

## The Historical Perspective Of Medical Science In Ancient India

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**ABSTRACT:** A high quality of Medical Knowledge was prevalent in ancient India. The present day Archaeological evidences of Mohenjodaro and Harappa imparts the high civilization in matters of sanitation and hygiene. An analysis of the material in the Vedas reveals that, all the four Vedas replete the references regarding various aspects of medicine. Indian medicine has a long history, and is one of the oldest organized systems of medicine. Its earliest concepts are set out in the sacred writings called the Vedas, especially in the metrical passages of the Atharvaveda, which may possibly date as far back as the 2<sup>nd</sup> millennium BC. The Atharvaveda is deemed to be an encyclopedia for medicine "Interalia", and Ayurveda (the science of life) is considered as Upa Veda (supplementary subject) of the Atharva Veda... In the Atharvaveda also certain herbs and metals endowed with medicinal properties were given divine attributes and were worshipped.

The Medical science was first systematized and provided with a rational basis by Charaka and Susruta. They wrote two standard books on medical science viz. Charaka Samhita and Susruta Samhita respectively. These books were written almost a thousand years after Atharva Veda. It is believed that Charaka wrote earlier than Susruta. Generally Charaka's book is assigned to the pre- Buddhist era. The medical science also made much progress during ancient India. We find the earliest references about the curative art in Rig Veda which ascribes divinity to various herbs and plants.

We, however, learn from the Vedic literature that during the Vedic period the medical profession had become more or less hereditary, although the position of the people of this profession was comparatively quite inferior. The first decisive step to positive science in ancient India was in the field of medical sciences. In the present article a few glimpses of medical Science as prevalent in the ancient India has been presented here.

**KEYWORDS:** Sanitation, Hygiene, Upa-veda, longevity, divinity.

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### I. INTRODUCTION

Ancient India was a land of sages, saints and seers as well as a land of scholars and scientists. Ancient India's contribution to science and technology includes Mathematics, Astronomy and Physics, Chemistry and Medical Science & Surgery. Moreover, the first decisive step to positive science in ancient India was in the field of medical sciences. Indian medicine has a long history, and is one of the oldest organized systems of medicine. Its earliest concepts are set out in the sacred writings called the Vedas, especially in the metrical passages of the Atharvaveda, which may possibly date as far back as the 2<sup>nd</sup> millennium BC.

No doubt, diseases and ailments have affected humanity since time immemorial. The response of humanity to treat disease and, on occasion to find its cause has been synonymous with the evolution of an organizing society, however ancient and culturally primitive. Thus medicine, as we know today, is as old as man and must have, therefore, evolved with the first awakening of human consciousness. Thus the beginning of science of life is traceable to the beginning of life itself. The earliest knowledge related to human anatomy, physiology, pathology, health disease and their treatment with medicinal herbs and causes of disease is found in Vedas particularly in Rig-Veda and Atharva Veda.

It is a fact that the Rig Vedic society was well organized and highly developed. The family unit was patriarchal and monogamy. Economic life centered round agriculture and Cattle. The people were politically organized. The authority of the king was limited by the people bodies as Sabha, Samiti, and Vidath etc. With in this setting the physicians had an important place. It is stated that during the wars the physician's camp was next to the king. They can be considered as an important official of the king. References of sages like Aswins reflects their influence and veneration of people. Their views have influenced the members of the Sabha and Samitis.

Moreover, there was deep knowledge in Vedic period of the food that should be taken for good health and accordingly the selection of cereals, pulses, oilseeds, and rearing cattle for milk and its products were developed. Besides, in Vedic Sanghita we find Brahma is originator of science of life from whom the knowledge of this science was learnt by Parapet Dachas, who in his turn taught Asvins and Savings taught

Indra; and Indra taught Bhardvaja, Dhanvantari and Kashyap. In Yajurveda, Brahma is referred to as the first physician.

Among the gods mentioned in Rig-Veda, Aswins are remarkably skilful physicians and surgeons. Perhaps these twins divine were the first two physicians in human history whose achievements are well documented. During the Rig Vedic period there was wide use of herbs. The first statement on plants as medicine, in the medical history, is in Rigved in which plants have been classified in three categories viz. trees (Vraksh), herbs with medicinal properties (Osadhis) and other herbs (Virudhis). Thus it can be seen that medical sciences was taught and practiced in India from time immemorial. The earliest reference of Chikitsa Vigyan come from Vedic Sanghitas.

