V. Sharma</td>
<td>20th cent. AD</td>
</tr>
<tr>
<td>31</td>
<td><em>Dravyaguna Kosha</em></td>
<td>Acharya P.V. Sharma</td>
<td>20th cent. AD</td>
</tr>
<tr>
<td>32</td>
<td>Glossary of Vegetable Drugs in <em>Brihat Trayee</em></td>
<td>Thakur Balwant Singh</td>
<td>20th cent. AD</td>
</tr>
<tr>
<td>33</td>
<td><em>Mahoshadha Nighantu</em></td>
<td>Aryadasa Kumara Singh</td>
<td>1971 AD</td>
</tr>
<tr>
<td>34</td>
<td><em>Pharmacographia India</em></td>
<td>William Dymock, Warden &amp; Hooper</td>
<td>1890 AD</td>
</tr>
<tr>
<td>35</td>
<td>Indian Materia Medica</td>
<td>K.N. Nadakarni</td>
<td>1908 AD</td>
</tr>
<tr>
<td>36</td>
<td>Dictionary of Economic Products of India</td>
<td>George Watt</td>
<td>1908 AD</td>
</tr>
<tr>
<td>37</td>
<td>Indian Medicinal Plants</td>
<td>Kirtikar &amp; Basu</td>
<td>1913 AD</td>
</tr>
<tr>
<td>38</td>
<td>Indigenous Drugs of India</td>
<td>Col. R.N. Chopra</td>
<td>1954 AD</td>
</tr>
</tbody>
</table>

****
Annexure –II
Ancient treatises on various branches of Ayurveda

1. Kayachikitsa
   1. Agnivesa Samhita
   2. Bhela Samhita
   3. Jatukarna Samhita
   4. Parasara Samhita
   5. Harita Samhita
   6. Ksharapani Samhita
   7. Kharanada Samhita
   8. Viswamitra Samhita
   9. Aindra Samhita
  10. Atri Samhita
  11. Markandeya Samhita
  12. Aswani Samhita
  13. Bharadwaja Samhita
  14. Bhanuputra Samhita etc.

2. Bala Chikitsa
   1. Vridhha Kasyapa Samhita
   2. Kasyapa Samhita
   3. Jivaka Tantra
   4. Hiranyaksha Tantra
   5. Ravana Tantra

3. Graha Chikitsa
   1. Adharva Tantra etc.

4. Urdhwanga Chikitsa
   1. Videha Tantra
   2. Nimi Tantra
   3. Kankayana Tantra
   4. Gargya Tantra
   5. Galava Tantra
   6. Karala Tantra
   7. Chakshusya Tantra
   8. Krishnatreya Tantra
   9. Sounaka Tantra
  10. Satyaki Tantra etc.

5. Salya Chikitsa
   1. Aupadhenava Tantra
   2. Aurabhra Tantra
   3. Vridhha Susruta Tantra
   4. Susruta Tantra
   5. Poushkalavata Tantra
   6. Vaitarana Tantra
   7. Vridhha Bhoja Tantra
   8. Bhoja Tantra
6. Damshtra Chikitsa
   1. Vridhha Kasyapa Samhita
   2. Kasyapa Samhita
   3. Sanaka Samhita
   4. Latayana Samhita
   5. Alambayana Samhita
   6. Upanasa Samhita
   7. Brihaspati Samhita

7. Jara Chikitsa
   1. Patanjali Tantra
   2. Vasishta Tantra
   3. Mandavya Tantra
   4. Nagarjuna Tantra
   5. Agasthya Tantra
   6. Bhrigu Tantra
   7. Kpinjala Tantra

8. Vrisha Chikitsa
   1. Kuchumara Tantra

*****
# Annexure - III

Table showing the divisions & number of chapters of important Samhitas

<table>
<thead>
<tr>
<th>Division</th>
<th>Charaka Samhita</th>
<th>Susruta Samhita</th>
<th>Astanga Hridaya</th>
<th>Ashtanga Sangraha</th>
<th>Bhela Samhita</th>
<th>Kasyapa Samhita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutra Sthana</td>
<td>30</td>
<td>46</td>
<td>30</td>
<td>40</td>
<td>30</td>
<td>28*</td>
</tr>
<tr>
<td>Nidana Sthana</td>
<td>8</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>8</td>
<td>-*</td>
</tr>
<tr>
<td>Vimana Sthana</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>1*</td>
</tr>
<tr>
<td>Sareera Sthana</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>12</td>
<td>8</td>
<td>5*</td>
</tr>
<tr>
<td>Indriya Sthana</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>1*</td>
</tr>
<tr>
<td>Chikitsa Sthana</td>
<td>30</td>
<td>40</td>
<td>22</td>
<td>24</td>
<td>30</td>
<td>18*</td>
</tr>
<tr>
<td>Kalpa Sthana</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>11*</td>
</tr>
<tr>
<td>Siddhi Sthana</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>8*</td>
</tr>
<tr>
<td>Uttara Tantra</td>
<td>-</td>
<td>66</td>
<td>40</td>
<td>50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Khila Sthana</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>25*</td>
</tr>
<tr>
<td>Total Chapters</td>
<td>120</td>
<td>186</td>
<td>120</td>
<td>150</td>
<td>120</td>
<td>120*</td>
</tr>
<tr>
<td>Divisions</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Verses</td>
<td>9295</td>
<td>8300</td>
<td>7446</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Only that number of chapters is available in Kasyapa Samhita mentioned against each Sthana and that too full text is not available. Nidana Sthana is completely lost.

*****
Annexure – IV

Standard Reference Works of Ayurveda

P.G. Scholars and Researchers of Ayurveda have to refer the following standard works for the purpose of compilation of the topic chosen by them.

1. Charaka Samhita	2. Susruta Samhita
3. Ashtanga Sangraha	4. Ashtanga Hridaya
5. Bhela Samhita	6. Harita Samhita
17. Yogatarangini	18. Yogaratnakara
21. Rajamartanda	22. Lolambarajeeyam
23. Basawarajeeyam	24. Vaidya Chintamani
27. Vaidya Vatamsa	28. Siddhayoga Sangraha
29. Chikitsa Pradeepa	30. Madhavanidana
31. Siddhamantra	32. Ayurveda Vyadhi Vignan
33. Siddhanta Nidana	34. Amarakosha
35. Dhanvantari Nighantu	36. Shodhala Nighantu
37. Madanapala Nighantu	38. Kalyyadeva Nighantu
39. Bhavaprakasa Nighantu	40. Raja Nighantu
41. Saligrama Nighantu	42. Dravyaguna Sataka
43. Nighantu Ratnakara	44. Rajavallabha Nighantu
45. Nighantu Sangraha	46. Nighantu Adarsa
47. Hridaya Dipika	48. Dravyaguna Sangraha
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>49.</td>
<td><em>Rasarnava</em></td>
</tr>
<tr>
<td>50.</td>
<td><em>Rasendra Chudamani</em></td>
</tr>
<tr>
<td>51.</td>
<td><em>Rasa Prakasa Sudhakara</em></td>
</tr>
<tr>
<td>52.</td>
<td><em>Rasaratnasamucchaya</em></td>
</tr>
<tr>
<td>53.</td>
<td><em>Rasa Ratnakara</em></td>
</tr>
<tr>
<td>54.</td>
<td><em>Ayurveda Prakasa</em></td>
</tr>
<tr>
<td>55.</td>
<td><em>Rasa yoga Sagara</em></td>
</tr>
<tr>
<td>56.</td>
<td><em>Rasajalanidhi</em></td>
</tr>
<tr>
<td>57.</td>
<td><em>Rasa Tarangini</em></td>
</tr>
<tr>
<td>58.</td>
<td><em>Rasamrita</em></td>
</tr>
<tr>
<td>59.</td>
<td><em>Ananda kanda</em></td>
</tr>
<tr>
<td>60.</td>
<td><em>Rasendra Sara va Siddha prayoga Sangraha</em></td>
</tr>
</tbody>
</table>

*****
Annexure – V
Alternative medical systems

All human societies have medical beliefs that provide explanations for birth, death, and disease. Throughout history, illness has been attributed to witchcraft, demons, adverse astral influence, or the will of the gods. These ideas still retain some power, with faith healing and shrines still used in some places, although the rise of scientific medicine over the past millennium has altered or replaced many of the old beliefs. The following are the alternative medical systems to Ayurveda.

1. Allopathy
2. Homeopathy
3. Unani
4. Siddha
5. Yoga
6. Naturopathy
7. Chiropractic
8. Osteopathy
9. Traditional Chinese medicine
10. Herbalism
11. Manual lymphatic drainage

Allopathy:

- Hippocrates of Cos II (460 BC – 370 BC) - was an ancient Greek physician of the Age of Pericles, and was considered one of the most outstanding figures in the history of medicine. He is referred to as the ‘Father of Medicine’ in recognition of his lasting contributions to the field as the founder of the Hippocratic School of medicine.
- Medicine was revolutionized in the 19th century and beyond by advances in chemistry and laboratory techniques and equipment, old ideas of infectious disease epidemiology were replaced with bacteriology.
- Much in medicine which is now taken for granted was undreamed of even as recently as 20 years ago. Progress in diagnosis, in preventive medicine and in treatment, both medical and surgical, has been rapid and breathtaking. Presently smallpox has been eradicated, poliomyelitis practically banished, tuberculosis has become curable and coronary artery disease surgically relievable.
• The dramatic surge in the field of molecular biology and research by immunologists and geneticists has succeeded in controlling parasitic diseases like malaria and river blindness that affect millions of people around the world.

• "Mens sana in corpore sano" - a sound mind in a sound body. Human body and its many parts may be helped to normal function by modern medicines and surgery but, in general, it will only stay that way if one can avoid all emotional blemishes – anger, frustration, fear, worry and anxiety—which trouble him. Easier said than done, of course, but a good physician can help with good advice, with medicines if necessary.

• Most diseases caused by infectious organisms can be controlled by drugs, many can be prevented by vaccination and some dreaded diseases like smallpox have been eradicated. But newly evolving diseases like AIDS was reported in USA in 1981, people in more than 175 countries have been affected by now.

• At present more importance is given to prevention of the spread of the virus by adoption of various health practices. A major advance in the field of medicine is in prenatal diagnosis. Diagnosis and, to some extent, treatment can be done for many diseases in the mother’s womb itself long before the child is born.

• Genetic engineering involves manipulation of genetic material present in the cell nucleus which controls the expression of various characteristics of the organism. A very promising application is going to be gene replacement therapy where the necessary DNA sequence can be incorporated into the cells of an organism lacking it thus providing a permanent correction of the defect.

Homeopathy:

• **Homeopathy** is a form of alternative medicine first defined by Samuel Hahnemann in the 18th century and he was considered to be the father of homeopathy.

• Hahnemann observed from his experiments with cinchona bark, used as a treatment for malaria, that the effects he experienced from ingesting the bark were similar to the symptoms of malaria.

• He therefore reasoned that cure proceeds through similarity, and that treatments must be able to produce symptoms in healthy individuals similar to those of the disease being treated.
• Through further experiments with other substances, Hahnemann conceived of the “law of similars”, otherwise known as “like cures like” (Latin: similia similibus curentur) as a fundamental healing principle.

• He believed that by inducing a disease through use of drugs, the artificial symptoms empowered the vital force to neutralize and expel the original disease and that this artificial disturbance would naturally subside when the dosing ceased.

• According to homeopaths, serial dilution, with shaking between each dilution, removes the toxic effects of the remedy while the qualities of the substance are retained by the diluent (water, sugar, or alcohol). The end product is often so diluted that materially it is indistinguishable from pure water, sugar or alcohol.

• Practitioners select treatments according to a patient consultation that explores the physical and psychological state of the patient, both of which are considered important to selecting the remedy.

Unani medicine:

• Though the threads which comprise Unani healing can be traced all the way back to Claudius Galenus of Pergamum, who lived in the second century of the Christian era, the basic knowledge of Unani medicine as a healing system was developed by Hakim Ibn Sina (known as Avicenna in the west) in his medical encyclopedia The Canon of Medicine.

• The time of origin is thus dated at circa 1025 AD, when Avicenna wrote The Canon of Medicine in Persia. While he was primarily influenced by Greek and Islamic medicine, he was also influenced by the Indian medical teachings of Susruta and Charaka.

• As an alternative medicine, Unani has found favor in Asia, especially India.

• In India, Unani practitioners can practice as qualified doctors, as the Indian government approves their practice. Unani medicine is very close to Ayurveda.

• Both are based on theory of the presence of the elements (in Unani, they are considered to be fire, water, earth and air) in the human body. (The elements, attributed to the philosopher Empedocles, determined the way of thinking in medieval Europe.)
According to followers of Unani medicine, these elements are present in different fluids and their balance leads to health and their imbalance leads to illness.

Most medicines and remedies (often common herbs and foods) used in Unani are also used in Ayurveda. While Unani was influenced by Islam, Ayurveda is associated with Vedic culture.

The base used in Unani medicine is often honey. Honey is considered by some to have healing properties and hence is used in food and medicines practiced in the Islamic world.

Real pearls and metal are also used in the making of Unani medicine based on the kind of ailment it is aimed to heal.

Siddha medicine

The Siddha system of medicine is a form of South Indian traditional medicine.

It is believed by followers to have been handed over to the Siddhar by the Gods. Siddhars were the followers of Lord Shiva (Saivism).

According to the scriptures, there were 18 principal Siddhars. Of these 18, saint Agasthiyar is believed to be the father of Siddha Medicine.

Siddhas believe that a healthy soul can only be developed through a healthy body. So they have developed methods and medication that are believed to strengthen their physical body and thereby their souls.

They wrote scriptures about how this can be done. Through these methods they believe disease can be removed and they believe they can also gain immortality.

The Siddhars wrote their knowledge in palm leaf manuscripts, fragments of which were found in different parts of South India.

It is believed that some families may possess more fragments, but keep them solely for their own use.

From these manuscripts, the Siddha System of medicine developed into a part of Indian medical science. Today there are recognized Siddha Medical Colleges, run under the government universities where Siddha medicine is taught.

Siddha medicine also categories diseases into Vata, Pitta and Kapha like Ayurveda.
Yoga:

- **Yoga** is a healing system of theory and practice. It is a combination of breathing exercises, physical postures, and meditation.

- **Patanjali** (200 BC) is the compiler of the Yoga Sutras, a major work containing aphorisms on the philosophical aspects of mind and consciousness. He had shown the path for liberation by means of *Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana* and *Samadhi*.

- In recent decades the Yoga Sutra has become quite popular worldwide for the precepts regarding practice of Raja Yoga and its philosophical basis.

- “Yoga” in traditional Hinduism involves inner contemplation, a rigorous system of meditation practice, ethics, metaphysics, and devotion to the one common soul, God, or Brahman.

- While Yoga evolved as a spiritual practice, in the West it has grown popular as a form of purely physical exercise.

- Some Western practice has little or nothing to do with Hinduism or spirituality, but is simply a way of keeping fit and healthy. This differs from the traditional Eastern view of yoga.

- Yoga was first introduced to American society in the late nineteenth century by Swami Vivekananda, the founder of the *Vedanta Society*. He believed that India has an abundance of spiritual wealth and that yoga is a method that could help those who were bound by the materialism of capitalist societies to achieve spiritual well-being.

- Today, yoga is now a lucrative and growing business. About 16.5 million Americans now spend nearly $3 billion annually on classes and products, a February 2005 poll by Harris Interactive and *Yoga Journal* magazine revealed.

- Yoga is believed to calm the nervous system and balance the body, mind, and spirit. It is thought by its practitioners to prevent specific diseases and maladies by keeping the energy meridians open and life energy (Prana) flowing.

- Yoga has been used to lower blood pressure, reduce stress, and improve coordination, flexibility, concentration, sleep, and digestion.

- It has also been used as supplementary therapy for such diverse conditions as cancer, diabetes, asthma, AIDS and Irritable Bowel Syndrome.
• The popularization in the West of the medical aspect of Yoga is largely attributed to Dr. Swami Sivananda Saraswati’s Bihar School of Yoga.

Naturopathy:

• **Naturopathic medicine** (also known as **naturopathy**) is a complementary and alternative medicine.
• Naturopathic practice may include different modalities such as hydrotherapy, Herbalism, counseling, environmental medicine, nutritional counseling etc.
• Practitioners emphasize a holistic approach to patient care. It is practiced in many countries but subject to different standards of regulation and levels of acceptance.
• Naturopathic practitioners prefer not to use invasive surgery, or most synthetic drugs, preferring “natural” remedies, for instance relatively unprocessed or whole medications, such as herbs and foods.
• Practitioners from accredited schools are trained to use diagnostic tests such as imaging and blood tests before deciding upon the full course of treatment.
• If the patient does not respond to these treatments, they are often referred to physicians who utilize standard medical care to treat the disease or condition.
• In Scotland, Dr Thomas Allinson started advocating naturopathy in the 1880s, promoting a natural diet and exercise with avoidance of tobacco and overwork.
• In the USA, the term naturopathy was coined before 1900, by John Scheel, and used by Benedict Lust.
• In 1905, Lust founded the American School of Naturopathy in New York, the first naturopathic college in the United States.
• Naturopathic medicine went into decline, along with most other natural health professions, after the 1930s, with the discovery of penicillin and advent of synthetic drugs such as antibiotics and corticosteroids.
• Naturopathic medicine never completely ceased to exist, however, as there were always a few states in which licensing laws existed—though at one point there were virtually no schools.
• One of the most visible steps towards the profession’s modern renewal was the opening in 1956 of the National College of Naturopathic Medicine in Portland, Oregon. This was the first of the modern naturopathic medical
schools offering four-year naturopathic medical training with the intention of integrating science with naturopathic principles and practice.

- There are also many doctors trained in conventional medicine who have acquired naturopathy degrees so as to integrate the insights gained into their system of practice.
- The Indian stream of naturopathy differs from the Western stream in many ways, particularly in their emphasis on strict Vegetarianism and Yoga.

**Chiropractic:**

- **Chiropractic** is a complementary and alternative medicine health care profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system, and the effects of these disorders on the functions of the nervous system and general health.
- Chiropractic was founded in 1895 by D. D. Palmer in the USA, and is now practiced in more than 100 countries.
- Chiropractors have two main groups, “straights” and “mixers”; both have had splinter groups.

- Significant differences regarding scope of practice, claims made about spinal manipulation, and beliefs regarding professional integration, differentiate the various schools of thought and practice styles held within the profession.
- There is an emphasis on manual therapy including spinal adjustment and other joint and soft-tissue manipulation.
- Traditionally, it is based on the premise that a vertebral subluxation or spinal joint dysfunction can interfere with the nervous system and result in many different conditions of diminished health.
- Today, the progressive view examines the relationship between structure and function and its impact on neurological mechanisms in both health and disease.
- Chiropractors, known as Doctors of Chiropractic or chiropractic doctors/physicians, in some jurisdictions, use a combination of treatments which are predicated on the specific needs of the individual patient.
- A chiropractor can develop and carry out a comprehensive treatment/management plan which can include spinal adjustments, soft tissue therapy, prescription of exercises, and health and lifestyle counseling.
Osteopathy:

- **Osteopathy** is an approach to healthcare that emphasizes the role of the musculoskeletal system in health and disease.
- The practice of osteopathic medicine began in the United States in 1874.
- The term "osteopathy" was coined by Andrew Taylor Still, M.D., who was born in 1828 in Virginia. Still was a free state leader who lived near Baldwin City, Kansas at the time of the American Civil War, and it was here he developed the practice of osteopathy.
- In most countries osteopathy is a form of complementary medicine, emphasizing a holistic approach and the skilled use of a range of manual and physical treatment interventions (osteopathic manipulative medicine, or OMM in the United States) in the prevention and treatment of disease.
- In practice, this most commonly relates to musculoskeletal problems such as back and neck pain.
- Many osteopaths see their role as facilitating the body's own recuperative powers by treating musculoskeletal or somatic dysfunction.
- In the United Kingdom, courses in Osteopathy have recently become integrated into the university system.

Traditional Chinese medicine:

- **Traditional Chinese medicine** (also known as TCM) is considered a Complementary or Alternative Medical system in most of the world.
- It includes a range of traditional medical practices originating in China that has developed over several thousand years.
- TCM practices include theories, diagnosis and treatments such as herbal medicine, acupuncture and massage; often Qigong is also strongly affiliated with TCM.
- TCM is a form of so-called Oriental medicine, which includes other traditional East Asian medical systems such as traditional Japanese and Korean medicine.
- TCM theory asserts that processes of the human body are interrelated and in constant interaction with the environment.
• TCM practitioners believe signs of disharmony help them to understand, treat and prevent illness and disease.
• TCM theory is based on a number of philosophical frameworks including the theory of Yin-yang, the Five Elements, the human body Meridian system, Zang Fu organ theory, and others.
• Diagnosis and treatment are conducted with reference to these concepts.
• TCM does not operate within the contemporary scientific paradigm, but some practitioners make efforts to bring practices into a biomedical and evidence-based medicine framework.

Herbalism:
• **Herbalism** is a traditional medicinal or folk medicine practice based on the use of plants and plant extracts.
• Herbalism is also known as botanical medicine, medicinal botany, medical herbalism, herbal medicine, herbology, and phytotherapy.
• Sometimes the scope of herbal medicine is extended to include fungi and bee products, as well as minerals, shells and certain animal parts.
• Many plants synthesize substances that are useful to the maintenance of health in humans and other animals. These include aromatic substances, most of which are phenols or their oxygen-substituted derivatives such as tannins.
• Many are secondary metabolites, of which at least 12,000 have been isolated - a number estimated to be less than 10% of the total.
• In many cases, these substances (particularly the alkaloids) serve as plant defense mechanisms against predation by microorganisms, insects, and herbivores.
• Many of the herbs and spices used by humans to season food yield useful medicinal compounds

Manual lymphatic drainage:
• **Manual lymphatic drainage** (MLD) is a type of gentle massage which is believed by proponents to encourage the natural circulation of the lymph through the body.
• The lymph system depends on peristalsis and the movement of skeletal muscles to squeeze fluid through lymph ducts and vessels.
• Manual Lymphatic Drainage was pioneered by Dr. Emil Vodder in the 1930s for the treatment of chronic sinusitis and other immune disorders.

• While working on the French Riviera treating patients with chronic colds, they noticed these patients had swollen lymph nodes.

• In the 1930s it was taboo to tamper with the lymphatic system due to the medical profession’s poor understanding of this system.

• The Vodders were not deterred by this, and in 1932 began to study the lymph system, and developed careful hand movements to cause lymph movement. In 1936 after four years of research they introduced this technique in Paris, France.

• It is now recognized as a primary tool in Lymphedema management. Therapists can today receive certification through special classes conducted by various organizations specializing in MLD.

*****
Annexure – VI

Milestones in Medicine

1. The stethoscope was invented in France in 1816 by René-Théophile-Hyacinthe Laennec

2. The Surgeon-in-Chief of the French Grand Army, “Baron Dominique Larry” created the first official army medical corp. in 1792.

3. Earle Dickson of California invented this protective attachable dressing for cuts & scrapes (Band-Aid) in the year 1921

4. Daniel Gabriel Fahrenheit (1686-1736) was the German physicist who invented the alcohol thermometer in 1709.

5. Frederick Banting discovered insulin was a treatment for diabetes in 1921-22 at the University of Toronto.

6. In 1944 Charles Drew discovered The Blood Bank in America
7. In 1924, Willem Einthoven won the Nobel Prize for inventing the electrocardiograph.

8. “Charles Gabriel Pravaz (1791-1853), French surgeon, and Alexander Wood (1817-1884), Scottish physician, independently invented the hypodermic syringe.

9. The Hippocratic bench was a device invented by Hippocrates (c. 460 BC–380 BC) which used tension to aid in setting bones. It is a forerunner of the traction devices used in modern orthopedics, as well as of the rack, an instrument of torture.

10. In 1905, the first scientist to determine that if special factors (vitamins) were removed from food disease occurred was Englishmen, William Fletcher. Doctor Fletcher was researching the causes of the disease Beriberi when he discovered that eating unpolished rice prevented Beriberi and eating polished rice did not. William Fletcher believed that there were special nutrients contained in the husk of the rice.

11. Ultrasound is energy generated by sound waves of 20,000 or more vibrations per second. Ultrasound is used in a large collection of imaging tools. Often used for medical diagnostics. Doctor Karl Theodore Dussik of Austria, who published the first paper on medical ultrasonics in 1942, based on his research on transmission ultrasound investigation of the brain; and Professor Ian Donald of Scotland, who developed practical technology and applications for ultrasound in the 1950s.