Ayurveda is the indigenous system of medicine that was developed in Ancient India. The word Ayurveda literally means the science of good health and longevity of life. This ancient Indian system of medicine not only helps in treatment of diseases but also in finding the causes and symptoms of diseases. It is a guide for the healthy as well as the sick. It defines health as equilibrium in three doshas, and diseases as disturbance in these three doshas. While treating a disease with the help of herbal medicines, it aims at removing the cause of disease by striking at the roots. The main aim of ayurveda has been health and longevity.

It is the oldest medical system of our planet. A treatise on Ayurveda, Atreya Samhita, is the oldest medical book of the world. Charak is called the father of Ayurvedic medicine and Susruta the father of surgery. Susruta, Charak, Madhava, Vagbhatta and Jeevak were noted Ayurvedic practitioners. Do you know that Ayurveda has lately become very popular in the western world? This is because of its many advantages over the modern system of medicine called Allopathic, which is of western origin.

## **II. SUSRUTA**

Susruta was a pioneer in the field of surgery. He considered surgery as “the highest division of the healing arts and least liable to fallacy”. He studied human anatomy with the help of a dead body. In Susruta Samhita, over 1100 diseases are mentioned including fevers of twenty-six kinds, jaundice of eight kinds and urinary complaints of twenty kinds. Over 760 plants are described. All parts, roots, bark, juice, resin, flowers etc. were used. Cinnamon, sesame, peppers, cardamom, ginger are household remedies even today. In Susruta Samhita, the method of selecting and preserving a dead body for the purpose of its detailed study has also been described. The dead body of an old man or a person who died of a severe disease was generally not considered for studies. The body needed to be perfectly cleaned and then preserved in the bark of a tree. It was then kept in a cage and hidden carefully in a spot in the river. There the current of the river softened it. After seven days it was removed from the river. It was then cleaned with a brush made of grass roots, hair and bamboo. When this was done, every inner or outer part of the body could be seen clearly.

Most remarkable is Sushruta's penchant for scientific classification. His medical treatise consists of 184 chapters, 1,120 conditions are listed, including injuries and illnesses relating to aging and mental illness. The Sushruta Samhita describe 125 surgical instruments, 300 surgical procedures and classifies human surgery in 8 categories.

Susruta's greatest contribution was in the fields of Rhinoplasty (plastic surgery) and ophthalmic surgery (removal of cataracts). Some serious operations performed included taking fetus out of the womb, repairing the damaged rectum, removing stone from the bladder, etc.

In those days, cutting of nose and/or ears was a common punishment. Restoration of these or limbs lost in wars was a great blessing. In Susruta Samhita, there is a very accurate step-by-step description of these operations. Surprisingly, the steps followed by Susruta are strikingly similar to those followed by modern surgeons while doing plastic surgery.

## **III. CHARAK**

Charak is considered the father of ancient Indian science of medicine. He was the Raj Vaidya (royal doctor) in the court of Kanishka. His Charak Samhita is a remarkable book on medicine. It has the description of a large number of diseases and gives methods of identifying their causes as well as the method of their treatment. He was the first to talk about digestion, metabolism and immunity as important for health and so medical science. In Charak Samhita, more stress has been laid on removing the cause of disease rather than simply treating the illness. Charak also knew the fundamentals of Genetics. Don't you find it fascinating that thousands of years back, medical science

Was at such an advanced stage in India?

## **Yoga and Patanjali**

The science of Yoga was developed in ancient India as an allied science of Ayurveda for healing without medicine at the physical and mental level. The term Yoga has been derived from the Sanskrit work

Yoktra. Its literal meaning is “yoking the mind to the inner self after detaching it from the outer subjects of senses”. Like all other sciences, it has its roots in the Vedas.

It defines chitta i.e. dissolving thoughts, emotions and desires of a person’s consciousness and achieving a state of equilibrium. It sets in to motion the force that purifies and uplifts the consciousness to divine realization. Yoga is physical as well as mental. Physical yoga is called Hath yoga. Generally, it aims at removing a disease and restoring healthy condition to the body.