12. Sushruta (1500 - 1000 BC) was a renowned surgeon of ancient India, and the author of the book Sushruta Samhita. Sushruta is also the father of Plastic Surgery and Cosmetic Surgery since his technique of forehead flap Rhinoplasty (repairing the disfigured nose with a flap of skin from the forehead), that he used to reconstruct noses that were amputated, is practiced almost unchanged in technique to this day.
13. Abu al-Qasim was born in Spain in the year 936 AD. He has been credited to be the first to describe ectopic pregnancy in 963, at that time a fatal affliction. He was a surgeon and specialized in curing disease by cauterization. He also invented several devices used during surgery, for the purpose of: inspection of the interior of the urethra, applying and removing foreign bodies from the throat, and inspection of the ear. He died in the year 1013 AD, at 77 years of age.

14. Abu Musa Jabir ibn Hayyan (c. 721–c. 815), also known as Geber, was a prominent Shi’a Muslim polymath: a chemist and alchemist, astronomer and astrologer, engineer, philosopher, and pharmacist and physician. He is “considered by many to be the father of chemistry”.

15. Nicholas Culpeper (18 October 1616 – 1654 in London) was an English botanist, herbalist, physician, and astrologer. His published books, The English Physician (1652) and the Complete Herbal (1653), contain a rich store of pharmaceutical and herbal knowledge.

16. Wilhelm Conrad Röntgen (1845 –1923) was a German physicist, who, on November 8, 1895, discovered x-rays or Röntgen rays, an achievement that earned him the first Nobel Prize in Physics in 1901.

17. In 1928, Sir Alexander Fleming discovered Penicillin and won the Nobel Prize in Physiology or Medicine in the year 1945 jointly along with Ernst Boris Chain of UK and Sir Howard Walter Florey of Australia.
18. **Louis Pasteur** (1822- 1895) of France invented pasteurization. His discovery that most infectious diseases are caused by germs, known as the “germ theory of disease,” is one of the most important in medical history. He solved the mysteries of rabies, anthrax, chicken cholera, and silkworm diseases, and contributed to the development of the first vaccines.

19. **Jules Jean Baptiste Vincent Bordet** (Belgium 13 June 1870 – 6 April 1961) was a Belgian immunologist and microbiologist. The bacterial genus *Bordetella* is named for him. He described phagocytosis of bacteria by white blood cells. In 1898 he described hemolysis evoked by exposure of blood serum to foreign blood cells. The Nobel Prize in Physiology or Medicine was awarded to him in 1919 for his discoveries relating to immunity.

20. **Andreas Vesalius** (1514 - 1564) of Belgium was an anatomist, physician, and author of one of the most influential books on human anatomy, *De humani corporis fabrica* (*On the Workings of the Human Body* -1543). Vesalius is often referred to as the founder of modern human anatomy.

21. **William Harvey** (1578 -1657) was an English physician who is credited with being the first in the Western world to describe correctly and in exact detail the systemic circulation and properties of blood being pumped around the body by the heart in the year 1628.

22. **Antonie Philips van Leeuwenhoek** (1632 –1723) was a Dutch tradesman and scientist from Delft, the Netherlands. In 1676 he discovered bacteria and is commonly known as “the Father of Microbiology”. He is considered to be the first microbiologist.

23. **Edward Jenner**, FRS, (May 17, 1749 – January 26, 1823) was an English scientist who is famous as the first doctor to introduce and study the smallpox vaccine in the year 1796.
24. **Crawford Williamson Long** (1815 –1878) was an American physician and pharmacist. He performed the first surgical operation in general anesthesia induced by ether in the year 1842.

25. **Harrison, Ross Granville** (1870–1959) American biologist and embryologist in 1907 figured out how to grow living cells outside the body there by lying the foundation for ‘Tissue Culture’

26. **Nikolai Anichkov** (1885 - 1964) Russian Doctor discovered the role of Cholesterol in coronary heart disease, currently the world’s most deadly disease.

27. **Maurice Hugh Frederick Wilkins** (1916 –2004) was a New Zealand-born British molecular biologist, in 1953 pioneered the work of isolating a single fiber of D.N.A. – the heredity bearing molecule. In recognition of this work, he, Francis Crick and James Watson were awarded the 1962 Nobel Prize for Physiology or Medicine, “for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material.

28. **Oswald Theodore Avery** (1877–1955) was a Canadian-born American physician and medical researcher. He discovered in 1944 that DNA is the material of which genes and chromosomes are made.
29. Rosalind Elsie Franklin (1920-1958) was an English biophysicist who made important contributions to the understanding of double helical structure of DNA in 1953.

30. Thomas Hunt Morgan (1866 – 1945) was an American geneticist and embryologist. Morgan discovered that genes are carried on chromosomes and are the mechanical basis of heredity. These discoveries formed the basis of the modern science of genetics. He was awarded the Nobel Prize in Physiology or Medicine in 1933.

*****
Annexure - VII
Research & Conservation of Medicinal Plants

National Medicinal Plants Board
Department of AYUSH

- The Medicinal Plants Board was set up under a Government Resolution (No. Z.18020/19/97-M.P.Cell) notified on 24th November 2000 under the Chairpersonship of Union Health & Family Welfare Minister.
- India has 15 Agro climatic zones, 47000 different plant species and 15000 medicinal plants.
- The Indian Systems of Medicine have identified 1500 medicinal plants, of which 500 species are mostly used in the preparation of drugs.
- The medicinal plants contribute to cater 80% of the raw materials used in the preparation of drugs.
- According to WHO report, over 80% of the world population relies on traditional medicine largely plant based for their primary healthcare needs.
- The objectives of establishing a Board is to establish an agency which would be responsible for co-ordination of all matters relating to medicinal plants, including drawing up policies and strategies for conservation, proper harvesting, cost-effective cultivation, research and development, processing, marketing of raw material in order to protect, sustain and develop this sector.

- Functions of the Board
  1. Assessment of demand/supply position relating to medicinal plants both within the country and abroad.
  2. Advise concerned Ministries/ Departments/ Organizations/ State/ UT Governments on policy matters relating to schemes and programmes for development of medicinal plants.
  3. Provide guidance in the formulation of proposals, schemes and programmes etc. to be taken-up by agencies having access to land for cultivation and infrastructure for collection, storage and transportation of medicinal plants.
4. Identification, inventorisation and quantification of medicinal plants.
5. Promotion of ex-situ/in-situ cultivation and conservation of medicinal plants.
6. Promotion of co-operative efforts among collectors and growers and assisting them to store, transport and market their produce effectively.
7. Setting up of data-base system for inventorisation, dissemination of information and facilitating the prevention of Patents being obtained for medicinal use of plants which is in the public domain.
8. Matters relating to import/export of raw material, as well as value added products either as medicine, food supplements or as herbal cosmetics including adoption of better techniques for marketing of product to increase their reputation for quality and reliability in the country and abroad.
10. Development of protocols for cultivation and quality control.
11. Encouraging the Protection of patent Rights and IPR

Annual Demand of 32 Prioritized Medicinal Plants

1. Amla - Emblica officinalis
2. Ashoka - Saraca indica
3. Aswagandha - Withania somnifera
4. Ativisha - Aconitum heterophyllum
5. Bilwa - Aegle marmelos
6. Bhumyamalaki - Phyllanthus amarus
7. Brahmi - Bacopa monnieri
8. Chandana - Santalum album
9. Kiratatikta - Swertia chirata
10. Daruharidra - Berberis aristata
11. Guduchi - Tinospora cordifolia
12. Ajasringi - Gymnema sylvestre
13. Guggulu - Commiphora wightii
14. Esabgol - Plantago ovata
15. Jatamansi - Nardostachys jatamansi
16. Langali - Gloriosa superba
17. Kalamegha - Andrographis paniculata
18. Kesara - Crocus sativus
19. Kokum - Garcima indica
20. Kushta - Saussurea costus
21. Katuki - Picorhiza kurrooa
22. Kakamachi - Solanum nigrum
23. Yashtimadhu - Glycyrrhiza glabra
24. Parna Yavani - Coleus barbatus
25. Pippali - Piper longum
26. Sweta Musali - Chlorophytum borivillianum
27. Sarpagandha - Rauwolfia serpentina
28. Senna - Cassia angustifolia
29. Satavari - Asparagus racemosus
30. Tulasi - Ocimum sanctum
31. Vatsanabhi - Aconitum ferox
32. Vidanga - Embelia ribes

Botanical Survey of India

The Botanical Survey of India (BSI) was formally instituted on February 13, 1890 under the direction of Sir George King, who had been superintendent of Royal Botanic Garden, Calcutta since 1871.

King became the first ex-officio Director of Botanical Survey of India (BSI). The Calcutta Garden became the headquarters of the Survey and was given regional responsibility for Bengal, Assam, North East, Burma, and the Andaman and Nicobar Islands.

OBJECTIVES

I. Primary Objectives

1. To survey the plant resources of the country.
2. To undertake and complete taxonomic studies of all the flora of the country.
3. To enlist the endangered species, to undertake measures for the effective conservation and to collect and maintain germ plasm and gene bank of endangered, patent and vulnerable species.
4. To bring out volumes of National Flora and Flora of States/Union Territories.
5. To identify, collect and preserve specimens of plants which are economically and otherwise beneficial to human being and
6. To prepare National Database of herbarium collection including types, live collections, plant genetic resources, plant distribution and nomenclature.

II. Secondary Objectives

1. To undertake studies on selected critical and fragile ecosystems.
2. To undertake assessment of flora relating to environment impact studies as and when called for;
3. To undertake ethno botanical studies and evaluate plants of economic utility in specified areas and
4. To carry out geo botanical studies in specified areas.

List of Botanical Gardens of India

1. Agri-Horticultural Survey of India, Alipore, Kolkata
2. Indian Botanical Gardens Shibpur, Howrah, Kolkata
3. Lal Bagh Gardens, Bangalore, Karnataka
4. Government Botanical Gardens at Ootacamund, Tamilnadu
6. Lloyd’s Botanical Gardens, Darjeeling, West Bengal
7. Saharanpur Botanical Gardens, Saharanpur, U.P.

I. The Indian Botanical Gardens are situated in Shibpur, Howrah near Kolkata. Previously they were known as Royal Botanic Garden.

- The gardens were founded in 1787 by Colonel Robert Kyd, an army officer of the British East India Company.
- The gardens exhibit a wide variety of rare plants and a total collection of over 12,000 specimens spread over 109 hectares.
- This collection of dried plant specimens eventually became the Central National Herbarium of the Botanical Survey of India, which comprises 2,500,000 items.
- During the 1970s the garden initiated a program to introduce improved food plants and other varieties of economic benefit to the people of India.

II. The Government Botanical Gardens at Ootacamund, Tamilnadu state, India, was laid out in 1847.

- The Gardens, divided into several sections, cover an area of around 22 hectares, and lie on the lower slopes of the Doddabetta peak.

27 His.Ayur.
This botanical garden was created by John Sullivan, Collector of the district of Coimbatore in 1819. The Gardens have around 1000 species, both exotic and indigenous, of plants, shrubs, ferns, trees, and herbal plants.

In the centre of the Gardens lie a fossilized tree trunk estimated to be 20 million years old. The rose garden situated in Ooty has the largest collection of roses in the country.

**Government Botanical Gardens at Ootacamund**

**III. Lal Bagh Botanical Garden** is a well known botanical garden in Bangalore, India

- The garden was commissioned by the ruler of Mysore, Hyder Ali.
- Hyder Ali commissioned the building of this garden in 1760 but his son, Tipu Sultan, completed it. Lal Bagh is a 240 acre garden and is located on the southern part of Bangalore.
- The garden has over 1,000 species of flora. The Glass House, modeled on London’s Crystal Palace, is the center of attraction. Hyder Ali laid out these famous botanical gardens and his son added horticultural wealth to them by importing trees and plants from several countries.

**Regional Research Institute (Ay.), Pune**

**Location:**
Regional Research Institute (Ay), Pune,
Jawaharlal Nehru Medicinal Plants Garden and Herbarium,
Kothrud, Pune-411028

**Activities:**
1. Cultivation of Medicinal Plants
2. Pharmacognostic Research
3. Tissue Culture Research
4. Compilation on database on medicinal plant used in Ayurveda and Siddha
Central Drug Research Institute

- Central Drug Research Institute (CDRI) is one of the first and few laboratories that were established in India right after its independence.
- CDRI is among the thirty eight laboratories that are functioning under the aegis of the Council of Scientific and Industrial Research (CSIR) of India headed by the Prime Minister of the nation as its president.
- CDRI was formally inaugurated on 17th Feb 1951 by the then Prime Minister of India, Pandit Jawaharlal Nehru
- CDRI is considered to be a pioneer research organization in the field of biomedical research where all the infrastructure and expertise are available to develop a drug right from its concept to market.
- The very latest techniques and methodologies are employed for developing drugs, diagnostics and vaccines to combat diseases prevalent among mankind in general and Indian population in particular.
- CDRI is a multidisciplinary research laboratory consisting of scientific personnel of various areas of biomedical sciences.
- For administrative and scientific purposes the Institute’s manpower has been grouped into 17 R & D divisions and few divisions providing technical and scientific support.
- Two data centers and one field station located outside CDRI are providing operational support.

Golden Triangle Partnership Scheme

• It was decided to set up an integrated technology mission for the development of Ayurveda and traditional medical knowledge based on synchronized working of modern medicine, traditional medicine and modern science with special budgetary support.

• Subsequently, in a meeting on 8th July, 2004, Secretary, Department of AYUSH, Director General, CSIR and Director General, ICMR decided to work together to achieve safe, effective and standardized classical Ayurvedic products for the identified disease conditions and to develop new Ayurvedic and herbal products effective in disease conditions of national/global importance.

• It was also decided to utilize appropriate technologies to develop single, poly-herbal and herbo-mineral products and to develop products which have IPR potentials.

• Under the GTP Scheme, Department of AYUSH, through its research Councils – Central Council for Research in Ayurveda and Siddha (CCRAS), Central Council for Research in Unani Medicines (CCRUM), Central Council for Research in Homeopathy (CCRH), – will work together with two other major partners i.e. CSIR and ICMR- to achieve the following objectives:

Objectives:

1. To bring safe, effective and standardized ASHU (Ayurveda, Siddha, Homoeopathy & Unani) products for the identified disease conditions;

2. To develop new Ayurvedic / Siddha / Unani / Homeopathic products effective in the disease conditions of national/global importance. Products should be better than the available products in the market for such disease conditions;

3. The criteria will be to have best quality, safe and effective products. Mechanism will be evolved to make products affordable for the domestic market;

4. To utilize appropriate technologies for development of single and poly-herbal products to make it globally acceptable;

5. To promote collaborative research on AYUSH with modern medicine/modern science institutions.

Proposed Diseases/Areas of Priority of GTP Scheme
1. Rasayana (Rejuvenators / Immuno-modulators) for healthy ageing
   i. Manovikara – Ekagra Hani / Attention Deficit Hyperactive Disorders (ADHD) in Children
   ii. Manodvega / Anxiety Neurosis
   iii. Alpa Shukrata / Oligospermia
   iv. Asthi Saushirya / Osteoporosis
2. Joint Disorders:
   i. *Amavata* / Rheumatoid Arthritis
   ii. *Sandhi gata vata* / Osteo arthritis

3. Aids / Hiv – Ojokshaya:
   *Ojovruddikara* / Immuno-modulatory leads from *Ayurveda/Siddha*.

4. Menstrual Disorders:
   i. *Rajonivruti Kala janya Lakshana Samucchaya* / Menopausal syndrome
   ii. *Prak Rajo Kala janya Lakshana sammuchaya* / pre menstrual tension

5. Respiratory Disorders:
   i. *Tamaka Swasa* / Allergic Bronchial asthma

6. Reproductive Disorders:
   i. *Klaivyaa* / Infertility – Male
   ii. *Vandhyatva* / Infertility -Female

7. Cardiac Disorders / Hridaya Vikara (cardio-protective & anti-atherosclerosis)
   i. *Vyanabala Utshepa* / Hypertension
   ii. *Raktagata Medo Vriddhi – Upalepa* / Dyslipidaemia

8. Sleep Disorders:
   i. *Srama-Klama janya Anidra* / Stress induced chronic Insomnia

9. Skin Diseases / *Twak Vikara*
   i. *Kitibha Kushta* / Psoriasis

10. Irritable Bowel Syndrome (IBS) / *Jeerna Kaphaja Atisara*

11. Vision Disorders /Drishti Vikara
    i. *Jara Janya Drshti Bindu kshaya* / Senile macular degeneration (SMD)
    ii. *Drishti vitana roga* / Retinopathy

12. Malaria / *Visama Jvara*

13. Urinary Tract Diseases/ *Mutra vikara*
    i. *Mutrashmari* / Urolithiasis
    ii. *Ashthila* / Benign Prostrate Hypertrophy
    iii. *Prarambhika Jirna Vrka Pratighata* / Early Chronic Renal Failure

14. Filarisis / *Slipada*

15. Kala- Azar / Lieshmaniasis
16. Metabolic Disorders
   i. Prameha / Diabetes mellitus
17. Obesity / Sthaulya
18. Identified Cancer conditions / Arbuda - Karkatarbuda
19. Standardization Safety/ Toxicity, etc.
   Studies of Bhasmas & Rasa Kalpas etc (Metallic & Herbo-mineral Preparations)
20. Any other disease condition
21. Development of Pharmacopoeial software
22. Development of Research Council Labs as per NABL / GLP.
23. Fundamental and Basic Research in ASHU disciplines

Foundation for Revitalization of Local Health Traditions (FRLHT)

- The institutional agenda of the Foundation for Revitalization of Local Health Traditions (FRLHT) is derived from its vision: “to revitalize Indian medical”.
- FRLHT is a registered Public Trust and Charitable Society, which started its activities outlined below in March 1993.
- The Ministry of Science & Technology recognizes FRLHT as a scientific and research organization.
- The Ministry of Environment and Forests has designated FRLHT as a National Center of Excellence for medicinal plants and traditional knowledge.
- FRLHT believes revitalization of Indian Medical Heritage holds two promises for India
  1. Self-reliance in primary health care for millions of households
  2. Original contributions to the world of medicine.
- FRLHT holds the view that in an era of globalization, India should make fuller use of her rich and diverse medicinal plant knowledge for her own needs and confidently share on fair terms with the rest of the world, products and services based on her heritage.
- To demonstrate the contemporary relevance of Indian Medical Heritage by designing and implementing innovative programmes related to
A. Exposition of the theory & practice of traditional systems of medicine,
B. Conservation of the natural resources used by Indian systems of medicine
C. Revitalization of social processes for transmission of the heritage, on a size and scale that will have societal impact

- FRLHT has identified three thrust areas to fulfill this vision. These are:
  1. Conserving natural resources used by Indian Systems of Medicine
  2. Demonstrating contemporary relevance of theory and practice of Indian Systems of Medicine
  3. Revitalization of social processes (institutional, oral and commercial) for transmission of traditional knowledge of health care for its wider use and application.
- All the current programmes and projects of FRLHT can be covered under these three thrust areas.

**The Indian Council of Medical Research (ICMR)**

- The Indian Council of Medical Research (ICMR), New Delhi, the apex body in India for the formulation, coordination and promotion of biomedical research, is one of the oldest medical research bodies in the world.
- As early as in 1911, the Government of India set up the Indian Research Fund Association (IRFA) with the specific objective of sponsoring and coordinating medical research in the country.
- After independence, several important changes were made in the organization and the activities of the IRFA. It was re designated in 1949 as the Indian Council of Medical Research (ICMR) with considerably expanded scope of functions. The ICMR is funded by the Government of India through the Ministry of Health & Family Welfare.
- The Council’s research priorities coincide with the National health priorities such as
  - Control and management of communicable diseases
  - Fertility control,
  - Maternal and child health,
  - Control of nutritional disorders,
  - Developing alternative strategies for health care delivery,
  - Containment within safety limits of environmental and occupational health problems;
- Research on major non-communicable diseases like cancer,
- Cardiovascular diseases, blindness, diabetes and other metabolic and hematological disorders;
- Mental health research and drug research (including traditional remedies).
- All these efforts are undertaken with a view to reduce the total burden of disease and to promote health and well-being of the population.

- The Governing Body of the Council is presided over by the Union Health Minister. It is assisted in scientific and technical matters by a Scientific Advisory Board comprising eminent experts in different biomedical disciplines. The Board, in its turn, is assisted by a series of Scientific Advisory Groups, Scientific Advisory Committees, Expert Groups, Task Forces, Steering Committees etc. which evaluate and monitor different research activities of the Council.

- The Council promotes biomedical research in the country through intramural as well as extramural research. Over the decades, the base of extramural research and also its strategies have been expanded by the Council.

---

**The Council of Scientific & Industrial Research (CSIR)**

- The Council of Scientific & Industrial Research (CSIR)-the premier industrial R&D organization in India was constituted in 1942 by a resolution of the then Central Legislative Assembly.

- It is an autonomous body registered under the Registration of Societies Act of 1860. CSIR aims to provide industrial competitiveness, social welfare, strong S&T base for strategic sectors and advancement of fundamental knowledge.

- The Strategic Road Map designed for CSIR as it stepped into the new Millennium envisaged:
  - Re-engineering the organisational structure;
  - Linking research to market space
  - Mobilising and Optimising the resource base;
  - Creating an enabling infrastructure; and
  - Investing in high quality science that will be the harbinger of future technologies.
• Interestingly, the Government of India has also announced a new Science and Technology Policy 2003 in the early years of the new century.

• It presents Science and Technology with a human face and emphasizes realities such as facing open, global competition; need for examining social, economic and environmental consequences of S&T; and, aggressive international benchmarking and innovation. It advocates strong support for basic research.

• It emphasizes manpower build-up and retention as important challenges. It advocates dynamism in S&T governance, through the participation of scientists and technologies.

• Today CSIR is recognised as one of the world’s largest publicly funded R&D organisations having linkages to academia, R&D organisations and industry.

• CSIR’s 38 laboratories not only knit India into a giant network that impacts and add quality to the life of each and every Indian but CSIR is also party to the prestigious Global Research Alliance with the objective of applying global knowledge pool for global good through global funding. CSIR’s R&D portfolio embraces areas as diverse as Aerospace, Biotechnology and Chemicals...indeed, almost the ABC-Z of Indian Science!

*****
Annexure –VIII

Widening jaws of Modern Medicine

Ref: NIMA Editorial Dec 1992

Hospitals are nothing new to India. They have been existing all the while since the highest civilization developed in the people living on Himalayas forming the nation Swarga. The glimpses of medical practices of this earliest civilization are seen in Vedas and Puranas and even Charaka and Susruta Samhititas. Basis for hospitals had always been humanitarian, charity, help and service in this part of the world.

In the recorded history of India hospitals are seen established as early as 250 BC, during Ashoka period. Edicts of Ashoka describe establishment of dispensaries and hospitals in the different part of his empire including in boarder states. There was a fever hospital (Jwaralaya) in Vijayapuri as is established by Nagarjuna Konda excavations. During Gupta empire (4th century AD) Fahian has described hospitals in Pataliputra and in other towns and cities. Nalanda was a great centre for learning and practical training in hospitals. Even Chinese travelers used to come here for learning. In Chola kingdom (10th Century AD) there were dispensaries in villages and towns. There are records that in 12th century hospitals and medical schools were attached to temples. In 13th century there were general hospitals and maternity hospitals at university centers in Andhra.

After this period, came the days of Unani. Invasions though had started from Muslim countries as early as 9th century, but they were only meant for looting and plundering. It was in later part of 13th century and in 14th century that Unani got well established in India under the regime of Mohammad Bin Tuglaq. Here after Unani hospitals were established under the patronage of the rulers. Even Unani books started appearing from India here after. Mohammad Bin Tuglaq (1325 -1352) built hospitals in Delhi. Sultan Feroz Shaw (1352 -1388) also established hospitals in Delhi. Allaudin of Bahamani (1435-58) built hospital in Bidar and appointed both Ayurvedic and Unani physicians. Sultan Mohammad Shaw (1446 AD) built a hospital in Maudu. Ibrahim Qutab Shaw (1550-1581) built a hospital in Golkonda. Sultan Mohammad Kuli Qutab Shaw (1581-1611) built Dar us Sifa in Hyderabad. Shaw Jahan built a hospital in Delhi near big mosque. Aurangajeb (1659-1707) built hospital in Surat and in other big towns. Afzal ud Doula Bahdur (Nizam V, 1857-69) built Ajulganj hospital in 1886. nawab Mir Mahboob Ali Khan – (Nizam VI, 1869-1910) built Unani Shifakhana and hospital at Bairoon Bolda.
This list is not exhaustive. This is taken from the Museum Guide book of Institute of History of Medicine, Hyderabad. The purpose of giving this list is to let the people, particularly the modern medical doctors know that it is wrong to accept that British made India civilized. There were hospitals in pre Muslim era and there were hospitals in pre British era as well. The list also shows that medicine very much dependent on rulers. Foreigners brought their medicine with them and their medicines got established here irrespective of the stability of their carriers. This list also indicates that Indian Medicine may be the oldest and other medicines might have heavily borrowed from Indian Medicine but medicines of other areas have not yielded to Indian Medicine in toto. They persisted to retain their separate identification as per their countries. They refused to any superiority of Indians defeated in wars by them. Concepts of Indian philosophies and principles of Indian Medicine, however logical and convincing they may sound, were not agreed by Greeks and Arabs, just as they are confusing to Europeans. Irrespective of their origin or say irrespective of the influence of Indian Medicine over them, these systems stand separated by history and there is no chance for them to loose their identification. It is well known that Charaka, Susruta and Vagbhata were translated in Arabic and were widely read and spread but that did not make them change their system. They used Indian drugs but did not accept the principles.

Knowledge and science had never been allowed to be homogenous all the times and everywhere. They are always subjugated and divided by power and wealth. To establish their superiority rulers have always promoted the medicine of their culture though there is no medicine uninfluenced by Indian Medicine. Modern medicine is no exception to it.

Inventers and inventions of Europe cannot be made Ayurvedic simply because some Vaidyas say so to fool Government and public and to exploit the students and their parents. But the question is whether British pattern of medical education and service system is functioning in India for the benefit of the people? Is Indian Government in a position to support the whole European Allopathic structure? Advancements in modern medicine are not only costly but seriously narrow their field of coverage as well. This has seriously not only disrepute Government but has failed it in poor sector. The other side is that it has invited industrialists in the field subjugating the medical profession.

The widening jaws of modern medicine are not only swallowing the health services but are dealing in carelessly poisoning the human constitution.

The health budget of Government of India for 1992-93 is only 560 crores. Having medical personals educated on British pattern and also having western minded administration, the Government of India cannot even support the modern medical structure leave aside serving the masses particularly the poor. Middle class now is calculated
to be 150 million strong with less money and high wants and aspirations. Ministers, high
officials and industrialists forming upper class combined with middle class form a big
sector dissatisfied with Government medical services and craving for private medical
care. Here is big money and business people are keen to capture it. They are developing
Medicare industries in appropriate centers. In Tamilnadu and Andhra alone there are at
least 10 such corporate hospitals. In last 20 years over 250 crores have been already
poured in this industry. In coming five years it is likely to increase to ten fold. Appolo
group of hospitals alone are planning to invest 1300 crores. In these hospitals American
system of exclusion is followed, i.e. investigations are carried over, one after another, to
exclude the diseases. This whole kills the clinical sense in doctors proves to be day light
robbery on patients. CT Scan -1500/- ; Coronary Angiography Rs.2500 – 3500/- at least
and so on.. and they are to be carried out repeatedly for the necessity of none but that of
the hospital. Status, vanity and the ego of the people is heavily exploited. Modern medi-
cine in India is no more science now. It is planned industry.

On the drug side it is not intended to cure the people but to make them more and
more sick with altered physiology and changed mental status.

We have not forgotten how thousands of deformed children were born due to
consumption of a tranquillizer a few years back. Recently another tranquillizer
‘Halcion’ has come in light causing killing tendencies in the people. Actually some of
the otherwise good people have killed the people under its prolonged use. But company
has minted money on its side. Well, this is the modern medicine and its development.
Are we Indians spreading our money for such gains?

Jaws of modern medicine are widening day by day to swallow humanity. Gov-
ernment of India is playing blind on the issue. People of the country have to take care of
themselves. People have to be informed.

*****
Annexure –IX
Details of Prestigious Ayurvedic Institutions of India

Gujarat Ayurved University
Jamnagar

On July 1st 1946 in Jamnagar a college for Ayurvedic Studies was established and named as Shri Gulabkunwarba Ayurveda Mahavidyalaya by the G.K. Ayurvedic Society. Renowned Ayurvedic physician of the era Vaidya Yadavji Trikamji adorned the college as a first Principal.

After independence in 1947 Govt. of India started to work for revival of Ayurveda and few committees were appointed and they recommended the establishment of one advance Institution of Ayurveda. By that time Jamnagar had got infrastructure and name as seat of Ayurvedic learning. Hence in 1954 Govt. of India started a premier research center for Ayurveda in Jamnagar named as “Central Institute for Research in Indigenous System of Medicine (CIRISM)” with Dr. P. M. Mehta as its Director.

In 1956 Govt. of India had started another Institute in Jamnagar named as Post Graduate Training Center for Ayurveda (PGTCA) with Vaidya Bhaskar V. Gokhale as its Principal. In 1963 Govt. of India and Govt. of Gujarat jointly decided to amalgamate three Institutions viz. Shri G. A. Mahavidyalaya, CIRISM & PGTCA and named it as Institute for Ayurvedic Studies and Research (IASR).

Gujarat Ayurved University was established in 1967 by an act passed by Gujarat State legislative Assembly in 1965. It is the only statutory University of its kind both at national and international level - exclusively devoted to Ayurvedic studies and Research. This University is administratively linked to Ministry of Health and Family Welfare both at State and Centre -indicating its special status.

Banaras Hindu University
Varanasi

- Banaras Hindu University is an internationally reputed temple of learning, situated in the holy city of Varanasi.
This Creative and innovative university was founded by the great nationalist leader, Pandit Madan Mohan Malaviya, in 1916 with cooperation of great personalities like Dr Annie Besant, who viewed it as the University of India.

It played a stellar role in the independence movement and has developed into the greatest center of learning in India. It has produced many great freedom fighters and builders of modern India and has immensely contributed to the progress of the nation through a large number of renowned scholars, artists, scientists and technologists who have graced its portals.

**Institute of Medical Sciences**

- Pandit Madan Mohan Malaviya, the illustrious founder of Banaras Hindu University, had the vision of integrating the best of Ayurvedic and modern systems of medicine. This basic idea initiated the training of Ayurveda in Banaras Hindu University in 1922 as a department in the Faculty of Oriental Learning and Theology.

- Soon thereafter, in 1927, a separate Ayurvedic College was started for imparting training in both in Ayurveda and Modern Medical Sciences under the Faculty of Medicine and Surgery (Ayurveda) and a six years course Ayurvedacharya with Medicine and Surgery (AMS) was started.

- In 1959, the undergraduate course in Ayurveda was suspended to provide more emphasis on post-graduate education and research. The Ayurvedic college’ was converted into the College of Medical Sciences in 1960 under the leadership of Prof. K. N. Udupa at its helm as founder principal.

- In 1963 a Postgraduate Institute of Indian Medicine was established as an integral part of the College of Medical Sciences and postgraduate courses in various Ayurvedic specialties were started. Simultaneously, post-
graduate medical education was also started in a phased manner in Modern Medicine.

- In 1971, the College of Medical Sciences was upgraded to the Institute of Medical Sciences.
- In 1978, the existing Faculty was bifurcated into the Faculty of Ayurveda and Faculty of Medicine.
- In 1999, the four and half years' duration graduation course in Ayurveda followed by compulsory internship of one year was started, as per the recommendations of Central Council of Indian Medicine, leading to the award of BAMS degree.
- Six new departments were created in year 2006 making a total of 14 departments and 15 degree giving specialties in the Faculty.

**National Institute of Ayurveda**

**[N.I.A. – Jaipur]**

The National Institute of Ayurveda was established on 7-2-1976 by the Government of India as an apex Institute. It is under the Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health & Family Welfare, Government of India and is fully financed by it. The managing body is the Governing Body consisting of 16 Members and presided over by the Hon’ble Minister of Health and Family Welfare of the Government of India. There is also a Standing Finance Committee chaired by the Joint Secretary of the Department of Indian Systems of Medicine and Homoeopathy.

**Aims & Objectives**

1. To promote the growth and development of Ayurveda;
2. To produce graduates and post-graduates in all branches of Ayurveda;
3. To conduct, research on various aspects of Ayurveda;
4. To provide medical care through Ayurvedic System of Medicine to the suffering humanity;
5. To provide and assist in providing services and facilities of the highest order for research, evaluation, training, consultation and guidance to Ayurvedic System of Medicine;
6. To conduct experiments and develop patterns of teaching in under-graduate and post-graduate education in all branches of Ayurveda
Government Ayurveda College
(Thiruvananthapuram - 695001)

- During the reign of Sree Moolam Thirunal, an Ayurvedic Patha Sala also known as Kashayappura was started (in 1889) at East Fort, Thiruvananthapuram.
- This later came became the Government Ayurveda College. Earlier only 15 students were given training yearly.
- In 1910 the college began to impart a five-year regular course and those who completed the first four years were awarded L.M.C (Lower Medical Certificate) certificate and those who completed all the five years were given Higher Medical Certificate.
- From 1917 onwards the degree course was titled “Vaidyakalanidhi”.
- Later the college opened an outpatient counter and pharmacy both of which provided service to the public.
- The college in 1929 introduced a research degree named ‘Ayurvedacharya’.
- The college has a library which has a fabulous collection of books and periodicals.
- The college celebrated its centenary in the 1989.

*****
Annexure –X
The Popular Ayurvedic Pharmaceutical Companies of India

Ayurvedic medicines are produced by more than four thousand companies in India, but most of them are quite small. It is estimated that the total value of products from the entire Ayurvedic production in India is on the order of one billion dollars (U.S.). The industry has been dominated by less than a dozen major companies for decades, joined recently by a few others that have followed their lead, so that there are today 30 companies doing a million dollars or more per year in business to meet the growing demand for Ayurvedic medicine. The products of these companies are included within the broad category of “fast moving consumer goods” (FMCG; which mainly involves foods, beverages, soaps, toothpastes, shampoos etc.),

The key suppliers in Ayurveda are Dabur, Baidyanath, and Zandu, which together have about 85% of India’s domestic market.

Dabur India Ltd.:

- S. K. Burman was the founder of Dabur. He was trained as a physician in Bengal. His mission was to provide effective and affordable cure for ordinary people in far-flung villages.
- Soon, he started preparing Ayurvedic or natural remedies for diseases such as cholera, malaria and plague. Due to his natural and cheap remedies, he became to be known as ‘Daktar’ which is doctor in Indian languages. And that is how his venture Dabur got its name - derived from the Devanagri rendition of Daktar Burman (Da-Bur).

- Dr. Burman set up Dabur as a small pharmacy in 1884 to produce and dispense Ayurvedic medicines in Calcutta, West Bengal India.
- Now the company is led by his great-grandson V.C. Burman. The company headquarters are in Ghaziabad, Uttar Pradesh, near New Delhi.
- Dabur India Ltd. is India’s largest Ayurvedic medicine supplier and the fourth largest producer of FMCG (“fast moving consumer goods”). It had grown to a business level in 2003 of about 650 million dollars per year, though only a fraction of that is involved with Ayurvedic medicine. Last
year, about 15% of sales volume was pharmaceuticals; the remaining 85% were mostly non-medicine items such as foods and cosmetics. Dabur’s Ayurvedic Specialities Division has over 260 medicines for treating a range of ailments and body conditions—from common cold to chronic paralysis.

**Sri Baidyanath Ayurvedic Bhawan Ltd.:**

- Shree Baidyanath Ayurved Bhawan (p) Ltd. was founded in 1917 by Late Pt. Ram Dayal Joshi. Its registered office is in Kolkatta.
- To encourage and boost research in Ayurveda, Baidyanath established Pt. Ram Dayal Joshi Memorial Ayurvedic Research Institute at Patna in 1971.
- Baidyanath awards two lakh of rupees every year for the best research paper or book on Ayurveda.
- Baidyanath publishes a number of books on Ayurveda, some of which are used as text books in Ayurvedic Colleges.
- The company is also publishing a monthly magazine entitled ‘Sachitra Ayurved’
- “Ayurved Sar Sangrah” a publication containing formulations of Ayurvedic products, is part of the pharmacopoeia, recognized by the Government of India, under the First Schedule of Indian Drug and Cosmetic Act, 1940.
- Recently the company has expanded into the FMCG sector with cosmetic and hair care products. Baidyanath has a sales volume of about 350 million dollars, but most of the product sales are in the cosmetic range.
- The company reports that it is having over 700 Ayurvedic products, made at 10 manufacturing centers, with 1,600 employees.

**Zandu Pharmaceutical Works:**

- Zandu Pharmaceutical Works was incorporated in Bombay in 1919.
- The company focuses primarily on Ayurvedic products. However, today Zandu has a chemicals division and cosmetics division.
- Its total sales volume is about 45 million dollars. One of its current projects is to develop a dopamine drug from a plant extract, applying for new drug status in the U.S.

**The Himalaya Drug Company:**

- In 1930 Mr. Mohammad Manal founded Himalaya Drug Company in Bangalore, India.
- After extensive research and development on Rauwolfia, the Himalaya Drug Company introduced Serpina and gave the world its first ever Anti-Hypertensive Drug.
- The current chairman Mr. Meraj A Manal son of the founder continues to run the organization with the same spirit as his father.
- It currently has a business level of about 500 million dollars and has a U.S. distribution division (Himalaya USA).
- It is known in the U.S. for the product Liv-52, marketed as a liver protector and therapy for liver diseases like viral hepatitis; the product was first marketed in India in 1955.

Charak Pharmaceuticals:
- Visionary brothers Mr. D.N. Shroff and Dr. S.N. Shroff, in the year 1947, were amongst the pioneers of manufacturing Ayurvedic medicines in India.
- They drew inspiration from one of the most authoritative sources on the subject “The Charak Samhita” compiled by the sage Charaka Circa 1000 BC.
- Thus was born Charak Pharma Pvt. Ltd, Bombay; today one of the largest producers of high quality Ayurvedic products in India.
- Currently it has three distribution centers in India; it produces liquids, tablets, and veterinary supplies.

Vicco Laboratories:
- Vicco Laboratories was established in 1958 in Bombay.
- It mainly produces topical therapies based on Ayurveda and is best known internationally for its toothpaste product, Vajradanti, which has been marketed in the U.S. for more than 25 years.

Jain Ayurvedic Pharmacy
- Hyderabad based Jain Ayurvedic Pharmacy was founded by Late Shri Brijlal Jain a decade ago.
- It is a manufacturer of result oriented Ayurvedic medicines.
The company is totally dedicated to Ayurvedic field and is determined to serve the mankind through the traditional system of Ayurveda.

**The Arya Vaidya Pharmacy (Coimbatore) Ltd**

- The Arya Vaidya Pharmacy (Coimbatore) Ltd. (AVP), was founded in 1943 by late Arya Vaidyan P. V. Rama Variar who was a humanitarian, philosopher and physician par excellence.
- A man of rare insight and visionary zeal, under whose untiring efforts, the AVP group of institutions are today rendering yeoman service in providing genuine Ayurvedic services to the needy all over the world.
- The flagship company of the AVP group, this institution is involved in the production of more than 450 traditional prescription based Ayurvedic medicines in its three state-of-the-art manufacturing units.
- The trust runs a 100 bed hospital in keeping with the principles of the founder; this institution renders free treatment to poor patients.
- From 1977 to 1984, The Ayurvedic Trust hosted a unique research programme in collaboration with the World Health Organisation (WHO) and the Indian Council of Medical Research (ICMR). This research was intended to prove the efficacy of Ayurvedic treatment in Rheumatoid Arthritis and was a pioneering programme of its kind in its time.
- Sri P.R. Krishnakumar, son of the illustrious Rama Variar, is the present head of the AVP group of institutions.

**Arya Vaidya Sala**

- AVS was established at Kottakkal in Kerala State of India in 1902 by the visionary physician and philanthropist, the late Vaidyaratnam P.S. Varier.
- Arya Vaidya Sala manufactures more than 500 classical formulations.
- The manufacturing activity takes place at two centres, one at Kottakkal and the other at Kanjikode near Palakkad.
- Both Factories operate on manufacturing license issued by the Drugs Controller of the State and both possess GMP (Good Manufacturing Practices) certificate issued by the Government.
Syndy Pharma:

- Syndy Pharma was founded by “Ayurveda Sastra” late Dr. Dubagunta Subrahmanyam and his son Dr. Dubagunta Bhaskara Rao in 1972, at Kavali in Nellore Dist., A.P., India.
- In fact Dr. Dubagunta Subrahmanyam had been practicing Phytomedicines since 1929 in Vijayawada and his son Dr. Dubagunta Bhaskara Rao joined him in this project in 1968.
- As such, Syndy Pharma had been the leading firm in the manufacture of Phytomedicines for three generations.
- D.V.Phani Kumar, the son of Dr. Dubagunta Bhaskara Rao has been pursuing the profession.

Alarsin:

- Over 50 years ago, ALARSIN set up ‘Manthan’ its research division to develop original research products based on Ayurvedic drugs in the light of ancient and modern medical knowledge to fill the need for safe, simple and reliable treatments.
- With the encouragement and co-operation of quality Doctors, ALARSIN has been able to contribute original Research products backed by extensive clinical experience and modern research trials at the highest levels.

Shree Dhootapapeshwar Ltd.

- In 1872, late Vaidya Krishnashastri Puranik a successful Physician devoted to Ayurveda was required to undertake production by himself instead of giving prescriptions for compounding.
- He did this to ensure quality and consequential relief to his patients. This was the beginning of Shree Dhootapapeshwar Limited, then known as Shree Dhootapapeshwar Ayuraushadhi Karkhana of Panvel.
- 1903, Yantras were implanted to speed up the production to fulfill the requirements

1938, the first Arogyamandir Patrika was published by Shree Dhootapapeshwar Karkhana.

Late Vd. Shri G. V. Puranik took the charge of the company in 1933 after the death of Shri R. K. Puranik. He established ‘Shree Dhootapapeshwar Ayurvedic Trust (SDAT)’ in the memory of his late father and started a dispensary under its umbrella.

April 1975, Full fledged plant was completed at Bangalore. It is a modern plant with the mechanisation for the manufacture of Asavarishtas.

1978, the launch of VIMLIV and AFRODET as the first products in the SOLUMIKS Division. This is the division of ethical products that were launched.

**Kerala Ayurveda Pharmacy Ltd. (KAPL):**

- KAPL was founded on the banks of river Periyar at Aluva, Kochi, Kerala, India in 1945 by Late Vaidyan K G K Panicker, the renowned Ayurveda-charya.

- He was a doyen in Ayurvedic system, a visionary and a mentor.

- Now, more than half a century later, his inspired creation epitomizes all that is modern and state-of-the-art in Ayurveda. A leading Ayurvedic company today, KAL is backed by advanced technology and highly qualified dedicated staff.
Annexure – XI

State wise details of the Institutes / Units under Central Council for Research in Ayurveda and Siddha

1. Regional Research Institute (Ay.), Indira Gandhi Municipal Stadium Complex A, First Floor, North Wing, Vijayawada - 520 010. Andhra Pradesh.
2. Indian Institute of History of Medicine, Osmania Medical College Building, Puthibowli, Hyderabad - 500 095, Andhra Pradesh.
4. Regional Research Institute (Ay.), Borsojai (Bhetapara), Beltola, Gwahati - 781 028.
5. Regional Research Institute (Ay.), D-Block, Rajendra Memorial Research Institute Building, Agam Kuan, Patna - 800 007, Bihar.
6. Central Research Institute (Ay.), Road No.56, Punjabi Bagh, New Delhi - 110 026.
7. Ayurvedic Research Unit, Safdarjung Hospital, New Delhi.
9. Mobil Clinical Research Unit (Ay.), Gulba-kunver-ba Ayurvedic College, Gujarat Ayurvedic University, Jamnagar - 361 008, Gujarat.
10. Research Scheme on screening of Contraceptive Agents, New Civil Hospital, Wing No.4/62, Ahmedabad - 001 616. Gujarat.
11. Drug Standardization Research Unit, Gujarat Ayurvedic University, Jamnagar - 361 008, Gujarat.
12. Regional Research Institute (Ay.) Gandhi Bhawan, Mandi - 175 001, Himachal Pradesh.
17. Ayurvedic Research Unit, National Institute of Mental and Neuro Sciences, P.B.No.2900, Hosur Road, Bangalore - 560 029, Karnataka.
19. Regional Research Institute (DR), Poojapura, Trivandrum - 695 012, Kerala.
20. Clinical Research Unit (Ay.), CCRAS, Arya Vaidyashala Hospital and College, Kottakkal - 676 503, Kerala.
21. Central Research Institute (Ay.) Govt. Ayurvedic Hospital, Amkho, Gwalior 474 009, Madhya Pradesh.
23. Regional Research Institute (Ay.) 1044-Jagnada Chowk, KDK College Road, Nandanwan, Nagpur - 440 009, Maharashtra.
25. Central Research Institute (Ay.) Unit-I, Bhubaneswar - 751 009, Orissa.
26. Central Research Institute (Ay.), Moti Bag Road, Patiala - 147 001, Punjab.
29. Central Research Institute (Siddha), A.A. Govt. Hospital Campus, Arrumbakam, Chennai - 600 106, Tamilnadu.
30. Clinical Research Unit (Siddha) & Survey of Medicinal Plants Unit (Siddha), Govt. Siddha Medical College, Palaymakottai - 627 002, Tirunelveli Distt. Tamilnadu.
31. Dr. A. Lakshmipati Research, Centre for Ayurveda, VHS Medical Centre, Adayar, Chennai - 600 113. Tamilnadu.
32. Captain Srinivasa Murthy Drug Research Institute for Ayurved, A.A. Govt. Hospital Campus, Arumbakkam, Chennai - 600 106, Tamilnadu.
33. Literary Research & Documentation Department, Central Research Institute (Siddha) A.A. Govt., Hospital Campus, Arumbakkam, Chennai - 600 106, Tamilnadu.
34. Regional Research Institute (Ay.) Tarikhet - 263 663, Uttarakhand.
35. Central Research Institute (Ay.) 474/6, Sitapur Road, Lucknow - 220 602, Uttar Pradesh.
36. Regional Research Institute (Ay.) Gwalior Road, Jhansi- 284003, Uttar Pradesh.
37. Regional Research Centre (Ay.), Hastinapur - 250 404, Uttar Pradesh.
38. Central Research Institute (Ay.) 4-CN Block Sector, Bidhan Nagar, Kolkata - 700 091.
39. Regional Research Institute (S), Govt. Pharmacy (Upstairs), Indira Nagar, Gorimedu, Pondicherry - 605 006.

*****
## Annexure - XII

Details of Hospitals with Specialized Treatment Available Under Central Council for Research in Ayurveda and Siddha as on 1-4-2001

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of Hospital with Complete Postal Address</th>
<th>No. of Doctors</th>
<th>Rural/urban</th>
<th>No. of Beds</th>
<th>Specialized Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Regional Research Institute (Ay.), Indira Gandhi Municipal Stadium Complex 1st Floor, North Wing, Vijayawada 520 010, Andhra Pradesh</td>
<td>6</td>
<td>Urban</td>
<td>10</td>
<td>Vyana Vata Vaishamya, Vishama Jwara, Slipada, Tamaka Swasa</td>
</tr>
<tr>
<td>2.</td>
<td>Regional Research Institute (Ay.), New Itanagar - 791 211, Arunachal Pradesh.</td>
<td>2</td>
<td>Urban</td>
<td>10</td>
<td>Amavata, Vyana Vata Vaishamya, Mutrashmari, Gridhrasi, Vishama Jwara, Madhumeha</td>
</tr>
<tr>
<td>3.</td>
<td>Regional Research Institute (Ay.) D- Block, Rajendra Memorial Research Institute Building, Agam Kuan Patna-800 007, Bihar.</td>
<td>5</td>
<td>Urban</td>
<td>25</td>
<td>Vishama Jwara, Slipada, Tamaka Swasa, Amavata, Parinamasooola Arshas, Gridhrasi, Grahani Roga</td>
</tr>
<tr>
<td>4.</td>
<td>Central Research Institute (Ay.) Road No.56, Punjabi Bagh New Delhi - 110 026</td>
<td>15</td>
<td>Urban</td>
<td>50</td>
<td>Amavata, Parinamasooola, Medoroga Medodosa, Vyana Bala, Vaishamya Arshas, Bhagandara, Mutrashmari Pittaja Ashmari, Apasmara Pakshaghata, Gridhrasi, Cancer Madhumeha, Rasayana</td>
</tr>
<tr>
<td>No.</td>
<td>Institute Name and Address</td>
<td>Type</td>
<td>Quantity</td>
<td>Location</td>
<td>Services</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------</td>
<td>------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>5.</td>
<td>Regional Research Institute (Ay.), Taj Manzil Sardar Bagh, Junagadh - 362 001, Gujarat</td>
<td>3</td>
<td>Urban</td>
<td>25</td>
<td>Amavata, Kitibha, Tamaka Swasa Vyana Bala Vaishamya Mutrashmari, Madhumeha</td>
</tr>
<tr>
<td>6.</td>
<td>Regional Research Institute (Ay.) Gandhi Bhavan, Mandi-175 001 Himachal Pradesh</td>
<td>3</td>
<td>Urban</td>
<td>10</td>
<td>Amavata, Arshas</td>
</tr>
<tr>
<td>8.</td>
<td>Regional Research Institute (Ay.) Govt. Central Pharmacy Annexe, Ashok Pillar, Jayanagar Bangalore - 560 011, Karnataka</td>
<td>6</td>
<td>Urban</td>
<td>10</td>
<td>Vyana Vata Vaishamya, Tamaka Swasa, Arshas, Manodvega</td>
</tr>
<tr>
<td>9.</td>
<td>Central Research Institute (Ay.), Cheruthurthy - 679 531 Via Shoranur, Kerala</td>
<td>9</td>
<td>Rural</td>
<td>50</td>
<td>Amavata, Pakshaghata, Gridhrasi Kitibha, Pangu, Medoroga, Vyana Vata Vaishamya Apasmara</td>
</tr>
<tr>
<td>10.</td>
<td>Regional Research Institute (Ay.) Poojapura, Trivandrum-695 012 Kerala</td>
<td>8</td>
<td>Urban</td>
<td>-</td>
<td>Mutrashmari, Pittaja Ashmari, Timira Roga, Kitibha</td>
</tr>
<tr>
<td>11.</td>
<td>Clinical Research Unit (Ay.), CCRAS, Arya Vaidya Sala Hospital and College, Kottakkal - 676 603 Kerala.</td>
<td>2</td>
<td>Rural</td>
<td>20</td>
<td>Parinamasoola</td>
</tr>
<tr>
<td>12.</td>
<td>Central Research Institute (Ay.), Ulas Bhavan, Kerapati Killa Road, Gwalior - 474 002, Madhya Pradesh</td>
<td>4</td>
<td>Urban</td>
<td>25</td>
<td>Amavata, Vyana Bala Vaishamya Arshas, Grahani Roga</td>
</tr>
<tr>
<td>No.</td>
<td>Institute Name</td>
<td>District</td>
<td>Type</td>
<td>Code</td>
<td>Division</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>13.</td>
<td>Central Research Institute (Ay.), Raja Ramdeo Anandlal Poddar College, Dr. A.B. Road Worli, Mumbai - 400 018, Maharashtra</td>
<td>7</td>
<td>Urban</td>
<td>50</td>
<td>Amavata, Vishama Jwara, Manodvega, Medoroga, Vyana Bala Vaishamya, Arshas, Bhagandara, Manodvega, Cancer, HIV, Rasayana</td>
</tr>
<tr>
<td>16.</td>
<td>Central Research Institute (Ay.), Moti Bagh Road, Patiala - 147 001 Punjab</td>
<td>7</td>
<td>Urban</td>
<td>50</td>
<td>Amavata, Medoroga, Medo dosha Vyana Vata Vaishamya, Tamaka Swasa, Manodvega, Pakshaghata Kitibha, Madhumeha</td>
</tr>
<tr>
<td>18.</td>
<td>Regional Research Institute (Ay.), Tadong-37102, Gantok, Sikkim</td>
<td>2</td>
<td>Urban</td>
<td>10</td>
<td>Grahani Roga, Gridhrasi</td>
</tr>
<tr>
<td>19.</td>
<td>Central Research Institute (Siddha), A.A. Govt. Hospital Campus, Arrumbakkam, Chennai -600 106 Tamilnadu</td>
<td>14</td>
<td>Urban</td>
<td>60</td>
<td>Puttunoi, Kalanjagapadai Sandhivatha Soolai, Majarkamalai Vanapadai Neerzhivu</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name and Address</td>
<td>Rural</td>
<td>Urban</td>
<td>Disease(s)</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>---------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Central Research Institute (Ay.), 474/6, Sitapur Road, Lucknow-226020 Uttar Pradesh</td>
<td>10</td>
<td>25</td>
<td>Amavata, Manodvega, Medoroga Arshas, Gridhrasi, Kamala</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Regional Research Centre (Ay.), Hastinapur Dist., Meeru-254 404 Uttar Pradesh</td>
<td>2</td>
<td>5</td>
<td>Kitibha, Arshas, Vishama Jwara Kamala</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Central Research Institute (Ay.) 4-CN Block, Sector-V, Bidhan Nagar Kolkata-700 091, West Bengal</td>
<td>5</td>
<td>25</td>
<td>Amavata, Parinamasoola, Medoroga, Vyana Bala Vaishamya Grahani Roga, Arshas, Bhagandara</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Regional Research Institute (Siddha) Govt. Pharmacy Indira Nagar Gorimadu, Pondicherry - 605 006</td>
<td>4</td>
<td>25</td>
<td>Vata Soola, Keelvayu</td>
<td></td>
</tr>
</tbody>
</table>

*****
### Annexure - XIII

**LIST OF AYURVEDIC COLLEGES U.G. & P.G.**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name and Address of the College/Institution</th>
<th>Year of Ownership</th>
<th>Ownership Status</th>
<th>Affiliation Status</th>
<th>Name/Duration</th>
<th>Admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>ANDHRA PRADESH:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Dr. B.R.K.R. Govt. Ayurvedic Medical College, S.R. Nagar, Erragada, Hyderabad - 500 038.</td>
<td>1941</td>
<td>Govt.</td>
<td>NTR University of Health Sciences, Vijayawada.</td>
<td>B.A.M.S. $4^{1/2}+1=5^{1/2}$</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>2. Dr. Nori Ramasastry Govt. Ayur. College, Mahatma Gandhi Road, Vijayawada - 520 002.</td>
<td>1922</td>
<td>Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>3. A.L. Govt. Ayurvedic College, Industrial Mahatma Gandhi Road, Waranai - 506 103.</td>
<td>1956</td>
<td>Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td>30</td>
</tr>
<tr>
<td>(2)</td>
<td>ASSAM:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Govt. Ayurvedic College, P.O. Guwahati University, Jalukbari, Guwahati - 781 014.</td>
<td>1948</td>
<td>Govt.</td>
<td>Guwahati University</td>
<td>B.A.M.S. $4^{1/2}+1=5^{1/2}$</td>
<td>50</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Year</td>
<td>Type</td>
<td>Address</td>
<td>City, State</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------------------------------------</td>
<td>------</td>
<td>------------</td>
<td>-------------------------------------------------------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Govt. Ayurvedic College, Kadam Kuan, Patna - 800 003.</td>
<td>1926</td>
<td>Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
<tr>
<td>8*</td>
<td>Shri Yatindra Narayan Ashtang Govt. Ayurvedic College, P.O., Champanagar, Bhagalpur-812 004.</td>
<td>1946</td>
<td>- do -</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
<tr>
<td>9*</td>
<td>Govt. Shri Dhanwantari Ayurved Mahavidyalaya &amp; Chikitsalaya Ahirouli, Buxar - 802 001.</td>
<td>1972</td>
<td>Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
<tr>
<td>10*</td>
<td>Shri Ravindra Nath Mukherjee Ayurved Mahavidyalaya, Motihari Champaran (East - 845 401)</td>
<td>1955</td>
<td>Non-Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Shri Motisingh Jogeshwari Ayurved College &amp; Hospital, Baratelpa, Chhapra - 841 301.</td>
<td>1973</td>
<td>- do -</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Nitishwar Ayurved Medical College &amp; Hospital, Bawan Bigha, Kanhauldi P.O. Ramana, Muzaffarpur - 842 002.</td>
<td>1979</td>
<td>Non-Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Ayurved Medical College, Gaya - 823 001.</td>
<td>1972</td>
<td>- do -</td>
<td>Kameshwar Singh Darbhanga Sanskrit University, Darbhanga.</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institution Details</td>
<td>Year</td>
<td>Type</td>
<td>Establishment</td>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>---------------------</td>
<td>------</td>
<td>------</td>
<td>---------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>16.*</td>
<td>PBN Institute of Indian Medical Sciences and S.M.V.C. Ayurvedic Hospital, Ranti Road, Madhubani-847 211.</td>
<td>1981</td>
<td>- do -</td>
<td>-do-</td>
<td>-do-</td>
<td>N.P.</td>
</tr>
<tr>
<td></td>
<td><strong>CHHATTISGARH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>DELHI:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Ayurved &amp; Unani Tibbia College Ajmal Khan Road, Karol Bagh, New Delhi - 110 005.</td>
<td>1921</td>
<td>Govt.</td>
<td>Delhi University</td>
<td>- do -</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td><strong>GOA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Gomantak Ayurveda Mahavidya laya &amp; Research Centre, Ponda Road, Shiroda, Goa - 403 103.</td>
<td>1993</td>
<td>Non-Govt.</td>
<td>Goa University</td>
<td>- do -</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td><strong>GUJARAT:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>Govt. Ayurvedic College, Pancheswar Road, Near GitaTalkies, Junagadh - 362 001.</td>
<td>1969</td>
<td>Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td>30</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Details</td>
<td>Year</td>
<td>Type</td>
<td>Status</td>
<td>City/State</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------------------------------</td>
<td>------</td>
<td>----------</td>
<td>--------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>23*</td>
<td>Sheth J.P. Govt. Ayurvedic College Veduva, Panavadi Road Bhavnagar - 364 001.</td>
<td>1963</td>
<td>Govt.</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Shri Gulabkunverba Ayurved Mahavidyalaya, Dhanwantri Mandir, Jamnagar - 361 008.</td>
<td>1946</td>
<td>Govt.</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25*</td>
<td>Govt. Ayurved College, Ajwa Rd, Panigata, Baroda - 380019.</td>
<td>1966</td>
<td>Govt.</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Arya Kanya Shuddha Ayurved Mahavidyalaya, Kareli Baug, Baroda - 380 018.</td>
<td>1963</td>
<td>Non-Govt.</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Sri O.H. Nazar Ayurved College Near Station, Lal Darwaja Road Surat - 395 003.</td>
<td>1946</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>J.S. Ayur. Mahavidyalaya, College Road, Nadiad-387 001, Kaira</td>
<td>1938</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Sri Bal Hanuman Ayurved MahaVidyalaya, At &amp; P.O. Lodra, Tal. Mansa, Gandhinagar - 382 835.</td>
<td>1963</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>HARYANA:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Gaur Brahman Ayurvedic College &amp; Hospital, Rothwak - 1240 001.</td>
<td>1974</td>
<td>-do-</td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institution Details</td>
<td>Year</td>
<td>Type</td>
<td>University/Department</td>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------</td>
<td>-------</td>
<td>---------------------------------------------</td>
<td>---------------------------------</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Sh. Maru singh Memorial Mahila Ayurvedic Degree College Khanpur Kalan, Sonepat - 131 305.</td>
<td>1973</td>
<td>- do -</td>
<td>- do -</td>
<td>- do -</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Dadri Education Trust, Murarilal Rasiwaria, Ayurvedic Medical College, Charakhi Dadri - 127 306.</td>
<td></td>
<td>- do -</td>
<td>- do -</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>HIMACHAL PRADESH:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>JAMMU &amp; KASHMIR:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Jammu Inst. of Ayurveda and Research Bantalab, Nardni-Raipur (Kot Bhalwal Road) Jammu - 181 123.</td>
<td>1996</td>
<td>Non-Govt</td>
<td>Jammu University</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>JHARKHAND:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Surya Mukhi Dinesh Ayurvedic Medical College and Hospital, Dinesh Nagaram, At&amp;PO, Booty, Ranchi - 835 217.</td>
<td>1980</td>
<td>Non-Govt</td>
<td>Kameshwar Singh Darbhanga Sanskrit University, Darbhanga</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>KARNATAKA:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Govt. Ayurvedic Medical College, Dhanwanthari Road, Bangalore- 560 009.</td>
<td>1967</td>
<td>Govt.</td>
<td>Rajiv Gandhi University of Health Sciences, Bangalore.</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Govt. Ayurvedic Medical College, Vishveshwaraiah Circle, Sayyaji Rao Road, Mysore - 570 021.</td>
<td>1908</td>
<td>- do -</td>
<td>- do -</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name</td>
<td>Year</td>
<td>Status</td>
<td>Address</td>
<td>City/State</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------</td>
<td>------</td>
<td>--------</td>
<td>-------------------------------------------------------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Taranath Govt. Ayurvedic College, Ananthapur Road, Bellary</td>
<td>1947</td>
<td>- do -</td>
<td>-do-</td>
<td>583 101</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>TMAE Ayurvedic Medical College, P.O. Box No.54, Kariganur</td>
<td>1992</td>
<td>Non-Govt.</td>
<td>-do-</td>
<td>Bellary - 583 201</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Shri Kabhairaveshwara Swami Ayurvedic Medical College,</td>
<td>96-97</td>
<td>- do -</td>
<td>-do-</td>
<td>Vijayanagar, Bangalore - 560 040</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hospital &amp; Res. Centre, R.P.C. Layour, No.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vijayanagar, Bangalore - 560 040.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43*</td>
<td>Indian Institute of Ayurvedic Medicine &amp; Research,</td>
<td>1996</td>
<td>- do -</td>
<td>-do-</td>
<td>560 006</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bangalore Palace Compound, Jaya Mahal Road,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bangalore - 560 006.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Rama Krishna Ayurvedic Medical College, 2345/2185,</td>
<td>1999</td>
<td>- do -</td>
<td>-do-</td>
<td>N.P.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Raman College Rd., Kamakshi Palya Magadi Main Road,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bangalore - 560 079.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45*</td>
<td>VSS Ayurved Mahavidyalaya, Akshay Kendra, Saraswati</td>
<td>- do</td>
<td>-do-</td>
<td>-do-</td>
<td>N.P.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>puram, Kamakshi Hosp. Road, Mysore.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>J.S.S. Ayurveda Medical College, Sri Shivarathreeswara</td>
<td>96-97</td>
<td>- do -</td>
<td>-do-</td>
<td>570 015</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nagar, Mysore - 570 015.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>K.L.E. Society's Shri B.M. Kankanwadi Ayur. Mahavidyalaya</td>
<td>1933</td>
<td>- do -</td>
<td>-do-</td>
<td>590 003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shahapur, Belgum - 590 003.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A/P-Inchal, Tq. Saundatti, Belgum - 591 121.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Year</td>
<td>Courses</td>
<td>Fee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------------------------</td>
<td>------</td>
<td>---------</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49.</td>
<td>S.G.V. Ayurvedic Medical College, Bailhongal, Belgaum - 591 102.</td>
<td>1996</td>
<td>do</td>
<td>do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53.</td>
<td>Ayur. Mahavidyalaya, Vidyanagar, bagalkot Road, Bijapur - 586 101.</td>
<td>1955</td>
<td>do</td>
<td>do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54.</td>
<td>Dr. B.N.M. Rural Ayurved Medical College &amp; Hospital, Smt. Sushila Devi Nagur Colony, College Road, Bijapur - 586 101.</td>
<td>1992</td>
<td>do</td>
<td>do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56.</td>
<td>Ayurvedic Medical College &amp; Hospital, Post Box No.34, Distt. Bagalkot - 587 101.</td>
<td>98-99</td>
<td>do</td>
<td>do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Medical College Name and Address</td>
<td>Year</td>
<td>Type</td>
<td>Year Type</td>
<td>Code</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>63.</td>
<td>K.V.G. Ayurveda Medical College and Hospital, Kurunji Bhag, Sulliya, Distt. Dakshin Kannada - 574 327</td>
<td>1996</td>
<td>-do-</td>
<td>-do-</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>65.</td>
<td>Shri Dharamsthala manjunath- eswara College of Ayurveda, Thanni Rohalla, B.M. Road, P.B. No.164, Hassan - 573 201.</td>
<td>1992</td>
<td>-do-</td>
<td>-do-</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name</td>
<td>Year</td>
<td>Admission</td>
<td>Degree</td>
<td>Duration</td>
<td>Distance</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------</td>
<td>------</td>
<td>-----------</td>
<td>--------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>72*</td>
<td>Bapuji Ayurvedic Medical College and Hospital, Sowlanga Road, Shimoga - 577 201.</td>
<td>96-97</td>
<td>- do -</td>
<td>-do-</td>
<td>-do-</td>
<td>40</td>
</tr>
<tr>
<td>73.</td>
<td>Ayurvedic Medical College Bhavani Nagar, Maktampur, Gulbarga - 585 101.</td>
<td>1996</td>
<td>- do -</td>
<td>-do-</td>
<td>-do-</td>
<td>25</td>
</tr>
<tr>
<td>77.</td>
<td>Mahaganapatia Ayurvedic Medical College &amp; Hospital, Hoysalnagar, Halyal Road, Dharwad - 580 003.</td>
<td>1992</td>
<td>- do -</td>
<td>-do-</td>
<td>-do-</td>
<td>50</td>
</tr>
<tr>
<td>No.</td>
<td>Institute Name</td>
<td>Years</td>
<td>Category</td>
<td>Address</td>
<td>Auth. Person</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-------</td>
<td>----------</td>
<td>---------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>79.</td>
<td>Shri DGM Ayur. Medical College and Hospita, Kalasapur Road, Distt. Gadag - 582 103.</td>
<td>1979</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>60</td>
</tr>
<tr>
<td>80.</td>
<td>Bhagawan Mahaveer Jain Ayurvedic Medical and Hospital Gajendragad, Tq.Ron, Gadag - 582 114.</td>
<td>1992</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>30</td>
</tr>
<tr>
<td>81.</td>
<td>Ayurvedic Medical College, Ron, Distt. Gadag - 582 209.</td>
<td>92-93</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>25</td>
</tr>
<tr>
<td>82.</td>
<td>Shri Dharmasthala Manjunatheshwar College of Ayurveda, P.O. Kuthpady, Laximanarayana Nagar, Udupi - 574 118.</td>
<td>1958</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>60</td>
</tr>
<tr>
<td>83.</td>
<td>Muniyal Institute of Ayurveda Medical Sciences, 34-C, Shivalli Industrial Area, manipal - 576 119.</td>
<td>1998</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>40</td>
</tr>
<tr>
<td>84.</td>
<td>Shri Dhanwantri Ayurved Medical College and Hospital, P.O., Siddhapur, North Canara - 581 355.</td>
<td>1998</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>30</td>
</tr>
</tbody>
</table>

**KERALA**

<table>
<thead>
<tr>
<th>No.</th>
<th>Institute Name</th>
<th>Years</th>
<th>Category</th>
<th>Address</th>
<th>Auth. Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>85*</td>
<td>Govt. Ayurveda College, Thiruvananthapuram - 695 001.</td>
<td>1889</td>
<td>Govt.</td>
<td>University of Kerala</td>
<td>do</td>
</tr>
<tr>
<td>86.</td>
<td>Govt. Ayurveda College, Dhanwanthari nagar, Puthiyakavu, Thiruuniatura, Ernakulam-682 301.</td>
<td>1958</td>
<td>do</td>
<td>Mahatma Gandhi University, Kottayam.</td>
<td>do</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name</td>
<td>Year</td>
<td>Type</td>
<td>University</td>
<td>Location</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------------</td>
<td>------</td>
<td>---------</td>
<td>-----------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>87</td>
<td>Govt. Ayurveda College, P.O. Pariyaram, Kannur - 670 503</td>
<td>1991</td>
<td>do</td>
<td>Kannur University Kannur</td>
<td>- do -</td>
</tr>
<tr>
<td>89</td>
<td>Vaidyaratnam P.S. Varier Ayur. College, Kottakkal, P.O. Edarikode Mallapuram - 676 501</td>
<td>1917</td>
<td>do</td>
<td>Calicut University</td>
<td>- do -</td>
</tr>
<tr>
<td></td>
<td><strong>MADHYA PRADESH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>Late Dr. Pt. Shivshakti Lal Sharma Ayur. Medical College &amp; Hospital, Katju Nagar, Ratlam - 457 001</td>
<td>200-01</td>
<td>Non-Govt.</td>
<td>Vikram University Ujjain</td>
<td>- do -</td>
</tr>
<tr>
<td>96</td>
<td>Govt. Ayurved College and Hospital, New Outdoor Building, Rewa- 486 001</td>
<td>1971</td>
<td>do</td>
<td>Awadhesh P.S. Vishvavidyalaya, Rewa</td>
<td>- do -</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name</td>
<td>Year</td>
<td>Type</td>
<td>University</td>
<td>City</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------</td>
<td>------------</td>
<td>-----------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>98.</td>
<td>Rajiv Gandi Ayurveda Medical College E-8, Trilanga Colony Shahpura, Bhopal - 462 039.</td>
<td>2000-01</td>
<td>Non-Govt.</td>
<td>- do -</td>
<td>Bhopal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAHARASHTRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100*</td>
<td>Govt. Ayurveda College, Tuljapur Road, Madhuban, Osmanabad - 413 501.</td>
<td>1986</td>
<td>- do -</td>
<td>- do -</td>
<td>Nashik</td>
</tr>
<tr>
<td>101*</td>
<td>Chhatrapati Sahu Maharaj Shikshan Sanstha's Ayurveda Medical College, Kanchanwadi, Paithan Road, Aurangabad - 431 003.</td>
<td>1989</td>
<td>Non-Govt.</td>
<td>- do -</td>
<td>Aurangabad</td>
</tr>
<tr>
<td>102*</td>
<td>Modern Shiksha Prasarak Mandal Ayurvedic College, Beed By Pass Road, Near Ayappa Mandir, Aurangabad - 431 002.</td>
<td>2000</td>
<td>- do -</td>
<td>- do -</td>
<td>Aurangabad</td>
</tr>
<tr>
<td>103.</td>
<td>Sumananjali Pratishthan Ayurved Mahavidyalaya, 12, Town Centre CIDCO, Aurangabad - 431 003.</td>
<td>2000</td>
<td>- do -</td>
<td>Not yet Affiliated</td>
<td>Aurangabad</td>
</tr>
</tbody>
</table>

Annexure - XIII
<table>
<thead>
<tr>
<th>No.</th>
<th>Institution Name</th>
<th>Year</th>
<th>Type</th>
<th>University</th>
<th>City</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>105*</td>
<td>Govt. Ayurvedic College, Raje Rahuji Nagar, Umred Road, Nagpur - 440 024.</td>
<td>1965</td>
<td>Govt.</td>
<td>Maharashtra University of Health Sciences, Nashik.</td>
<td>Nagpur</td>
<td></td>
</tr>
<tr>
<td>106.</td>
<td>Shri Ayurved Mahavidyalaya, Hanuman Nagar, Dhanwantri Marg, Nagpur - 440 009.</td>
<td>1972</td>
<td>Non-Govt.</td>
<td>-do-</td>
<td>Nagpur</td>
<td></td>
</tr>
<tr>
<td>108.</td>
<td>R.A. Poddar Ayur. Medical College, Dr. Annie Besant Road, Worli, Mumbai - 400 018.</td>
<td>1941</td>
<td>Govt.</td>
<td>-do-</td>
<td>Mumbai</td>
<td>60</td>
</tr>
<tr>
<td>109*</td>
<td>Smt. Kamaladevi G.M.P. Ayurveda Mahavidyalaya, netaji Subhash Road, Charni Road, Mumbai - 400 002.</td>
<td>1954</td>
<td>Non-Govt.</td>
<td>-do-</td>
<td>Mumbai</td>
<td>50</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Year</td>
<td>Type</td>
<td>Subtype</td>
<td>City, State</td>
<td>Contact Details</td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>114</td>
<td>Tilak Ayur. Mahavidyalaya, 583/2, Rasta Peth, Pune - 411 011.</td>
<td>1933</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>100</td>
</tr>
<tr>
<td>117</td>
<td>College of Ayur. &amp; Research Centre, Sector - 25, Akurdi Pradhikara, Pune - 411 044.</td>
<td>1990</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>60</td>
</tr>
<tr>
<td>118</td>
<td>B.V. College of Ayurveda, Katraj - Dhankawadi, Pune - Satara Road, Erandawane, Pune - 411 043.</td>
<td>1990</td>
<td>-do-</td>
<td>-do-</td>
<td>Bharati Vidyapeeth Deemed University Pune</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>Pad. Dr. D.Y. Patil College of Ayurveded and Research Centtre, Sant Tukaram Nagar, Pimpri, Pune - 411 018.</td>
<td>1999</td>
<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
<td>50</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Year</td>
<td>City</td>
<td>District</td>
<td>PIN</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------</td>
<td>-------</td>
<td>---------------</td>
<td>-------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>123</td>
<td>G.S.G. Ayurveda Mahavidyalaya, Maliwada, Vishrambag, Ahmednagar - 414 001.</td>
<td>1917</td>
<td>- do -</td>
<td>-do-</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>Ayurved Mahavidyalaya, Shri Shivajinagar, Post - Rahuri Factory, Tal - Rahuri, Ahmednagar - 413 706.</td>
<td>1991</td>
<td>- do -</td>
<td>-do-</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>127</td>
<td>Padamshri Dr. Vitthal Rao V. Pail Foundation's, Ayurvedic Mahavidyalaya, Shevgaon, Ahmednagar.</td>
<td>1999</td>
<td>- do -</td>
<td>-do-</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Year</td>
<td>Type</td>
<td>City</td>
<td>District</td>
<td>Pincode</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>-----------------------------</td>
<td>----------------</td>
<td>---------</td>
</tr>
<tr>
<td>133.</td>
<td>Kisan Dyanoday Mandal Gudhe Sanchalit Ayurved Mahavidyalaya and Rugnalaya, Dhule Road, Chalisgaon, Dist. Jalgaon.</td>
<td>98-99</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>40</td>
</tr>
<tr>
<td>135*</td>
<td>Seth C.M. Aryangle Vaidyak Mahavidyalaya, Gendamal, Satara - 415 002.</td>
<td>1913</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>50</td>
</tr>
<tr>
<td>136.</td>
<td>Seth Govindji Raoji Ayurveda Mahavidyalaya, 21/A13, Budhiwar Peth, Samrat Chowk, Solapur - 413002.</td>
<td>1962</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>50</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Year</td>
<td>Type</td>
<td>Year</td>
<td>Type</td>
<td>Type</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>143</td>
<td>R.T. Ayurved Mahavidyalaya, Kedia Plots, Jather Peth Road, Akola - 444 005.</td>
<td>1955</td>
<td>- do -</td>
<td>- do -</td>
<td>- do -</td>
<td>- do -</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>Year Range</td>
<td>Type</td>
<td>University</td>
<td>City</td>
<td>State</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>---------</td>
<td>--------------------------------------------</td>
<td>-----------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>150</td>
<td>Ayurved Mahavidyalaya, Shankar Nagar, Pusad, yavatmal - 445 204.</td>
<td>1992</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>152</td>
<td>Manjara Ayur. medical College and Hospital, Khadgaon Road, Distt. Latur - 413 512.</td>
<td>2001</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>153*</td>
<td>Balbhagvan Shikshan Prasarak Mandal's Dhanwantari Ayurved Medical College, In front of Kala Mandir, Nanded Road, UDGIR, Distt. Latur - 413 517.</td>
<td>2000-2001</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td><strong>ORISSA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>156</td>
<td>Gopabandhu Ayurveda Mahavidyalaya, Puri - 752 002.</td>
<td>1949</td>
<td>Govt.</td>
<td>Utkal University Vani vihar, Bhubaneswar</td>
<td>- do</td>
<td>30</td>
</tr>
<tr>
<td>157</td>
<td>Govt. Ayurveda College, Bolangir - 767 001.</td>
<td>1975</td>
<td>do</td>
<td>Sambalpur University</td>
<td>do</td>
<td>30</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name</td>
<td>Year</td>
<td>Type</td>
<td>University/College</td>
<td>Location</td>
<td>City</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>------</td>
<td>--------</td>
<td>----------------------------------------</td>
<td>----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>160.</td>
<td>Indira Gandhi Memorial Ayurveda Medical College &amp; Hospital, At Jagamara, P.O. Khandagiri, Bhubaneswar</td>
<td>1985</td>
<td>Non-Govt.</td>
<td>Utkal University Vani Vihar, Bhubaneswar</td>
<td>- do -</td>
<td>N.P.</td>
</tr>
<tr>
<td>PUNJAB:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>162.</td>
<td>Govt. Ayurvedic College, Patiala - 147 001.</td>
<td>1952</td>
<td>Govt.</td>
<td>Baba Farid University of Health Sciences, Faridkot.</td>
<td>- do -</td>
<td>30</td>
</tr>
<tr>
<td>163.</td>
<td>Dayanand Ayur. College, G.T.Road, Mahatma hansraj marg, Jallandhar City - 144 008.</td>
<td>1988</td>
<td>Non-Govt.</td>
<td>- do -</td>
<td>- do -</td>
<td>50</td>
</tr>
<tr>
<td>164.</td>
<td>Shri L.N. Ayurvedic College, Sant Tulsi Das Marg, Amritsar - 143 001.</td>
<td>1972</td>
<td>- do -</td>
<td>- do -</td>
<td>- do -</td>
<td>50</td>
</tr>
<tr>
<td>165.</td>
<td>Shri S.S.M.D. Ayurvedic College &amp; Hospital, G.T. Road, Village-Duneka, Moga, Faridkot - 142 001.</td>
<td>1983</td>
<td>- do -</td>
<td>- do -</td>
<td>- do -</td>
<td>40</td>
</tr>
<tr>
<td>166*</td>
<td>Lala Lajpat Rai Ayurvedic Medical College, Near Canal Rest House, Moga - 142 001.</td>
<td>1996</td>
<td>INR</td>
<td>- do -</td>
<td>- do -</td>
<td>N.P.</td>
</tr>
</tbody>
</table>
168. Mai Bhago Ayur. Medical College for Women, Ferozpur Road, Muktsar - 152 026.

169. Guru Nanak Ayurvedic Medical College and Hospital, barkandi Rd. Near Ajit Cinema, Muktsar - 152 026.

170. SKSS Ayur. Medical College & Hospital, Vill & PO - Sarabha, distt. Ludiana - 141 105.

171. Guru Nanak Ayurvedic Medical College & Research Institute, Malerkotla Road, VPO - Gopalpur Distt. Ludiana - 141 118.

RAJASTHAN


174. Shri Parshurampuria Rajasthan Ayur. mahavidyalaya, Sikar-332 001.


TAMILNADU

<table>
<thead>
<tr>
<th>No.</th>
<th>Institution and Address</th>
<th>Year</th>
<th>Type</th>
<th>University</th>
<th>Year</th>
<th>Type</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>177</td>
<td>Ayurveda College, 242-B, Trichy Road, Sulur - Pathanjali</td>
<td>1978</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>178</td>
<td>Dharma Ayur. Medical College and Hosp. 48, Grand West,</td>
<td>1997</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td>Sriperumbudur, Trunk Road, Kanchipuram - 602 105.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>179</td>
<td>Sri Jayendra Saraswati Ayurved College, Nazarathpet,</td>
<td>1995</td>
<td>do</td>
<td>Sri Chandrasekarendra Sarawati Vidyalaya (Deemed Uni.)</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td>Distt. Thiruvallur - 602 103.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UTTARANCHAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>Govt. Rishikul Ayurvedic College &amp; Hosp., Hardwar - 249</td>
<td>1919</td>
<td>Govt.</td>
<td>Chhatrapati Shahaji Maharaj Univ., Kanpur.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td>401.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>181</td>
<td>Govt. Gurukul Kangri Ayurvedic College &amp; Hosp., Hardwar</td>
<td>1922</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td>- 249 404.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>182*</td>
<td>Doon Ayur Medical College, Dehradun - 248 001.</td>
<td>INR</td>
<td>Non-</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td>Govt.</td>
<td></td>
<td>Govt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UTTAR PRADESH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>183*</td>
<td>Govt. Ayurvedic College &amp; Hosp. Turia Ganj, Sant Tulsi</td>
<td>1954</td>
<td>Govt.</td>
<td>Lucknow University</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td>Das Marg, Lucknow - 226 004.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>221 002.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185*</td>
<td>Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi - 221 005.</td>
<td>do</td>
<td>do</td>
<td>Banaras Hindu University, Varanasi</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Details</td>
<td>Year</td>
<td>Type</td>
<td>University/Institute</td>
<td>License Period</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>-----------------------------</td>
<td>----------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>186.</td>
<td>Lalit Hari Govt. Ayur. College &amp; Hospital, Pilibhit - 262 001.</td>
<td>1899</td>
<td>Govt.</td>
<td>Chhatrapat Shahiji Maharaj Univ. Kanpur</td>
<td>- do -</td>
<td>Permitted</td>
<td></td>
</tr>
<tr>
<td>192*</td>
<td>Himalaya Ayur. Medical College B-274, Rajendra Nagar, Bellary.</td>
<td>1992</td>
<td>Non-Govt.</td>
<td>-do-</td>
<td>-do-</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

**WEST BENGAL**

195* J.B. Roy Govt. Ayurvedic Medical College & Hosp., 170-172, Raja Dinendra Street, Kolkata - 700 004. 1916 Govt. Calcutta University - do - 60
CHANDIGARH

Note: B.A.M.S. = Bachelor of Ayurvedic Medicine and Surgery.
NP = Not Permitted

*****

List of New Colleges (U.G.)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name and address of the College</th>
<th>Name of Affiliating Body</th>
<th>Ownership (Govt./Pvt.)</th>
<th>Year of Estt.</th>
<th>Courses run</th>
<th>Admission Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vagdevi Ayurved Medical College Bollikunta, WARANGAL (A.P.)</td>
<td>NTRUHS</td>
<td>Private</td>
<td>2006-07</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
</tr>
<tr>
<td>3.</td>
<td>Chhattisgarh Ayurved Medical College, Rajnandgaon, Sadar Bazar, RAJNANDGAON 491441 Chhattisgarh</td>
<td>-do-</td>
<td>Private</td>
<td>2006-07</td>
<td>Ayurvedacharya</td>
<td>75 Permitted</td>
</tr>
<tr>
<td>No.</td>
<td>Name of the Institution</td>
<td>Type</td>
<td>Year</td>
<td>Course</td>
<td>Permits</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------------</td>
<td>-------</td>
<td>------</td>
<td>-----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Shri. Dhanwantry Ayurved College &amp; Hospital Sector 46B CHANDIGARH 160017</td>
<td>Punjab University Chandigarh</td>
<td>Private</td>
<td>1975</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
</tr>
<tr>
<td>7.</td>
<td>Chaudhary Devlal College of Ayurveda, Bhagwan Parshuram Education Trust Ambala Road JAGADHRI 135003</td>
<td>Kurukshetra University</td>
<td>Private</td>
<td>2002</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
</tr>
<tr>
<td>8.</td>
<td>Shri Raghavendra Ayurved Medical College PO Malladihill, Holalker Tq, Disttt. Chitradurga 577531</td>
<td>Rajiv Gandhi University Bangalore</td>
<td>Private</td>
<td>2005</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
</tr>
<tr>
<td>9.</td>
<td>SDM Ayurved Medical College Jamkhandi Tq. Bagalkot Distt. TERDAL</td>
<td>-do-</td>
<td>Private</td>
<td>2005</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
</tr>
<tr>
<td>10.</td>
<td>Karnataka Ayurved Medical College, KECT Tower, Near Daivjna, Kalyan Mantap, Hoige Bail, Ashok Nagar, Mangalore Dakshina Kannada - 575006</td>
<td>-do-</td>
<td>Private</td>
<td>2002-03</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
</tr>
<tr>
<td></td>
<td>Institution Name</td>
<td>Type</td>
<td>Year</td>
<td>Specialty</td>
<td>Approved Seats</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------</td>
<td>-------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Shushrutha Ayurved Medical College No.5, Sy. No.23, Kathriguppe BSK, IIIrd Stage</td>
<td>do-</td>
<td>2002</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BANGALORE560085</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Sri Sri College of Ayurvedic Science &amp; Research</td>
<td>do-</td>
<td>2004</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>21st KM Kanakpura</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Road PO UDAYAPURA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BANGALORE 560062</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Ashwini Ayurvedic Medical College &amp; Research Centre</td>
<td>do-</td>
<td>2004</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ring Road, Maralur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TUMKUR 572105</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>CB Guttal Ayurved Medical College &amp; Hospital, Dakshina Bharat Hindi Prachar Sabha</td>
<td>do-</td>
<td>2004</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PO Box 42, DC Compound</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DHARWAD 580001 (Karnataka)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Atreya Ayurvedic Medical College Kodigehalli, Doddaballapura Tq. BANGALORE</td>
<td>do-</td>
<td>2002</td>
<td>Ayurvedacharya</td>
<td>50 Permitted</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Amrita Ayurveda Medical College Kulesekharapuram Vallikavu Distt. Kollam</td>
<td>Amrita</td>
<td>2004</td>
<td>Ayurvedacharya</td>
<td>60 Permitted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Deemed University) AMRITPURI</td>
<td>Private</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Institution Name</td>
<td>Location</td>
<td>Type</td>
<td>Year</td>
<td>Qualification</td>
<td>Seats</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------</td>
<td>---------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------------------</td>
<td>-------</td>
</tr>
<tr>
<td>17.</td>
<td>Parrasianikkadavu Ayurved Medical College, PO Parassiaikkadavu, Distt. KANNUR 670563</td>
<td>Kannur University Kannur</td>
<td>Private</td>
<td>2002</td>
<td>Ayurvedacharya</td>
<td>50</td>
</tr>
<tr>
<td>18.</td>
<td>Pankaj Kasthere Ayurved Medical College, Killy Jn., KALLODE Trivendrum</td>
<td>University of Kerala Trivandrum</td>
<td>Private</td>
<td>2002</td>
<td>Ayurvedacharya</td>
<td>50</td>
</tr>
<tr>
<td>99.</td>
<td>Nangelil Ayurved College Nallikuzhi PO Kothamangalam Ernakullam Distt. NANGELIL- 686560</td>
<td>MG University KOTTAYAM</td>
<td>Private</td>
<td>2001</td>
<td>Ayurvedacharya</td>
<td>40</td>
</tr>
<tr>
<td>20.</td>
<td>Santhigiri Ayurved Medical College, Kdiyakode PO, PALAKKAD 678557</td>
<td>University of Calicut CALICUT</td>
<td>Private</td>
<td>2001</td>
<td>Ayurvedacharya</td>
<td>50</td>
</tr>
<tr>
<td>22.</td>
<td>KMCT Ayurveda Medical College PO MANASSER KOZHIKODE 673602</td>
<td>-do-</td>
<td>Private</td>
<td>2004</td>
<td>Ayurvedacharya</td>
<td>50</td>
</tr>
<tr>
<td>23.</td>
<td>Mannam Ayurved Medical College The Mannam Sugar Mills Co-operative Ltd 4324 PANDALAM 689501</td>
<td>-do-</td>
<td>Private</td>
<td>2003</td>
<td>Ayurvedacharya</td>
<td>50</td>
</tr>
<tr>
<td>No.</td>
<td>Institute Name</td>
<td>Type</td>
<td>Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>College of Ayurved Medical College &amp; Hospital, Bara Bhagya, Jhansi Road</td>
<td>Private</td>
<td>Gwalior 474001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Smt. Dharaliy Prabhudev Sajithya Ayurved Medical College, Neemruthpur, BHavnagar 458775</td>
<td>Private</td>
<td>NDist. Mandla, MP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Acharya Gyan Ayurved College, 278, Jawahar Marg, Malgani Chora</td>
<td>Private</td>
<td>-DO-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Subh Deep Ayurved College, 11, Press Complex AB Road, INDORE</td>
<td>Private</td>
<td>-DO-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Rani Dhiulriy Ayurved Medical College, Opp. Shiram Mandir, Bhopal 462001</td>
<td>Private</td>
<td>-DO-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Veenavadi Ayurved Medical College, Opp. Bharti Kolar Road, Bhopal 460001</td>
<td>Private</td>
<td>-DO-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Om Ayurved Medical College, Jamfitra, PO Bharat Bharti, Bhopal 460001 (MP)</td>
<td>Private</td>
<td>-DO-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Mashyanchal Ayurved College &amp; Hospital, Near Bhujpur Road, Chhatarpur</td>
<td>Private</td>
<td>-DO-</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
32. **Jupiter Ayurved Medical College & Tarini Ayurved Hospital**, Sawarkar Nagar, Khamla Road, NAGPUR - 15

   Maharashtra University of Health Sciences Nasik

   Private  2001  Ayurvedacharya  40 Permitted

33. **Manjara Charitable Trust Ayurved Medical College & Hospital C/o Zilla Parishad Boys School, Gandhi Maidan, Bhoi Galli LATUR - 413531**

   -do-  Private  2000  Ayurvedacharya  50 Permitted

34. **Dhanwantari Ayurved Medical College UDGIR**

   Infront of Kala Mandir, Nanded Road, Udgir

   Distt. Latur (MS) - 413517

   -do-  Private  2000  Ayurvedacharya  50 Permitted


   -do-  Private  2000  Ayurvedacharya  40 Permitted

36. **Ramrao Patil Ayurved Mahavidyalaya & Rugnalaya PURNA, Tq. Purna, Distt. Parbhani (MS)**

   -do-  Private  2000  Ayurvedacharya  40 Permitted

37. **Loknete Rajarambapu Patil Ayurved Medical College Near Bahe - Naka, Bahe Road Isampur, Tal. Walwa, Distt. SANGLI Maharashtra**

   Maharashtra University of Health Sciences Nasik

   Private  2001  Ayurvedacharya  50 Permitted
<table>
<thead>
<tr>
<th>No.</th>
<th>Institution Name</th>
<th>Type</th>
<th>Year</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.</td>
<td>Rural Institute of Ayurveda &amp; Research Centre Hospital, Myani at Vidyagiri MYANI Tal. Khatav, Distt. Satara</td>
<td>-do-</td>
<td>2004</td>
<td>Ayurvedacharya 50 Permitted</td>
</tr>
<tr>
<td>40.</td>
<td>Mahatma Gandhi Ayurved College, Hospital &amp; Research Centre, Swangi. (Meghe) (Saod Hirapur Mousa Area), WARDHA (MS)</td>
<td>-do-</td>
<td>2007</td>
<td>Ayurvedacharya 50 Permitted</td>
</tr>
<tr>
<td>41.</td>
<td>Aditya Ayurved College, At Telgaon Road, Distt. BEED 431122 (MS)</td>
<td>-do-</td>
<td>2007</td>
<td>Ayurvedacharya 50 Permitted</td>
</tr>
<tr>
<td>42.</td>
<td>Mahesh Ayurved College, ASHTI, Teh. Ashti,, Distt. BEED 414203 (MS)</td>
<td>-do-</td>
<td>2007</td>
<td>Ayurvedacharya 50 Permitted</td>
</tr>
<tr>
<td>43.</td>
<td>SMBT Ayurved College, At Nandihills, Dhaman Gaon, Teh. Igatpuri Distt. NASIK (MS)</td>
<td>-do-</td>
<td>2007</td>
<td>Ayurvedacharya 50 Permitted</td>
</tr>
<tr>
<td>44.</td>
<td>Ayurved College, Hospital &amp; Research Centre Degaon. Resort Distt. WASIM (MS)</td>
<td>-do-</td>
<td>2007</td>
<td>Ayurvedacharya 50 Permitted</td>
</tr>
<tr>
<td>45.</td>
<td>Shri KR Pandav Ayurved College &amp; Hospital Bahadura Near Dighorinaka, Umer Road NAGPUR</td>
<td>-do-</td>
<td>2007</td>
<td>Ayurvedacharya 50 Permitted</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name</td>
<td>Type</td>
<td>Year</td>
<td>Course</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------</td>
<td>--------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>46</td>
<td>Padamshree Dr. DY Patil College of Ayurveda and Research Institute, Nerul, Navi Mumbai, Sector 7, Navi NAVI MUMBAI 400706</td>
<td>Private</td>
<td>2004</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>47</td>
<td>Smt. Urmila Devi Ayurvedic College &amp; Hospital VPO KHARKHAN, Una Road, HOSHIARPUR 146001 (Punjab)</td>
<td>Private</td>
<td>2002</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>48</td>
<td>Babe Ke Ayurved Medical College &amp; Hospital VPO Dudhar, MOGA 142053</td>
<td>Private</td>
<td>2002</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>49</td>
<td>Saint Sahara Ayurved Medical College &amp; Hospital Kot Shamir, BHALTINDA</td>
<td>Private</td>
<td>2002</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>50</td>
<td>Shri Ganganagar College of Ayurvedic Sciences Hanumangarh Road RICCO, SRIGANGANAGAR (Rajasthan)</td>
<td>Private</td>
<td>2004</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>51</td>
<td>College of Aurveda of Rajasthan, Rajasthan Ayurved University 82, Income Tax Colony 'C' Poata Road JODHPUR</td>
<td>Government</td>
<td>2004</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name and Address</td>
<td>Type</td>
<td>Year</td>
<td>Category</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>-------</td>
<td>---------------------</td>
</tr>
<tr>
<td>52.</td>
<td>Sri Sankara Ayurved College Sannasipathi Poolankuppati TRICHURAPALI 620009 (T.N.)</td>
<td>Dr. MGR</td>
<td>Private</td>
<td>2001</td>
</tr>
<tr>
<td>53.</td>
<td>Sri Sairam Ayurved Medical College and Research Centre Poonthandalam Village, Sri perumbudortaluka KANCHEEPURAM</td>
<td>-do-</td>
<td>Private</td>
<td>2001</td>
</tr>
<tr>
<td>54.</td>
<td>Uttaranchal Ayurved College Ayurved Estate, 17, Old Mussorie Road, Rajpur DEHRADUN 248009 (Uttaranchal)</td>
<td>Hemvati</td>
<td>Private</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nandan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bahuguna</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gharwal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shrinagar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>UTTARANCHAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55.</td>
<td>Himalayiya Ayurved Yoga Avam Prakartic Chikitsa Sansthan Shumpur, DEHRADUN Uttarakhal</td>
<td>Private</td>
<td>2006</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>56.</td>
<td>Yagya Dutt Sharma Ayurved Medical College CL Hostel, NREC Campus Teh. Khwaja, Distt. KHURZA (UP) KHURZA 203131</td>
<td>Chhatrapati</td>
<td>Private</td>
<td>2002-03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shahuji</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mahraj</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>KANPUR</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-do-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57.</td>
<td>Sri Sai Ayurved Medical College &amp; Hospital, Sarol, G.T. Road ALIGARH - 202001</td>
<td>Private</td>
<td>2003</td>
<td>Ayurvedacharya</td>
</tr>
<tr>
<td>S. No.</td>
<td>Name and address of the College</td>
<td>Name of Affiliating Body</td>
<td>Ownership (Govt./Pvt.)</td>
<td>Year of Estt.</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------</td>
<td>--------------------------</td>
<td>------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>58.</td>
<td>JD ayurvedic Medical College &amp; Hospital Bhankari, GT Road ALIGARH</td>
<td>-do-</td>
<td>Private</td>
<td>2004</td>
</tr>
<tr>
<td>59.</td>
<td>Major SD Singh Ayurved Medical College &amp; Hospital at Fatehgahar Distt. Farrukhabad</td>
<td>-do-</td>
<td>Private</td>
<td>2006</td>
</tr>
<tr>
<td>60.</td>
<td>Belley Sankerpur Rajiv Gandhi Memorial Ayurved College &amp; Hospital, P.O. &amp; Village, Fingapara Distt. 24, Pargnas (N) 743129 WEST BENGAL</td>
<td>West Bengal University of Health Sciences, KOLKATTA</td>
<td>Private</td>
<td>2002</td>
</tr>
</tbody>
</table>

*****

List of P.G.Colleges

<table>
<thead>
<tr>
<th>Name of Affiliating Body</th>
<th>Ownership (Govt./Pvt.)</th>
<th>Year of Estt.</th>
<th>Courses run</th>
<th>Admission Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTR University of Health Sciences, Vijayawada</td>
<td>Government</td>
<td>1948</td>
<td>Ayurved Vachaspati</td>
<td>03 Salya</td>
</tr>
<tr>
<td>-do-</td>
<td>Government</td>
<td>1942</td>
<td>Ayurved Vachaspati</td>
<td>03 Shalakya</td>
</tr>
<tr>
<td>-do-</td>
<td></td>
<td></td>
<td></td>
<td>04 P.S.B.</td>
</tr>
<tr>
<td>-do-</td>
<td></td>
<td></td>
<td></td>
<td>10 Kayachikitsa</td>
</tr>
<tr>
<td>-do-</td>
<td></td>
<td></td>
<td></td>
<td>06 Dravyaguna</td>
</tr>
<tr>
<td>-do-</td>
<td></td>
<td></td>
<td></td>
<td>05 Rasasastra</td>
</tr>
<tr>
<td>No.</td>
<td>Institution</td>
<td>City/Town</td>
<td>State/Country</td>
<td>Foundation Year</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>3.</td>
<td>Government Ayurved College</td>
<td>Gauhati</td>
<td>Assam</td>
<td>1948</td>
</tr>
<tr>
<td></td>
<td>Jalukbari GUWAHATI 781004.</td>
<td>University</td>
<td>GUWAHATI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Assam)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Govt. Ayurved College</td>
<td>Shankar</td>
<td>Assam</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RAIPUR 492001</td>
<td>Shukla</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vishwavidyalaya</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RAIPUR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Ayurved &amp; Unani Tibbia</td>
<td>University</td>
<td>New Delhi</td>
<td>1921</td>
</tr>
<tr>
<td></td>
<td>College Ajmal Khan Road</td>
<td>of Delhi</td>
<td>Delhi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Karol Bagh</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NEW DELHI 110005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opp. Victoria Garden</td>
<td>University</td>
<td>1966</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bhadra AHMEDABAD 380001</td>
<td>JAMNAGAR</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research Gujarath Ayurved</td>
<td>Constn</td>
<td>Ahmedabad</td>
<td></td>
</tr>
<tr>
<td></td>
<td>University JAMNAGAR</td>
<td>College</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>361001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Rajiv Gandhi Rajkiya</td>
<td>Himachal</td>
<td>Pradesh</td>
<td>1972</td>
</tr>
<tr>
<td></td>
<td>Government Ayurvedic</td>
<td>Pradesh</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-graduate College</td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A Hand Book of History of Ayurveda
9. Jammu Institute of Ayurved & Research Muthi, Nardhani Raipur Ban Talab Road JAMMU TAWI 181123
   Jammu University JAMMU
   Private 1999
   03 Rasasstra
   03 Prasuti & Striroga
   04 Samhita
   05 Salya
   05 Kayachikitsa
   05 Kriya Sharira

10. Govt. Ayurved Medical College & Hospital of Health Sciences Vishweshwariah Circle, Sayaj Rao Road MYSSORE 570021
    Rajiv Gandhi University of Health Sciences BANGALORE
    -do- Private 1908 Ayurved Vachaspati 07 Kayachikitsa
    05 Basic Principles

11. ALN Rao Memorial Ayurved Mahavidyalaya, Distt. Chikmagalare KOPPA 577126 (Karnataka)
    -do- Private 1987 Ayurved Vachaspati 06 Dravyaguna
    05 Bhaishajya Kalpana
    05 Kayachikitsa

12. Govt. Ayurved Medical College Dhanwantri Road, BANGALORE 560009
    -do- Government 1967 Ayurved Vachaspati 07 Salya
    07 Shalakya
    07 Dravyaguna
    07 Panchakarma

13. Govt. Taranath Ayurved Medical College Anantapur Road BALLARY 583101
    -do- Government 1947 Ayurved Vachaspati

14. AV Samiti’s Ayurved Mahavidyalaya Muranken, BIJAPUR 586101
    -do- Private - Aided 1955 Ayurved Vachaspati 05 Rasasstra

15. Ayurved Mahavidyalaya Heggari Extension OLD HUBLI 580024
    -do- Private - Aided 1954 Ayurved Vachaspati 05 Kayachikitsa
    02 Salya
<table>
<thead>
<tr>
<th>No.</th>
<th>Institution Name</th>
<th>Type</th>
<th>Year</th>
<th>Department</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Karnataka Liberal Education Society, Shri Karnataka B.M. Kankanwadi Ayurved Mahavidyalaya Shahapur BELGAUM- 590003</td>
<td>-do-</td>
<td>1933</td>
<td>Ayurved Vachaspati</td>
<td>05 Rasasastra, 04 Dravyaguna</td>
</tr>
<tr>
<td>17</td>
<td>Ashwini Educational Association’s (Regd) Ayurved College, 1851/33, Anjaneya Layout, DAVANGARE -577566 Distt Davangare (Karnataka)</td>
<td>-do-</td>
<td>1992</td>
<td>Ayurved Vachaspati</td>
<td>05 Kayachikitsa, 05 Salya</td>
</tr>
<tr>
<td>18</td>
<td>NK Jabashetty Siddharudh Math Ayurved Medical College Manhalli Road, BIDAR-585103 (Karnataka)</td>
<td>-do-</td>
<td>1991</td>
<td>Ayurved Vachaspati</td>
<td>05 Salya, 05 Rachana Sharer, 05 Prasuti &amp; Striroga, 03 Panchakarma, 04 Rasasastra</td>
</tr>
<tr>
<td>19</td>
<td>JSS Ayurved Medical College Shri Shivarathe-shwara Nagar MYSORE-570015</td>
<td>-do-</td>
<td>1996</td>
<td>Ayurved Vachaspati</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>TMAE Society’s Ayurved Medical College Sankalapur, Tanda Ballary Road HOSPET-583201</td>
<td>-do-</td>
<td>1991</td>
<td>Ayurveda Vachaspati</td>
<td>03 Salya</td>
</tr>
<tr>
<td>21</td>
<td>SDM College of Ayurveda Post Box No.164, Tarniruhalla BM Road, HASSAN-573201 (Karnataka)</td>
<td>-do-</td>
<td>1992</td>
<td>Ayurveda Vachaspati</td>
<td>05 Salya, 04 Swasthavritta, 02 Manasa Roga, 04 Panchakarma, 04 Shalakya</td>
</tr>
<tr>
<td>No.</td>
<td>Name of the College</td>
<td>Type</td>
<td>Established</td>
<td>Type of Medicine</td>
<td>City or District</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------</td>
<td>----------</td>
<td>-------------</td>
<td>------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>22</td>
<td>Shri JG Cooperative Hospital Ayurved Medical College</td>
<td>Private</td>
<td>1996</td>
<td>Ayurved</td>
<td>02 Dravyaguna</td>
</tr>
<tr>
<td></td>
<td>GHATAPRABHA-591321 Distt. Belgaum (Karnataka)</td>
<td></td>
<td></td>
<td>Vachaspati</td>
<td>05 Salya</td>
</tr>
<tr>
<td>23</td>
<td>Alva's Ayurvedic Medical College Moodbidri Distt.</td>
<td>Private</td>
<td>1996</td>
<td>Ayurved</td>
<td>05 Salya</td>
</tr>
<tr>
<td></td>
<td>DAKSHIN KANNADA-574227</td>
<td></td>
<td></td>
<td>Vachaspati</td>
<td>03 Ay Siddhant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>04 Kaumarbhritiya</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>05 Panchakarma</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>05 Kayachikitsa</td>
</tr>
<tr>
<td>24</td>
<td>Shri DGM Ayurved College GADAG, Distt. Dharwad</td>
<td>Private-</td>
<td>1979</td>
<td>Ayurveda</td>
<td>04 Dravyaguna</td>
</tr>
<tr>
<td></td>
<td>(Karnataka)</td>
<td>Aided</td>
<td></td>
<td>Vachaspati</td>
<td>05 Rasasastra</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>05 Panchakarma</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>06 Salya</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>06 Kayachikitsa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>05 Dravyaguna</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02 Bhaishajya Kalpana</td>
</tr>
<tr>
<td>25</td>
<td>Shri DM College of Ayurved Laxminarayan Nagar</td>
<td>Private-</td>
<td>1958</td>
<td>Ayurveda</td>
<td>06 Salya</td>
</tr>
<tr>
<td></td>
<td>P.O. Kuthapady</td>
<td>Aided</td>
<td></td>
<td>Vachaspati</td>
<td>06 Kayachikitsa</td>
</tr>
<tr>
<td></td>
<td>UDUPI 574118</td>
<td></td>
<td></td>
<td></td>
<td>05 Dravyaguna</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02 Bhaishajya Kalpana</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>03 Rasasastra</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>03 Roga Nidana</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>05 Panchakarma</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>06 Rachana Sharira</td>
</tr>
<tr>
<td>26</td>
<td>VPS Varier Ayurved College, Kottakkal, Distt. Malappuram</td>
<td>Private</td>
<td>1917</td>
<td>Ayurved</td>
<td>04 Agadatantra</td>
</tr>
<tr>
<td></td>
<td>EDARIKODE 676501</td>
<td></td>
<td></td>
<td>Vachaspati</td>
<td>06 Manasa Roga</td>
</tr>
<tr>
<td>27</td>
<td>Govt. Ayurved College, MG Road THIRUVANATHAPURAM 695001</td>
<td>University of Calicut</td>
<td>Private</td>
<td>Ayurved</td>
<td>03 Salya</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CALICUT</td>
<td>1951</td>
<td>Vachaspati</td>
<td>03 Shalakya</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>06 Swasthavritta</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trivandrum</td>
<td></td>
<td></td>
<td>06 Siddhant &amp; Samhita</td>
</tr>
<tr>
<td>No.</td>
<td>Institute Name</td>
<td>Location</td>
<td>Type</td>
<td>Establishment Year</td>
<td>Faculty Members</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------</td>
<td>--------------------</td>
<td>-----------------</td>
<td>--------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>28</td>
<td>Government Ayurved College KANNUR</td>
<td>Kannur University, Kannur</td>
<td>Government</td>
<td>1991</td>
<td>Ayurved Vachaspati</td>
</tr>
<tr>
<td>29</td>
<td>Govt. Ayurved College &amp; Hospital GWALIOR 473001</td>
<td>Jiwaji University, GWALIOR</td>
<td>Government</td>
<td>1916</td>
<td>Ayurved Vachaspati</td>
</tr>
<tr>
<td>30</td>
<td>Govt. Dhanwantri Ayurved College Mangalnath Road UJJAIN 465001</td>
<td>Vikram University, UJJAIN</td>
<td>Government</td>
<td>1968</td>
<td>Ayurved Vachaspati</td>
</tr>
<tr>
<td>31</td>
<td>Govt. Ayurved College &amp; Hospital New Outdoor Building REWA 484001</td>
<td>Awadesh Pratap Singh University, REWA</td>
<td>Government</td>
<td>1973</td>
<td>Ayurved Vachaspati</td>
</tr>
<tr>
<td>32</td>
<td>Bharti Vidyapeeth’s College of Ayurved, Katrina-Dhanakwadi Distt. Pune 411043 Maharashtra</td>
<td>Constitute Unit of Bharti Vidya Peeth (Deemed University) Pune</td>
<td>Private</td>
<td>1990</td>
<td>Ayurved Vachaspati</td>
</tr>
<tr>
<td>05</td>
<td>Prasuti &amp; Striroga</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Rasasastra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Bhaishajya Kalpana</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Dravyaguna</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Panchakarma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Agadatantra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Kaumarbhriyta</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Kayachikitsa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>Kriya Sharira</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institution Name</td>
<td>Region</td>
<td>Type</td>
<td>Year</td>
<td>Faculty</td>
</tr>
<tr>
<td>-----</td>
<td>------------------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>33</td>
<td>Tilak Ayurved Mahavidyalaya</td>
<td>Maharashtra</td>
<td>Private-aided</td>
<td>1933</td>
<td>Ayurved Vacahaspati</td>
</tr>
<tr>
<td></td>
<td>583/2, Rasta Peth</td>
<td>University of Health Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PUNE 411011</td>
<td>NASIK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Ashtang Ayurved Mahavidyalaya</td>
<td>-do-</td>
<td>Private-aided</td>
<td>1936</td>
<td>Ayurved Vacahaspati</td>
</tr>
<tr>
<td></td>
<td>2062, Sadashiv Pet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PUNE 411030</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Annexure - XIII

04 Kaumarbhritya
04 Agadatantra
05 Prasuti & Striroga
04 Shalakya
03 Panchakarma
04 Bhaishajya Kalpana
05 Swasthayavritta
04 Kriya Sharira
03 Shalya
04 Shalakya
04 Kayachikitsa
04 Rog Vigyan
04 Prasuti & Striroga
02 Rasashtra
02 Kriyasharir
02 Dravyaguna
03 Samhita Siddhant
02 Rachana Sharir
04 Shalakya
04 Panchkarma
04 Agadatantra
02 Swasthayavritta
04 Kaumarbhritya
03 Samhita
03 Rachana Sharir
03 Prasuti & Striroga
35. Ayurved Mahavidyalaya
Ganeshwadi Panchavati
NASIK 422003

36. Ayurved Mahavidyalaya
Shri Shivaji Nagar, Tal. Rahuri
Rahuri Factory
AHMEDNAGAR 413706.

37. Maharashtra Arogya Mandal’s
Sumati Bhai Shah Ayurveda
Mahavidyalaya Malawadi,
HADAPSAR 411028 PUNE

38. College of Ayurveda &
Research Centre,
AKURDI - 411044
PUNE (MS)

39. Bharatiya Sanskriti Darshan
Trust Ayurved Vishwashanti
Dham WAGHOLI 412207
Talq. Haveli Distt. Pune

40. Chhatrapati Sahu
Maharaj Shikshan
Sansthan Ayurveda
Mahavidyalaya Kanchanwadi,
Paithan Road AURANGABAD
- 431003 (MS)

41. Govt. Ayurved College
Tuija Pur Road, Madhuban
OSMANABAD 410501
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Type</th>
<th>Year</th>
<th>City/Location</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.</td>
<td>Seth Chandanmal Mutha Aryangla Vaidyak Mahavidyalaya, Gandamal SATARA 415001.</td>
<td>-do-</td>
<td>Private-aided</td>
<td>1913</td>
<td>Ayurved Vacahaspati</td>
</tr>
<tr>
<td>43.</td>
<td>Seth Govindji Raoji Ayurved Mahavidylaya 21/A/13, Budwar Peth Samarat Chowk SHOLAPUR 413002</td>
<td>-do-</td>
<td>Private</td>
<td>1967</td>
<td>Ayurved Vacahaspati</td>
</tr>
<tr>
<td>44.</td>
<td>Yashwant Ayurved Mahavidyalaya, At &amp; P.O. KODOLI-416114 Distt. Kolhapur (MS)</td>
<td>-do-</td>
<td>Private</td>
<td>1989</td>
<td>Ayurved Vacahaspati</td>
</tr>
<tr>
<td>45.</td>
<td>RA Podar Ayurved College Worli MUMBAI 400018 (MS)</td>
<td>-do-</td>
<td>Government</td>
<td>1941</td>
<td>Ayurved Vacahaspati</td>
</tr>
<tr>
<td>46.</td>
<td>Smt. KG Mittal Punarvasu Ayurved Mahavidyalaya Netaji Subhash Road, Cherni Road MUMBAI 400002</td>
<td>-do-</td>
<td>Private-aided</td>
<td>1954</td>
<td>Ayurved Vacahaspati</td>
</tr>
</tbody>
</table>
47. Ayurved Mahavidyalaya
   Near Sion Railway Station, 
   SION MUMBAI 400002
   -do- Private-aided 1954 Ayurved Vacahaspati
   02 Kayachikitsa
   02 Maulik
   Siddhant
   02 Dravyaguna
   02 Rasashastra
   01 Rogvigyan
   01 Swasthavritta
   01 Shalakya
   04 Rachna Sharir
   04 Sharir Kriya
   02 Kayachikitsa
   03 Shalya
   03 Agadanta

48. Govt. Ayurved Mahavidyala-
    layaRaje Raghujii Nagar 
    Umer Road NAGPUR 440024
   -do- Government 1965 Ayurved Vacahaspati
   01 Rogvigyan
   01 Swasthavritta
   01 Shalakya
   04 Rachna Sharir
   04 Sharir Kriya
   02 Kayachikitsa
   03 Shalya
   03 Agadanta

49. Shri Ayurved Mahavidyalaya
    Dhanwantri Marg, Hanuman Nagar NAGPUR 440009.
   -do- Private-aided 1956 Ayurved Vacahaspati
    06 Samhita
    05 Kayachikitsa
    04 Rachana Sharir
    03 Kriya Sharir
    06 Rasa Shastra & 
    Bhaishajya
    Kalpana
    03 Shalakya
    04 Shalya
    03 Dravyaguna
    03 Rognidan
    & Vikriti Vigyan
    03 Agadanta
    03 Swasthavritta
    02 Panchkarma
    02 Kaumar Bhrittya
    02 Samhita
    02 Rachana Sharir
    03 Shalya
    03 Kayachikitsa

50. Shri Radha Krishna Toshniwal
    Ayurved Mahavidyalaya
    Station Road AKOLA 444001
   -do- Private-aided 1955 Ayurved Vacahaspati
   02 Kayachikitsa
   02 Maulik
   Siddhant
   02 Dravyaguna
   02 Rasashastra
   01 Rogvigyan
   01 Swasthavritta
   01 Shalakya
   04 Rachna Sharir
   04 Sharir Kriya
   02 Kayachikitsa
   03 Shalya
<table>
<thead>
<tr>
<th>No.</th>
<th>Institution Name</th>
<th>State</th>
<th>University</th>
<th>Type</th>
<th>Year Founded</th>
<th>Type of Institution</th>
<th>Core Diseases</th>
</tr>
</thead>
</table>
| 51. | Vidarbha Ayurved Mahavidyalaya Hanuman Vyayam Nagar AMRAVATI 444605 | -do- | Private-aided | 1931 | Ayurved Vachaspati | 03 Shalya  
01 Shalya  
02 Swastha Vritta  
02 Kayachikitsa  
04 Ay Sidhant  
04 Rachna Sharir |
| 52. | Dr. D. Y. Patil Pratishthan Ayurved College PIMPRI Pune 411018 | Maharashtra University of Health Sciences Nasik | Private | 1999 | Ayurved Vachaspati | 04 Shalya  
04 Kayachikitsa  
03 Rachana Sharir  
02 Prasuti & Striroga  
04 Kriya Sharir  
02 Dravyaguna  
03 Kaumarbhrittya  
02 Rognidan  
05 Shalakya  
05 Rasashastra  
02 Samhita & Siddhant  
02 Swasthavritta  
07 Kayachikitsa  
03 Shalya  
01 Prasuti & Striroga  
02 Kaumarbhrita  
02 Rasashastra  
04 Rasashastra  
04 Dravyaguna |
04 Kayachikitsa  
03 Rachana Sharir  
02 Prasuti & Striroga  
04 Kriya Sharir  
02 Dravyaguna  
03 Kaumarbhrittya  
02 Rognidan  
05 Shalakya  
05 Rasashastra  
02 Samhita & Siddhant  
02 Swasthavritta  
07 Kayachikitsa  
03 Shalya  
01 Prasuti & Striroga  
02 Kaumarbhrita  
02 Rasashastra  
04 Rasashastra  
04 Dravyaguna |
| 54. | Gopabandhu Ayurved Mahavidyalaya, VIP Road PURI 752002 (Orissa) | Utkal University BHUBANE-SHWAR | Government | 1949 | Ayurved Vachaspati | 03 Shalya  
01 Prasuti & Striroga  
02 Kaumarbhrita  
02 Rasashastra  
04 Rasashastra  
04 Dravyaguna |
| 55. | Government Ayurved Mahavidyalaya PATIALA 147001 | Baba Farid University of Health Sciences, FARIDKOT | Government | 1952 | Ayurved Vachaspati | 04 Rasashastra  
04 Dravyaguna |
<table>
<thead>
<tr>
<th>No.</th>
<th>Institution Name</th>
<th>Location</th>
<th>Type</th>
<th>Year</th>
<th>Department(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Madhav Vilas PalaceAmer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Road JAIPUR 302002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57.</td>
<td>MMM Govt. Ayurved Mahavidyalaya</td>
<td>-do-</td>
<td>Government</td>
<td>1944</td>
<td>Ayurveda Vachaspati</td>
</tr>
<tr>
<td></td>
<td>Mahavidyalaya</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambernath Road</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDAIPUR 313001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58.</td>
<td>Govt. Rishikul Ayurved College</td>
<td>Hemvati</td>
<td>Government</td>
<td>1919</td>
<td>Ayurveda Vachaspati</td>
</tr>
<tr>
<td></td>
<td>HARIDWAR 249401</td>
<td>Nandan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bahuguna</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gharwal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shrinagar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uttarakhal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59.</td>
<td>State Ayurved College</td>
<td>Lucknow</td>
<td>Government</td>
<td>1954</td>
<td>Ayurveda Vachaspati</td>
</tr>
<tr>
<td></td>
<td>Tulsidas Marg</td>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LUCKNOW 226004</td>
<td>LUCKNOW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60.</td>
<td>Rajkiya Lalit Hari Ayurved College</td>
<td>Chhatrapati</td>
<td>Government</td>
<td>1899</td>
<td>Ayurveda Vachaspati</td>
</tr>
<tr>
<td></td>
<td>PILIBHIT 252001</td>
<td>Shri Shahuji</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Institute Name</td>
<td>City</td>
<td>State</td>
<td>Type</td>
<td>Year</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>61.</td>
<td>Institute of Medical Sciences</td>
<td>Banaras</td>
<td>Government</td>
<td>1963</td>
<td>Ayurved</td>
</tr>
<tr>
<td></td>
<td>Faculty of Ayurved Banaras</td>
<td></td>
<td></td>
<td></td>
<td>01 Ayurved</td>
</tr>
<tr>
<td></td>
<td>Hindu University</td>
<td></td>
<td></td>
<td></td>
<td>01 Swasthavritta</td>
</tr>
<tr>
<td></td>
<td>VARANASI 221020</td>
<td></td>
<td></td>
<td></td>
<td>01 Sharir Kriya</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>01 Sharir Rachana</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02 Dravyaguna</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02 Rasa Shastra</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>04 Kayachikitsa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>01 Vikriti Vigyan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>01 Manas Roga</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02 Kaumarbhiritya</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>03 Prasuti &amp; Strirog</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>01 Ayurved</td>
</tr>
<tr>
<td>62.</td>
<td>Institute of Post-graduate Ayurved Education &amp; Research at Shyamdas</td>
<td>West Bengal</td>
<td>Government</td>
<td>1976</td>
<td>Ayurved</td>
</tr>
<tr>
<td></td>
<td>Vidya Shastra Peeth 294/3/1</td>
<td></td>
<td></td>
<td></td>
<td>02 Ayurved</td>
</tr>
<tr>
<td></td>
<td>Asharya Prafulla</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chandra Road CALCUTTA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>700004</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*****
## INDEX

<table>
<thead>
<tr>
<th>777Oil Siddha Preparation for Psoriasis</th>
<th>Ancient Science of Life</th>
<th>338</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAMRA</td>
<td>Ancient treatises on various branches of Ayurveda</td>
<td>377</td>
</tr>
<tr>
<td>Abstracts of Clinical studies conducted by CCRAS</td>
<td>Angirasi</td>
<td>26</td>
</tr>
<tr>
<td>Achaemenid Empire</td>
<td>Anjana Nidana</td>
<td>102</td>
</tr>
<tr>
<td>Achanta Lakshmipati</td>
<td>Annual Demand of 32 Prioritized Medicinal Plants</td>
<td>399</td>
</tr>
<tr>
<td>Acharya Priya Vrat Sharma</td>
<td>Anubhuta Yogamala</td>
<td>337</td>
</tr>
<tr>
<td>Adhamalla</td>
<td>Apachi</td>
<td>26</td>
</tr>
<tr>
<td>Adharvana Veda.</td>
<td>Aradnana</td>
<td>222, 223</td>
</tr>
<tr>
<td>Adharvani</td>
<td>Aranyakas</td>
<td>2</td>
</tr>
<tr>
<td>Adhunika Chikitsa</td>
<td>Ardhasastra</td>
<td>73</td>
</tr>
<tr>
<td>Agada-Tantra</td>
<td>140, 322, 325</td>
<td></td>
</tr>
<tr>
<td>Agni Purana:</td>
<td>Arogya Sudhakara</td>
<td>357</td>
</tr>
<tr>
<td>Agnivesa</td>
<td>Arogya Sudhanidhi</td>
<td>336</td>
</tr>
<tr>
<td>Agnivesa Tantra</td>
<td>Artaka (va)</td>
<td>103</td>
</tr>
<tr>
<td>Aitareya Brahmana,</td>
<td>Arunadatra</td>
<td>137</td>
</tr>
<tr>
<td>Ajeernamrita Manjari</td>
<td>Arya Satyas</td>
<td>62</td>
</tr>
<tr>
<td>Akalanka Samhita</td>
<td>Arya Vaidya Sala</td>
<td>192, 420</td>
</tr>
<tr>
<td>Akhila Bharata Varshiya</td>
<td>Arya Vaidyan</td>
<td>338</td>
</tr>
<tr>
<td>Ayurveda Mahasammelan</td>
<td>Asclepius</td>
<td>82, 249</td>
</tr>
<tr>
<td>Alarsin</td>
<td>Ashoka</td>
<td>257</td>
</tr>
<tr>
<td>Al-Beruni</td>
<td>Ashtadhayyi</td>
<td>54</td>
</tr>
<tr>
<td>Alexander the Great</td>
<td>Ashtanga Hridaya</td>
<td>136</td>
</tr>
<tr>
<td>Allopathy</td>
<td>Ashtanga Nighantu:</td>
<td>268</td>
</tr>
<tr>
<td>Alma Ata</td>
<td>Ashtanga Sangraha</td>
<td>71, 134</td>
</tr>
<tr>
<td>Alternative medical systems</td>
<td>Ashurbanipal</td>
<td>222</td>
</tr>
<tr>
<td>Amarakosha</td>
<td>Asklepieion</td>
<td>243</td>
</tr>
<tr>
<td>Amputation</td>
<td>Assyria Herbal</td>
<td>223</td>
</tr>
<tr>
<td>An Ayurvedic Anti Diabetic Drug ‘Ayush- 82’</td>
<td>Asthika Darshananas</td>
<td>56</td>
</tr>
<tr>
<td>Anayasa</td>
<td>Aswa Ayurveda</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Aswa Chikitsa</td>
<td>172, 175</td>
</tr>
</tbody>
</table>
Aswa Sastra 170, 172 Ayurveda in Koutilya’s Ardhasastra 73
Aswaghosha 170 Ayurveda in Mahabharata 48
Aswani Samhita 84 Ayurveda in Purana and Upa Purana 50
Aswins 83 Ayurveda in Rajatarangini 75
Atankadarpana 141, 142, 374 Ayurveda in the epics 45
Atisara 82 Ayurveda in the grammar of Panini 54
Atreya 93 Ayurveda in the Smritis 44
Atreya Sampradaya 92 Ayurveda in the Vedas 16
Atreya’s method of teaching 93 Ayurveda in Upanishadic literature 41
Aupadhenava 108 Ayurveda in Valmiki Ramayana 46
Aupadhenava Tantra 109 Ayurveda in Vedangas 42
Aurabhra Tantra 109 Ayurveda is Saswata, Nitya and Anadi 9
Avadi Arogya Ashram 196 Ayurveda is the 5th Veda or Upaveda 12
Avicenna 236, 384 Ayurveda Rasayana 138
Ayu 338 Ayurveda Samachar 339
Ayur Wave 339 Ayurveda Vidyapeeth 273
Ayurgrandha 80 Ayurvedic Anti Malarial Drug-Aush 64 301
Ayurved 338 Ayurveda Vignan 337
Ayurved Line 341 Ayurvedic Drugs in the Management
Ayurved Vikas 338 of Urolithiasis 306
Ayurveda 339 Ayurvedic education 273
Ayurveda and Buddha Darshana 59 Ayurvedic Journals and Magazines 335
Ayurveda and Charvaka Darshana 59 Ayurvedic Management of Filariasis 298
Ayurveda and Jaina Darshana 59 Ayurvedic Management of Myopia 302
Ayurveda and Nyaya Darshana 58 Ayurvedic Management of Peptic Ulcers 302
Ayurveda and Poorva Mimamsa Darshana 59 Ayurvedic Management of Rheumatoid Arthritis 304
Ayurveda and Sankhya Darshana 57 Ayurvedic Management of Sciatica 305
Ayurveda and Uttara Mimamsa or Vedanta Darshana 59 Ayurvedic Pharmacopoeia Committee 310
Ayurveda and Vaiseshika Darshana 58 Ayurvediya Prasuti Tantra & Striroga 327
Ayurveda and Yoga Darshana 58 Ayurved-ka-Vaignanik Itihias 324
Ayurveda Dipika 145 AYUSH 288
Ayurveda in Aranyakas 40 Ayush- 56 an Anti Epileptic Drug 298
Ayurveda in Brahmana Granthas 37 Babylonian civilization 224
Ayurveda in Buddha Literature 64 Bahlkika Kankayana 99
Ayurveda in Darshanas 56 Banaras Hindu University 413
Ayurveda in Indian Scriptures 37
<table>
<thead>
<tr>
<th>Index</th>
<th>Page Range</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bapalal Vaidya</td>
<td>271, 376</td>
<td>Buddha Charita</td>
<td>65</td>
</tr>
<tr>
<td>Bar Charts</td>
<td>318</td>
<td>Buddha Viharas</td>
<td>65</td>
</tr>
<tr>
<td>Basava Raju</td>
<td>152</td>
<td>Buddhism</td>
<td>60</td>
</tr>
<tr>
<td>Basawarajeeyam</td>
<td>152</td>
<td>Buddhist literature</td>
<td>3</td>
</tr>
<tr>
<td>Basic principles of Ayurveda: 51, 54, 248</td>
<td></td>
<td>Buti Darpan</td>
<td>337</td>
</tr>
<tr>
<td>Bhagandara</td>
<td>67, 308, 426</td>
<td>C.S.I.R</td>
<td>208</td>
</tr>
<tr>
<td>Bhaishajya Raja</td>
<td>112</td>
<td>Capt. G. Srinivasa Murthy</td>
<td>183</td>
</tr>
<tr>
<td>Bhaishajyaratnavali</td>
<td>150</td>
<td>CCIM</td>
<td>291</td>
</tr>
<tr>
<td>Bhaluki Tantra</td>
<td>110</td>
<td>CCRAS</td>
<td>294</td>
</tr>
<tr>
<td>Bhandarkar’s Critical Review</td>
<td>227</td>
<td>CCRAS Publications</td>
<td>308</td>
</tr>
<tr>
<td>Bhanumati</td>
<td>132</td>
<td>CCRH</td>
<td>288, 291, 404</td>
</tr>
<tr>
<td>Bharadwaja 10, 55, 77, 78, 85, 91, 93</td>
<td></td>
<td>CCRUM</td>
<td>288, 291, 404</td>
</tr>
<tr>
<td>Bhaskar Govind Ghanekar</td>
<td>202</td>
<td>CCRYN</td>
<td>288, 291</td>
</tr>
<tr>
<td>Bhaskara</td>
<td>85</td>
<td>Central Drug Research Institute</td>
<td>403</td>
</tr>
<tr>
<td>Bhaskara Lavana Churna</td>
<td>86</td>
<td>Chakradutta</td>
<td>152</td>
</tr>
<tr>
<td>Bhaskara Samhita</td>
<td>86</td>
<td>Chakrpanidutta</td>
<td>127, 132</td>
</tr>
<tr>
<td>Bhaskaracharya (or) Bhaskara Bhatt</td>
<td>131</td>
<td>Chanakya</td>
<td>73</td>
</tr>
<tr>
<td>Bhattara Harischandra</td>
<td>124</td>
<td>Chanakya Niti.</td>
<td>73</td>
</tr>
<tr>
<td>Bhavamishra</td>
<td>146</td>
<td>Chandas</td>
<td>3, 43</td>
</tr>
<tr>
<td>Bhavaprakasa</td>
<td>146</td>
<td>Chandogyopanishad</td>
<td>2</td>
</tr>
<tr>
<td>Bhela</td>
<td>102</td>
<td>Chandrabhaga</td>
<td>93, 103</td>
</tr>
<tr>
<td>Bhikshu Atreya</td>
<td>93, 98</td>
<td>Chandragupta 4, 73, 75, 257, 258, 263</td>
<td></td>
</tr>
<tr>
<td>Bhoja</td>
<td>109</td>
<td>Chandranandana</td>
<td>138</td>
</tr>
<tr>
<td>Bhoja Tantra</td>
<td>109</td>
<td>Chandrata</td>
<td>121, 126, 133, 149</td>
</tr>
<tr>
<td>Bhorse Committee</td>
<td>276</td>
<td>Chang-Chung-Ching</td>
<td>232</td>
</tr>
<tr>
<td>Bimbisara</td>
<td>92, 112</td>
<td>Charak Pharmaceuticals</td>
<td>419</td>
</tr>
<tr>
<td>Bloodletting</td>
<td>65, 67</td>
<td>Charaka</td>
<td>115</td>
</tr>
<tr>
<td>Bodhisattva</td>
<td>118</td>
<td>Charaka Dipika</td>
<td>128</td>
</tr>
<tr>
<td>Botanical Survey of India</td>
<td>400</td>
<td>Charaka Panjika</td>
<td>117, 124, 373</td>
</tr>
<tr>
<td>Brahma</td>
<td>39, 78</td>
<td>Charaka Samhita</td>
<td>122</td>
</tr>
<tr>
<td>Brahma Deva</td>
<td>131</td>
<td>Charaka’s Club</td>
<td>117</td>
</tr>
<tr>
<td>Brahma Purana</td>
<td>51</td>
<td>Charakanyasa</td>
<td>117, 124, 125, 373</td>
</tr>
<tr>
<td>Brahmanas</td>
<td>2</td>
<td>Charakopaskara 117, 124, 127, 320, 373</td>
<td></td>
</tr>
<tr>
<td>Brahmvayaivarta Purana</td>
<td>52</td>
<td>Charts</td>
<td>317</td>
</tr>
<tr>
<td>Brahma Sampradaya</td>
<td>160</td>
<td>Chaya</td>
<td>82, 83</td>
</tr>
<tr>
<td>Brahmyadi yoga in the Management of Schizophrenia</td>
<td></td>
<td>Chikitsa Darshana</td>
<td>97</td>
</tr>
<tr>
<td>Brihat Samhita</td>
<td>177</td>
<td>Chikitsa Koumudi</td>
<td>97</td>
</tr>
<tr>
<td>Brihat Trayee</td>
<td>122, 151, 373, 376</td>
<td>Chikitsa Pallava</td>
<td>341</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chikitsa Sara Sangraha</td>
<td>97</td>
</tr>
</tbody>
</table>
Chikitsa Sara Tantra 84 Details of Prestigious Ayurvedic Institutions of India 413
Chikitsa Tatwa Vignana 97 Determination of Vedic period 11
Chikitsakalika 149 Development of Ayurveda after independence 273
Chinese travelers 4
Chiropractic 388
Chitraka 103 Dhanvantari 95, 97, 337
Chopra Committee 277 Dhanvantari Jayanthi 97
Chulla Vagga 68 Dhanvantari Nighantu 264
Churming of the Ocean 87 Dhanvantari Sampradaya 92
Circulation of blood:
Classification of Vanoushadhi in Vedas 27 Dhananyakata 119
Clinical Research Units 284 Dharma Sutras 3
Col. R.N. Chopra 208 Dhatu Ratnamala 84
Commentaries and Commentators on Sarangadhara Samhita 144 Digestion and metabolism in Ayurveda 186
Commentaries on Ashtanga Hridaya 137 Dipika 144
Commentaries on Ashtanga Sangraha 136 Directors of Research Councils 291
Commentaries on Charaka Samhita 124 Directors-General of W.H.O 345
Commentators and Commentaries on Susruta Samhita 130 Disciples of Brahma 79
Comon Committee 273 Diseases in Adharvana Veda 25
Conferences, Seminars & Meetings 327 Diseases, causative factors and treatment 49
Construction of a research proposal 313 Divine therapy 22
CRAV course 311 Divodasa 52, 77, 78, 85, 92, 95, 96, 97, 99, 106
Dabur India Ltd 417
Daivi 26
Daksha Prajapati 81 Dr. P. Pushpangadan 218
Daksha Yagna 51, 81, 98 Dr. P.V. Jayade 212
Dalhana 132 Dr. Pranjivan Mehta 206
Damodar Sharma Goud 200 Dr. Y. Suryanarayana Rao 204
DAV’S Ayurveda for Holistic Health 341 Dr. Yellapragada Subba Rao 203
Dave Committee 280 Dravya Guna Vignan 201
Deerghayu 339 Dravyaguna 100, 201, 202, 207, 214, 237, 264, 271, 325
Descent of Ayurveda 77
Details of Hospitals with Specialized Treatment Available Dravyaguna Sangraha 270
Under CCRAS 426 Dravyaguna Satakam 271
Dridhabala 117
<table>
<thead>
<tr>
<th>Index</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug standardization research</td>
<td>285</td>
</tr>
<tr>
<td>Edwin Smith’s Papyrus</td>
<td>228</td>
</tr>
<tr>
<td>Ekiya Sutra</td>
<td>123</td>
</tr>
<tr>
<td>Embryology:</td>
<td>54</td>
</tr>
<tr>
<td>Empedocles</td>
<td>249</td>
</tr>
<tr>
<td>Esarhaddon</td>
<td>221, 222, 223</td>
</tr>
<tr>
<td>Examination of Mummies</td>
<td>230</td>
</tr>
<tr>
<td>Examination of the dead and alive</td>
<td>47</td>
</tr>
<tr>
<td>Fahian</td>
<td>4, 233</td>
</tr>
<tr>
<td>Father of Chinese medicine</td>
<td></td>
</tr>
<tr>
<td>Father of Medicine</td>
<td>241</td>
</tr>
<tr>
<td>Flow charts</td>
<td>318</td>
</tr>
<tr>
<td>Foundation for Revitalization of Local Health Traditions (FRLHT)</td>
<td>406</td>
</tr>
<tr>
<td>Frequency Polygon</td>
<td>317</td>
</tr>
<tr>
<td>Fundamental Principles of Ayurveda</td>
<td>186</td>
</tr>
<tr>
<td>Gadanigraha</td>
<td>79, 80, 84, 85, 102, 151, 182, 380</td>
</tr>
<tr>
<td>Gaja Ayurveda</td>
<td>172</td>
</tr>
<tr>
<td>Gaja Darpan.</td>
<td>173</td>
</tr>
<tr>
<td>Gaja Lakshana</td>
<td>173</td>
</tr>
<tr>
<td>Gandhara Desa</td>
<td>102</td>
</tr>
<tr>
<td>Gargya</td>
<td>99</td>
</tr>
<tr>
<td>Garuda Purana</td>
<td>53</td>
</tr>
<tr>
<td>Gavayurveda</td>
<td>173</td>
</tr>
<tr>
<td>Gayadas</td>
<td>131</td>
</tr>
<tr>
<td>Genealogical tree of the king of Kasi</td>
<td>96</td>
</tr>
<tr>
<td>George Ebers – Papyrus</td>
<td>228</td>
</tr>
<tr>
<td>Gimin</td>
<td>5, 259</td>
</tr>
<tr>
<td>Gnanabhashkara</td>
<td>86</td>
</tr>
<tr>
<td>God of Ayurveda</td>
<td>95, 96</td>
</tr>
<tr>
<td>Gold therapy in Tuberculosis</td>
<td>186</td>
</tr>
<tr>
<td>Golden Triangle Partnership Scheme</td>
<td>403</td>
</tr>
<tr>
<td>Gomutra Haritaki</td>
<td>67</td>
</tr>
<tr>
<td>Gopuraraksita</td>
<td>110</td>
</tr>
<tr>
<td>Government Ayurveda College,</td>
<td></td>
</tr>
<tr>
<td>Thiruvananthapuram</td>
<td>416</td>
</tr>
<tr>
<td>Govindadas</td>
<td>150</td>
</tr>
<tr>
<td>Graphs</td>
<td>316</td>
</tr>
<tr>
<td>Greek travelers</td>
<td>4</td>
</tr>
<tr>
<td>Grihya Sutras</td>
<td>2, 116</td>
</tr>
<tr>
<td>Gudardha Dipika</td>
<td>144</td>
</tr>
<tr>
<td>Guidelines for Writing Research Papers</td>
<td></td>
</tr>
<tr>
<td>Gujarat Ayurved University</td>
<td>413</td>
</tr>
<tr>
<td>Guru Sutra.</td>
<td>123</td>
</tr>
<tr>
<td>Guru-Sishya tradition</td>
<td>273</td>
</tr>
<tr>
<td>Haimadi Panakam</td>
<td>199</td>
</tr>
<tr>
<td>Hammurabi</td>
<td>224</td>
</tr>
<tr>
<td>Harana Chandra Chakravarti</td>
<td>132</td>
</tr>
<tr>
<td>Harappa and Mohanjodaro</td>
<td>5, 8</td>
</tr>
<tr>
<td>Harima</td>
<td>26</td>
</tr>
<tr>
<td>Harita</td>
<td>105</td>
</tr>
<tr>
<td>Harita Samhita</td>
<td>105</td>
</tr>
<tr>
<td>Harsha Charitra</td>
<td>4</td>
</tr>
<tr>
<td>Harun-al-Rashid</td>
<td>137, 235</td>
</tr>
<tr>
<td>Hasti Ayurveda</td>
<td>104</td>
</tr>
<tr>
<td>Health</td>
<td>340</td>
</tr>
<tr>
<td>Hemadri</td>
<td>138</td>
</tr>
<tr>
<td>Herbalism</td>
<td>390</td>
</tr>
<tr>
<td>Herbs available in Vedic Literature</td>
<td>18</td>
</tr>
<tr>
<td>Herbs in Brahmana Grandhas</td>
<td>40</td>
</tr>
<tr>
<td>Herbs in the Islamic tradition</td>
<td>33</td>
</tr>
<tr>
<td>Herbs in Upanishads</td>
<td>42</td>
</tr>
<tr>
<td>Herbs of the Bible</td>
<td>33</td>
</tr>
<tr>
<td>Hergoz</td>
<td>242</td>
</tr>
<tr>
<td>Herodotus</td>
<td>242</td>
</tr>
<tr>
<td>Hippocrates</td>
<td>241, 242</td>
</tr>
<tr>
<td>Hippocratic fingers</td>
<td>244</td>
</tr>
<tr>
<td>Hippocratic Oath</td>
<td>245</td>
</tr>
<tr>
<td>Hiranyaksha</td>
<td>98</td>
</tr>
<tr>
<td>Histogram</td>
<td>317</td>
</tr>
<tr>
<td>Homeopathy</td>
<td>383</td>
</tr>
<tr>
<td>Hridaya Bodhika (or)</td>
<td></td>
</tr>
<tr>
<td>Hridaya Bodhini</td>
<td>139</td>
</tr>
<tr>
<td>Hridaya Dipika Nighantu</td>
<td>269</td>
</tr>
<tr>
<td>Hridroga</td>
<td>26</td>
</tr>
<tr>
<td>Hutasa</td>
<td>101</td>
</tr>
</tbody>
</table>
Hutasavesa 101
I. J. M. R. 340
Imhotep 227
Important Questions & M.C.Q.s’ on 349
History of Ayurveda
Indian Journal of Traditional 339
Knowledge
Indian Materia Medica 209
Indian Medicine 339
Indigenous Drugs of India 208, 376
Indra 84
Indrajala 103, 162
Influence of mother’s feelings 49
on the baby
Introduction to Kaya Chikitsa 186
Itsing 4, 233
Jaiminiya Brahmana 39
Jain Ayurvedic Pharmacy 419
Jainism 68
Jatukarna 104
Jatukarna Samhita 104, 377
Java 237
Jejjata 126, 130
Jivaka 111
Journal of Ayurvedic 340
Maha Sammelan
Journal of Indian Medicine 338
Journal of Indian Systems of 339
Medicine & Homeopathy
Journal of Research in Ayurveda 339
and Siddha
Jwara 82
Jyotir Mitra 214
Jyotisha 3, 43, 145, 176, 177, 198, 236
K.C. Chunekar 217
K.R. Srikantha Murthy 210
Kaiyyadeva Nighantu 265
Kakshaputa Tantra 162
Kalhana 4, 75, 76, 172
Kalpa 3, 43
Kalyanakarika: 72
Kama Tantra 80
Kamboja 236
Kanakha 98
Kandava Vana 50
Kapilabala 117, 378
Karavirya 110
Kasi Hindu Viswavidyalaya
Kasiram Vaidya 144
Kasyapa 12, 49, 54, 61, 77, 78, 82, 84,
86, 95, 97, 98, 100, 120
Kasyapa Samhita 77, 92, 97, 98, 100,
120, 207, 377, 378, 379, 380
Kasyapa Sampradaya 92
Kaumarbhritya 111, 120, 140, 323, 327
Kaviraj Gananath Sen 179
Kaviraj Gangadhar Sen 198
Kaviraj Jyotishchandra Saraswati 128
Kerala Ayurveda Pharmacy Ltd.
(KAPL) 422
King Chulalongkorn (Rama V) 237
Knowledge of Bacteriology: 24
Koulitya 73
Krishnatreya 100
Kshara Sutra 153, 213, 285, 296, 297,
299, 308, 312
Kshara Sutra in Management of
Anal Fistula (Bhagandara) 297
Ksharapani 106
Ksharapani Samhita 106
Kumara Bachcha. 111
Kundalini Awakening 42
Kurukshetra war 50
Kusumnavali 141
Laghu Trayee 122, 142, 146, 373
Lama Taranath 4
List of Ayurvedic Colleges of India
(U.G. & P.G.) 430
<table>
<thead>
<tr>
<th>Index</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Botanical Gardens of India</td>
<td>401</td>
</tr>
<tr>
<td>List of Commentaries and Commentators on Brihat Trayee, Laghu Trayee &amp; Nighantu along with their period</td>
<td>373</td>
</tr>
<tr>
<td>List of Medicinal Plants found in Vedic literature</td>
<td>29</td>
</tr>
<tr>
<td>Literary Research Units</td>
<td>284</td>
</tr>
<tr>
<td>Liv Line</td>
<td>341</td>
</tr>
<tr>
<td>Local Contraceptive (Spermicidal)</td>
<td></td>
</tr>
<tr>
<td>Effect of Neem Oil</td>
<td>307</td>
</tr>
<tr>
<td>Lord Buddha</td>
<td>60, 64</td>
</tr>
<tr>
<td>Lord Vishnu Incarnation as Dhanvantari</td>
<td>89</td>
</tr>
<tr>
<td>Machon</td>
<td>82</td>
</tr>
<tr>
<td>Madana Vinoda</td>
<td>266</td>
</tr>
<tr>
<td>Madanapala Nighantu</td>
<td>266</td>
</tr>
<tr>
<td>Madhava Dravyaguna</td>
<td>269</td>
</tr>
<tr>
<td>Madhavakara</td>
<td>139</td>
</tr>
<tr>
<td>Madhavanidana</td>
<td>139, 140, 141, 142, 146, 181, 374</td>
</tr>
<tr>
<td>Madhukosa</td>
<td>106, 110, 141, 181, 374</td>
</tr>
<tr>
<td>Magadha</td>
<td>3, 4, 111, 146, 257</td>
</tr>
<tr>
<td>Maha Bhishak</td>
<td>64</td>
</tr>
<tr>
<td>Maha Vagga</td>
<td>67</td>
</tr>
<tr>
<td>Mahabharata</td>
<td>48, 49</td>
</tr>
<tr>
<td>Mahaganapati Stotra</td>
<td>142</td>
</tr>
<tr>
<td>Maharshi Mahesh Yogi</td>
<td>238</td>
</tr>
<tr>
<td>Mahavir</td>
<td>70</td>
</tr>
<tr>
<td>Management of Bronchial Asthma with Herbo Mineral Ayurvedic Drugs</td>
<td>297</td>
</tr>
<tr>
<td>Management of Heart Disease with Ayurvedic Drugs</td>
<td>299</td>
</tr>
<tr>
<td>Management of Hemorrhoids through Ayurveda</td>
<td>299</td>
</tr>
<tr>
<td>Management of Hypertension with Ayurvedic Formulations</td>
<td>301</td>
</tr>
<tr>
<td>Management of Psoriasis with Nimbidin</td>
<td>303</td>
</tr>
<tr>
<td>Manduka Yoga</td>
<td>42</td>
</tr>
<tr>
<td>Manaphar</td>
<td>339</td>
</tr>
<tr>
<td>Manu Smriti</td>
<td>44, 45</td>
</tr>
<tr>
<td>Manual lymphatic drainage</td>
<td>390</td>
</tr>
<tr>
<td>Manushi</td>
<td>26</td>
</tr>
<tr>
<td>Maricha Kasyapa</td>
<td>97</td>
</tr>
<tr>
<td>Matanga leela</td>
<td>173</td>
</tr>
<tr>
<td>Matsu Purana</td>
<td>53</td>
</tr>
<tr>
<td>Medical journal 197, 203, 216, 238, 335</td>
<td></td>
</tr>
<tr>
<td>Medical practice</td>
<td>46</td>
</tr>
<tr>
<td>Medicine in Arabia in the early time</td>
<td>235</td>
</tr>
<tr>
<td>Medicine in Assyria in the early days</td>
<td>221</td>
</tr>
<tr>
<td>Medicine in Babylonia in the early days</td>
<td>224</td>
</tr>
<tr>
<td>Medicine in China in the early days</td>
<td>231</td>
</tr>
<tr>
<td>Medicine in Faras in the early days</td>
<td>233</td>
</tr>
<tr>
<td>Medicine in Misra Desa (Egypt) in the early days</td>
<td>226</td>
</tr>
<tr>
<td>Medicine in Sumeria in the early days</td>
<td>223</td>
</tr>
<tr>
<td>Mesolithic age</td>
<td>6</td>
</tr>
<tr>
<td>Milestones in Medicine</td>
<td>392</td>
</tr>
<tr>
<td>Milinda Prasna</td>
<td>66, 107</td>
</tr>
<tr>
<td>Minor Pillar Edicts</td>
<td>258, 260</td>
</tr>
<tr>
<td>Miracles done in Medicine and Surgery by Aswins</td>
<td>23</td>
</tr>
<tr>
<td>MRAV course</td>
<td>312</td>
</tr>
<tr>
<td>Mritisanjivani</td>
<td>47, 49</td>
</tr>
<tr>
<td>Mutraghata</td>
<td>26</td>
</tr>
<tr>
<td>Nadi Nidana</td>
<td>84</td>
</tr>
<tr>
<td>Nagarjuna</td>
<td>118, 338</td>
</tr>
<tr>
<td>Nagarjuna konda</td>
<td>118</td>
</tr>
<tr>
<td>Nakula</td>
<td>175</td>
</tr>
<tr>
<td>Nalanda University</td>
<td>119</td>
</tr>
<tr>
<td>Namburi Hanumantha Rao</td>
<td>215</td>
</tr>
<tr>
<td>Nanavidhayogasangraha</td>
<td>153</td>
</tr>
<tr>
<td>Nasthika Darshanas</td>
<td>57</td>
</tr>
<tr>
<td>Nasya Karma</td>
<td>67, 112</td>
</tr>
<tr>
<td>National Institute of Ayurveda</td>
<td>415</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>National Medicinal Plants Board</td>
<td>398</td>
</tr>
<tr>
<td>Natural Product Radiance</td>
<td>341</td>
</tr>
<tr>
<td>Naturopathy</td>
<td>387</td>
</tr>
<tr>
<td>Navanitaka</td>
<td>64, 116</td>
</tr>
<tr>
<td>Neo-Assyrian Empire</td>
<td>221</td>
</tr>
<tr>
<td>Neolithic age</td>
<td>6</td>
</tr>
<tr>
<td>Nibandha Sangraha.</td>
<td>132</td>
</tr>
<tr>
<td>Nidana Panchaka</td>
<td>214</td>
</tr>
<tr>
<td>Nighantu Adarsa</td>
<td>271</td>
</tr>
<tr>
<td>Nighantus</td>
<td>263</td>
</tr>
<tr>
<td>Nikhila Bharata Ayurveda Vidyapeeth</td>
<td>180, 340</td>
</tr>
<tr>
<td>Nimi</td>
<td>112</td>
</tr>
<tr>
<td>Nimi Tantra</td>
<td>112</td>
</tr>
<tr>
<td>Nirantarapada Vyakhyya</td>
<td>124, 126</td>
</tr>
<tr>
<td>Nirdesa</td>
<td>124</td>
</tr>
<tr>
<td>Nirukta</td>
<td>3, 43</td>
</tr>
<tr>
<td>Nitishastra</td>
<td>73</td>
</tr>
<tr>
<td>Nyaya Chandrika</td>
<td>131</td>
</tr>
<tr>
<td>Obstetrics and gynecology</td>
<td>22</td>
</tr>
<tr>
<td>Organization charts</td>
<td>317, 319</td>
</tr>
<tr>
<td>Origin of Ayurveda acc. to Brahma-vaivarta purana</td>
<td>52</td>
</tr>
<tr>
<td>Osteopathy</td>
<td>389</td>
</tr>
<tr>
<td>Oushadhi Parvat:</td>
<td>47</td>
</tr>
<tr>
<td>P.H. Kulakarni</td>
<td>216</td>
</tr>
<tr>
<td>Padardha Chandrika</td>
<td>138</td>
</tr>
<tr>
<td>Padma Purana</td>
<td>51</td>
</tr>
<tr>
<td>Palakapya</td>
<td>172, 173</td>
</tr>
<tr>
<td>Paleolithic age</td>
<td>5</td>
</tr>
<tr>
<td>Pancha Breshaja</td>
<td>65</td>
</tr>
<tr>
<td>Pancha Shila or (five moral precepts)</td>
<td>63</td>
</tr>
<tr>
<td>Pancha Sudhhi Pranalika</td>
<td>197</td>
</tr>
<tr>
<td>Panchakarma Therapy in the Management of Hemiplegia</td>
<td>300</td>
</tr>
<tr>
<td>Pandit Committee</td>
<td>279</td>
</tr>
<tr>
<td>Pandit Deevi Gopalacharyulu</td>
<td>199</td>
</tr>
<tr>
<td>Pandit Madan Mohan Malaviya</td>
<td>205</td>
</tr>
<tr>
<td>Pandit Shiva Sharma</td>
<td>187</td>
</tr>
<tr>
<td>Index</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Pujiyapada</td>
<td>72</td>
</tr>
<tr>
<td>Punarvasu Atreya</td>
<td>104, 105, 106, 117</td>
</tr>
<tr>
<td>Puranas</td>
<td>3</td>
</tr>
<tr>
<td>Pushpayurveda</td>
<td>72</td>
</tr>
<tr>
<td>Qualities of a research worker</td>
<td>313</td>
</tr>
<tr>
<td>Raja Nighantu</td>
<td>264</td>
</tr>
<tr>
<td>Rajagaha</td>
<td>61</td>
</tr>
<tr>
<td>Rajamartanda</td>
<td>153</td>
</tr>
<tr>
<td>Rajatarangini</td>
<td>75, 76</td>
</tr>
<tr>
<td>Rajavallabha Nighantu</td>
<td>265</td>
</tr>
<tr>
<td>Rajayakshma</td>
<td>82</td>
</tr>
<tr>
<td>Rajgir</td>
<td>111</td>
</tr>
<tr>
<td>Ram Karan Sharma</td>
<td>211</td>
</tr>
<tr>
<td>Ramayana Rahasya</td>
<td>102</td>
</tr>
<tr>
<td>Ramayana Satasloki</td>
<td>102</td>
</tr>
<tr>
<td>Ramayana</td>
<td>45, 46, 47</td>
</tr>
<tr>
<td>Rasa Hridaya</td>
<td>160</td>
</tr>
<tr>
<td>Rasa Hridaya Tantra</td>
<td>163, 164, 182, 320</td>
</tr>
<tr>
<td>Rasa Paddhati</td>
<td>166</td>
</tr>
<tr>
<td>Rasa Rajyalakshmi</td>
<td>165</td>
</tr>
<tr>
<td>Rasa Ratnakara</td>
<td>162, 166</td>
</tr>
<tr>
<td>Rasa Sara</td>
<td>166</td>
</tr>
<tr>
<td>Rasa Siddhas</td>
<td>160</td>
</tr>
<tr>
<td>Rasa Tarangini</td>
<td>167</td>
</tr>
<tr>
<td>Rasa Vaiseshika</td>
<td>119</td>
</tr>
<tr>
<td>Rasajalanidhi</td>
<td>167</td>
</tr>
<tr>
<td>Rasaparakasa Sudhakara</td>
<td>164</td>
</tr>
<tr>
<td>Rasaratna Pradeepa</td>
<td>166</td>
</tr>
<tr>
<td>Rasaratnasamuchchaya</td>
<td>165</td>
</tr>
<tr>
<td>Rasarnava</td>
<td>163</td>
</tr>
<tr>
<td>Rasasastra</td>
<td>157</td>
</tr>
<tr>
<td>Rasayana and Vajeekaranana:</td>
<td>21</td>
</tr>
<tr>
<td>Rasendra Chudamani</td>
<td>164</td>
</tr>
<tr>
<td>Rasendra Mangala</td>
<td>162</td>
</tr>
<tr>
<td>Raseswara Darshana</td>
<td>160</td>
</tr>
<tr>
<td>Rashtriya Ayurveda Vidyapeeth</td>
<td>311</td>
</tr>
<tr>
<td>Redactors</td>
<td>115</td>
</tr>
<tr>
<td>References concerning Ayurveda in</td>
<td></td>
</tr>
<tr>
<td>Adharvana Veda</td>
<td>24</td>
</tr>
<tr>
<td>References pertaining to Kayachikitsa</td>
<td></td>
</tr>
<tr>
<td>Religious Tradition</td>
<td>227</td>
</tr>
<tr>
<td>Research</td>
<td>312</td>
</tr>
<tr>
<td>Research &amp; Conservation of Medicinal Plants</td>
<td>398</td>
</tr>
<tr>
<td>Research in basic principles of Ayurveda</td>
<td>287</td>
</tr>
<tr>
<td>Rhazes</td>
<td>236</td>
</tr>
<tr>
<td>Rheumatism</td>
<td>339</td>
</tr>
<tr>
<td>Rigveda</td>
<td>12</td>
</tr>
<tr>
<td>Rishabha dev</td>
<td>69</td>
</tr>
<tr>
<td>Rock edict</td>
<td>258</td>
</tr>
<tr>
<td>Roga Nidana</td>
<td>97</td>
</tr>
<tr>
<td>Role of Gum Guggulu in Management</td>
<td></td>
</tr>
<tr>
<td>of Obesity &amp; Lipid Disorders</td>
<td>302</td>
</tr>
<tr>
<td>Romapada</td>
<td>99, 104, 172</td>
</tr>
<tr>
<td>Rudra Bhatt.</td>
<td>145</td>
</tr>
<tr>
<td>Rudra mala Tantra</td>
<td>80</td>
</tr>
<tr>
<td>Rudrabhisheka</td>
<td>80</td>
</tr>
<tr>
<td>S.C. Dhyani</td>
<td>214</td>
</tr>
<tr>
<td>Sachitra Ayurveda</td>
<td>338</td>
</tr>
<tr>
<td>Saddharma Pundarika</td>
<td>64, 65</td>
</tr>
<tr>
<td>Sadvaidya Kaustubha</td>
<td>337</td>
</tr>
<tr>
<td>Sadvritta Prakarana</td>
<td>21</td>
</tr>
<tr>
<td>Sahasrayogam</td>
<td>154</td>
</tr>
<tr>
<td>Saivi Sampradaya</td>
<td>160</td>
</tr>
<tr>
<td>Salakya Tantra</td>
<td>71, 73, 99, 110, 112, 181, 323, 326</td>
</tr>
<tr>
<td>Saligramama Nighantu</td>
<td>266</td>
</tr>
<tr>
<td>Salihotra</td>
<td>170</td>
</tr>
<tr>
<td>Salihotra Samhita</td>
<td>170</td>
</tr>
<tr>
<td>Sama Veda</td>
<td>14</td>
</tr>
<tr>
<td>Name</td>
<td>Page(s)</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Samanthabhadra</td>
<td>71, 72</td>
</tr>
<tr>
<td>Samhitas</td>
<td>11, 28, 37, 44</td>
</tr>
<tr>
<td>Samudra Manthan</td>
<td>87</td>
</tr>
<tr>
<td>Sandhanakarani</td>
<td>47</td>
</tr>
<tr>
<td>Sangna Panchaka</td>
<td>180</td>
</tr>
<tr>
<td>Sangraha period</td>
<td>121</td>
</tr>
<tr>
<td>Sangrahadhyaya</td>
<td>123</td>
</tr>
<tr>
<td>Sanjeevani Medical Times</td>
<td>340</td>
</tr>
<tr>
<td>Sapta Chatushkas</td>
<td>123</td>
</tr>
<tr>
<td>Sara Sangraha.</td>
<td>72</td>
</tr>
<tr>
<td>Sarahava</td>
<td>119</td>
</tr>
<tr>
<td>Sarangadhara</td>
<td>142, 175</td>
</tr>
<tr>
<td>Sarangadhara Paddhati</td>
<td>176</td>
</tr>
<tr>
<td>Sarangadhara Samhita</td>
<td>143</td>
</tr>
<tr>
<td>Sarvanga Sundari</td>
<td>137</td>
</tr>
<tr>
<td>Satapatha Brahmana</td>
<td>39</td>
</tr>
<tr>
<td>Savarnyakarani</td>
<td>47</td>
</tr>
<tr>
<td>Scatter Diagram</td>
<td>317</td>
</tr>
<tr>
<td>Sashilekha</td>
<td>136</td>
</tr>
<tr>
<td>Setting up of different committees</td>
<td>273</td>
</tr>
<tr>
<td>Shaiva Siddhanta</td>
<td>80</td>
</tr>
<tr>
<td>Shennong</td>
<td>232</td>
</tr>
<tr>
<td>Shiva Kosha</td>
<td>270</td>
</tr>
<tr>
<td>Shivadas Sen</td>
<td>126, 139</td>
</tr>
<tr>
<td>Shodhala Nighantu</td>
<td>267</td>
</tr>
<tr>
<td>Shree Dhootapapeshwar Ltd</td>
<td>421</td>
</tr>
<tr>
<td>Shri Sankardaji Shastri Pade</td>
<td>182</td>
</tr>
<tr>
<td>Shrouta Sutras</td>
<td>2, 3</td>
</tr>
<tr>
<td>Siddha</td>
<td>385</td>
</tr>
<tr>
<td>Siddha Mantra</td>
<td>269</td>
</tr>
<tr>
<td>Siddha Pharmacopoeia</td>
<td>208</td>
</tr>
<tr>
<td>Siddhanta Nidana</td>
<td>180</td>
</tr>
<tr>
<td>Siddhanta Rasayana Kalpa</td>
<td>71</td>
</tr>
<tr>
<td>Siddhayoga</td>
<td>148</td>
</tr>
<tr>
<td>Siddhayoga Sangraha</td>
<td>141</td>
</tr>
<tr>
<td>Siddhi Sthana</td>
<td>101, 102, 117, 123, 127, 170, 327, 379</td>
</tr>
<tr>
<td>Siksha</td>
<td>3, 43</td>
</tr>
<tr>
<td>Sishya Sutra</td>
<td>123</td>
</tr>
<tr>
<td>Siva</td>
<td>80</td>
</tr>
<tr>
<td>Index</td>
<td>485</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>T.L. Devaraj</td>
<td>216</td>
</tr>
<tr>
<td>Table showing the divisions &amp; number of chapters of important Samhitas</td>
<td>379</td>
</tr>
<tr>
<td>Tables</td>
<td>316</td>
</tr>
<tr>
<td>Taittareya Upanishad</td>
<td>14, 41</td>
</tr>
<tr>
<td>Takma</td>
<td>21, 25, 26</td>
</tr>
<tr>
<td>Takra-Kalpa</td>
<td>104</td>
</tr>
<tr>
<td>Tanjore Library.</td>
<td>119</td>
</tr>
<tr>
<td>Tantra Yuktis</td>
<td>75, 119</td>
</tr>
<tr>
<td>Tatwa Bodha</td>
<td>139</td>
</tr>
<tr>
<td>Tatwachandrika</td>
<td>105</td>
</tr>
<tr>
<td>Tatwapradeepika</td>
<td>105</td>
</tr>
<tr>
<td>Taxila</td>
<td>206, 248, 253, 255</td>
</tr>
<tr>
<td>Tejas</td>
<td>103</td>
</tr>
<tr>
<td>Test tube baby</td>
<td>49</td>
</tr>
<tr>
<td>Texts of Buddhism</td>
<td>64</td>
</tr>
<tr>
<td>Thailand</td>
<td>237</td>
</tr>
<tr>
<td>The Arya Vaidya Pharmacy (Coimbatore) Ltd</td>
<td>420</td>
</tr>
<tr>
<td>The authors of Samhitas</td>
<td>101</td>
</tr>
<tr>
<td>The condition of Ayurveda during Samihita period</td>
<td>91</td>
</tr>
<tr>
<td>The contemporary authors in the modern period</td>
<td>179</td>
</tr>
<tr>
<td>The contribution of Jain preceptors for the development of Ayurveda</td>
<td>71</td>
</tr>
<tr>
<td>The Council of Scientific &amp; Industrial Research (CSIR)</td>
<td>408</td>
</tr>
<tr>
<td>The Divine Farmer’s Herb-Root Classic</td>
<td>232</td>
</tr>
<tr>
<td>The Edicts of King Ashoka</td>
<td>257</td>
</tr>
<tr>
<td>The Eightfold Path</td>
<td>62</td>
</tr>
<tr>
<td>The Emergence of Ambrosia</td>
<td>88</td>
</tr>
<tr>
<td>The Four Noble Truths</td>
<td>62</td>
</tr>
<tr>
<td>The fourteen Rock Edicts</td>
<td>258, 259</td>
</tr>
<tr>
<td>The Gentleman’s Magazine</td>
<td>335</td>
</tr>
<tr>
<td>The Hand Book on Tropical Therapeutics</td>
<td>209</td>
</tr>
<tr>
<td>The Himalaya Drug Company</td>
<td>418</td>
</tr>
<tr>
<td>The importance and the specialty of Rasasastra</td>
<td>160</td>
</tr>
<tr>
<td>The incarnation of Dhanvantari</td>
<td>95</td>
</tr>
<tr>
<td>The Indian Council of Medical Research (ICMR)</td>
<td>407</td>
</tr>
<tr>
<td>The Indian Plants and Drugs</td>
<td>209</td>
</tr>
<tr>
<td>The influence of Ayurveda on the father of Allopathy</td>
<td>246</td>
</tr>
<tr>
<td>The Journal of Research and Education in Indian Medicine</td>
<td>341</td>
</tr>
<tr>
<td>The origin and development of Rasasastra</td>
<td>157</td>
</tr>
<tr>
<td>The Popular Ayurvedic Pharmaceutical Companies of India</td>
<td>417</td>
</tr>
<tr>
<td>The relation between India and Greece since antiquity</td>
<td>253</td>
</tr>
<tr>
<td>The Samhita period</td>
<td>91</td>
</tr>
<tr>
<td>The Sangraha period of Ayurveda</td>
<td>121</td>
</tr>
<tr>
<td>The seven Pillar Edicts</td>
<td>258, 260</td>
</tr>
<tr>
<td>The spread and popularity of Ayurveda in the south eastern countries</td>
<td>236</td>
</tr>
<tr>
<td>The spread of Indian knowledge and thought by Alexander</td>
<td>252</td>
</tr>
<tr>
<td>The spread of Indian surgery in Greece</td>
<td>255</td>
</tr>
<tr>
<td>The Story of Civilization</td>
<td>229</td>
</tr>
<tr>
<td>The tour of Greece by Indian Scholars</td>
<td>251</td>
</tr>
<tr>
<td>Timirius</td>
<td>242</td>
</tr>
<tr>
<td>Tippanni</td>
<td>131</td>
</tr>
<tr>
<td>Tirdhankaras</td>
<td>68</td>
</tr>
<tr>
<td>Tisata</td>
<td>149</td>
</tr>
<tr>
<td>Tools of antiquity</td>
<td>15</td>
</tr>
<tr>
<td>Topics of Ayurveda in Sramana</td>
<td>60</td>
</tr>
<tr>
<td>Vangmaya</td>
<td>60</td>
</tr>
<tr>
<td>Toxicological references</td>
<td>49</td>
</tr>
<tr>
<td>Toxicology</td>
<td>21, 46, 54</td>
</tr>
<tr>
<td>Traditional Chinese medicine</td>
<td>389</td>
</tr>
<tr>
<td>Transplantation of organs</td>
<td>46</td>
</tr>
<tr>
<td>Travelers’ accounts</td>
<td>4</td>
</tr>
<tr>
<td>Name</td>
<td>Page Numbers</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Tripitaka</td>
<td>3, 64</td>
</tr>
<tr>
<td>Tropical Botanic Garden and Research Institute (TBGRI)</td>
<td>219</td>
</tr>
<tr>
<td>Types of Research conducting at various centers</td>
<td>284</td>
</tr>
<tr>
<td>Types of treatment</td>
<td>26</td>
</tr>
<tr>
<td>Udanka Rasa</td>
<td>86</td>
</tr>
<tr>
<td>Uddessya</td>
<td>124</td>
</tr>
<tr>
<td>Udala Committee</td>
<td>281</td>
</tr>
<tr>
<td>Ugradityacharya</td>
<td>71, 72</td>
</tr>
<tr>
<td>Unani</td>
<td>384</td>
</tr>
<tr>
<td>Unani Pharmacopoeia</td>
<td>208</td>
</tr>
<tr>
<td>UNICEF</td>
<td>343</td>
</tr>
<tr>
<td>UNO</td>
<td>343</td>
</tr>
<tr>
<td>Upa Puranas</td>
<td>51</td>
</tr>
<tr>
<td>Upanishads:</td>
<td>2</td>
</tr>
<tr>
<td>Upavana Vinoda</td>
<td>175</td>
</tr>
<tr>
<td>Upaya Hridaya</td>
<td>118</td>
</tr>
<tr>
<td>Use of alcoholic preparations</td>
<td>47</td>
</tr>
<tr>
<td>Usman Committee</td>
<td>274</td>
</tr>
<tr>
<td>Vachaspati Vaidya</td>
<td>142</td>
</tr>
<tr>
<td>Vagbhata</td>
<td>133, 338</td>
</tr>
<tr>
<td>Vahni</td>
<td>101</td>
</tr>
<tr>
<td>Vahnivesa</td>
<td>101</td>
</tr>
<tr>
<td>Vaidya Bhagwan Das</td>
<td>212</td>
</tr>
<tr>
<td>Vaidya Chintamani</td>
<td>97</td>
</tr>
<tr>
<td>Vaidya Kala</td>
<td>339</td>
</tr>
<tr>
<td>Vaidya Sammelan Patrika</td>
<td>337</td>
</tr>
<tr>
<td>Vaidya Sara Sangraha</td>
<td>72</td>
</tr>
<tr>
<td>Vaidya Yoga Ratnavali</td>
<td>207</td>
</tr>
<tr>
<td>Vaidyaka Bhaskarodaya</td>
<td>97</td>
</tr>
<tr>
<td>Vaidyaka Sabda Sindhu</td>
<td>267</td>
</tr>
<tr>
<td>Vaidyaratnam P.S. Varier</td>
<td>191</td>
</tr>
<tr>
<td>Vaitarana</td>
<td>110</td>
</tr>
<tr>
<td>Varahamihira</td>
<td>176</td>
</tr>
<tr>
<td>Varuna</td>
<td>86</td>
</tr>
<tr>
<td>Varyovida</td>
<td>100</td>
</tr>
<tr>
<td>Vasti Karma</td>
<td>105, 107, 230</td>
</tr>
</tbody>
</table>

****
RASARATNASAMUCCAYA

By Dr. V. A. Dole

Āyurvediya Rasaśāstra is not just a medical science but it is specific science which advocates Naistīhiki cikitsā. In other words it cures the diseases permanently, Rasaśāstra gives immediate Mokṣa (Relief from disease). Originator of this science is ‘Ādināth’ Lord Śankara himself. This Rasaśāstra was originally composed in axioms and it advocated Dehavāda. Afterwards sages like Nāgārjuna etc. developed & ornamented it with Lohavāda and used in the treatment of diseases. After many centuries with effect of time, Dhātuvāda & Dehavāda both were extinguished.

Rasaratnasamuccaya consists of thirty chapters. In the first eleven chapters various medicinal substances with their classifications have been described from all angles along with information about various accessories required. In the first chapter Mercury along with its properties & origine, types etc. have been described. 6th, 7th & 8th chapter are important as they describe teacher & students of Rasaśāstra, construction of manufacturing unit & terminologies of Rasaśāstra. 9th & 10th chapters are meant for various equipments & fireplaces & their construction & uses. 11th chapter describes various units of measurements & various processes to which Mercury is subjected. The author himself has accepted that all this information is compiled from Rasarnava etc. texts.

Present era is of English language. Many translations in English are there in the market, but Prof. Dole’s edition is specific. The learned author has translated every verse of chapters one to eleven and along with translation, he has written commentary also. This makes the meaning of verses more clear. This translation with commentary will be definitely beneficial to undergraduate as well as postgraduate students & teachers alike. Now a days Ayurveda colleges are opening in foreign countries also like U.K., U.S.A., Japan etc. Students & teachers of such colleges will get advantage of translation in English with commentary like this.

Rs. 300.00

SHĀRĪRA RACHANĀ VIJNĀNA

A Text Book of Human Anatomy in English

by Prof. D.G. Thatte.

The present book is the most exploring book on the human anatomy from Ayurvedic point of view while correlating the same with the modern knowledge acquired over the period of time. The book is one of the most delightful treats for an inquisitive mind wishing to understand the anatomy of the human body with the deep rooted knowledge as described in Ayurvedic texts by great scholars of all times including Sushruta Samhita, Charak Samhita, Ashtang Hridaya and
others. This book is an earnest attempt to explore the knowledge to its deepest origin based on the principle of "believe in what you see" or in other words how Ayurvedic scientists look into the body, what they conceived, perceived and observed. The author has critically taken note of all the descriptions and after correlating the same with his own experienced acquired over five decades of his association with Ayurveda and has tried to present the most impartial and acceptable view regarding the mysteries of human body.

The whole book has been prepared on the basis of different disciplines of human anatomy such as Garbh Sharir, Sira Dhamnai Sharir, Srotas Sharir, Asthi Sharir, Marma Sharir, Peshi Sharir, Indriya Sharir, Tantrika Sharir, etc. This chapterwise description is again important for graduate and postgraduate level scholars of Ayurveda. From the examination point of view the book covers the syllabus approved by the Central Council of Indian Medicine, Dehli and a number of other Universities and Colleges imparting the education in the faculty of Ayurveda.

Attempt has been made to provide a systematic stream of knowledge which may be able to develop scientific intent in the minds of the readers.

The author feels that with the changing global scenario and transformation of the world into 'global village', it becomes imperative to come up with an authorartive text on Ayurveda, which may be able to provide opportunity to those coming from non-Hindi speaking regions of India as well as from abroad.

Understanding of human anatomy is the very basis for initiating a study into any healthcare system. Ayurveda is no exception, however there has been an earnest requirement for providing a good Ayurvedic text book on human Anatomy with pictorial presentation. The present book fills the void.

H.B. 875.00, P.B. 550.00

RASAŚĀSTRA (THE MERCURIAL SYSTEM)

By Dr. P.H.C. Murthy

With Coloured Photographs (According to C.C.I.M. Syllabus)

The Subject of Rasasastra has always been interesting in view of the complicated pharmaceutical technicalities involved and the successful therapeutic effects rendered by it. Beginning from Nagarjuna sincere efforts have been made by all the authors to present the subject matter in a lucid way. It is indeed a herculean task to compile all these scattered material into a single work. Dr. P.H.C. Murthy in his work "Rasa Sastra - The Mercurial System" has to be credited for making a successful effort in this direction. His rich experience of about thirty years in teaching, researching, publications and clinical services is reflected in this work. Also the primary aim of presenting Rasasastra in its full scientific glory stands fulfilled. The subject in this text is presented in such a manner that even a non-academic enthusiast can to through and catch hold of the meaning between the lines. The figures, photographs and the appendices enhance the utility of this book. It is obvious that this work will prove to be very much useful to the under-graduates, post-graduates, academicians and all the zealots of the scientific community as a whole. Rs. 495.00