Raja yoga is mental yoga. Its goal is self realization and liberation from bondage by achieving physical mental, emotional and spiritual balance. Yoga was passed on by word of mouth from one sage to another. The credit of systematically presenting this great science goes to Patanjali. In the Yoga Sutras of Patanjali, Aum is spoken of as the symbol of God. He refers to Aum as a cosmic sound, continuously flowing through the ether, fully known only to the illuminated. Besides Yoga Sutras, Patanjali also wrote a work on medicine and worked on Panini’s grammar known as Mahabhasaya.

**Ayurveda** as a science of medicine owes its origins in ancient India. Ayurveda consists of two Sanskrit words - 'ayur' meaning age or life, and 'veda' which means knowledge. Thus, the literal meaning of Ayurveda is the science of life or longevity. Ayurveda constitutes ideas about ailments and diseases, their symptoms, diagnosis and cure, and relies heavily on herbal medicines, including extracts of several plants of medicinal values. This reliance on herbs differentiates Ayurveda from systems like Allopathy and Homeopathy. Ayurveda has also always disassociated itself with witch doctors and voodoo.

The Ayurvedic classics mention eight branches of medicine: kāyācikitsā (internal medicine), śalyacikitsā (surgery including anatomy), śālākyacikitsā (eye, ear, nose, and throat diseases), kaumārabhṛtya (pediatrics), bhūtavidyā (spirit medicine), and agada tantra (toxicology), rasāyana (science of rejuvenation), and vājīkaraṇa (Aphrodisiac). Apart from learning these, the student of Āyurveda was expected to know ten arts that were indispensable in the preparation and application of his medicines: distillation, operative skills, cooking, horticulture, metallurgy, sugar manufacture, pharmacy, analysis and separation of minerals, compounding of metals, and preparation of alkalis. The teaching of various subjects was done during the instruction of relevant clinical subjects. For example, teaching of anatomy was a part of the teaching of surgery, embryology was a part of training in pediatrics and obstetrics, and the knowledge of physiology and pathology was interwoven in the teaching of all the clinical disciplines. The normal length of the student's training appears to have been seven years. But the physician was to continue to learn.

Ancient scholars of India like Atreya, and Agnivesa have dealt with principles of Ayurveda as long back as 800 BC. Their works and other developments were consolidated by Charaka who compiled a compendium of Ayurvedic principles and practices in his treatise Charaka-Samahita, which remained like a standard textbook almost for 2000 years and was translated into many languages, including Arabic and Latin. 'Charaka-Samahita' deals with a variety of matters covering physiology, etiology and embryology, concepts of digestion, metabolism, and immunity. Preliminary concepts of genetics also find a mention, for example, Charaka has theorized blindness from the birth is not due to any defect in the mother or the father, but owes its origin in the ovum and the sperm.

In ancient India, several advances were also made in the field of medical surgery. Specifically these advances included areas like plastic surgery, extraction of cataracts, and even dental surgery. Roots to the ancient Indian surgery go back to at least circa 800 BC. Shushruta, a medical theoretician and practitioner, lived 2000 years before, in the ancient Indian city of Kasi, now called Varanasi. He wrote a medical compendium called 'Shushruta-Samahita'. This ancient medical compendium describes at least seven branches of surgery: Excision, Scarification, Puncturing, Exploration, Extraction, Evacuation, and Suturing. The compendium also deals with matters like rhinoplasty (plastic surgery) and ophthalmology (ejection of cataracts). The compendium also focuses on the study the human anatomy by using a dead body.

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The Susruta Samhita was a more systematic and scientific work than that of Charaka. It is considered to be of more modern origin and is supposed to have been re-written by the celebrated Buddhist scientists and philosopher, Nagarjuna.

While the subject matter of Charaka Samhita is mainly medicine, Susruta deals with surgery. Indian physicians attached great importance to humoral pathology. According to the Indian theory there are three kinds of humors viz. Yau (Air), Pitta (Bile) and Kapha (Phlegm). Scholars hold that the theory of Yau, Pitta and

Kapha is not the same as the old humoral theory of the Greek and the Roman physicians who, though they borrowed the idea from Ayurveda, probably failed to grasp the true meaning of the theory. But the general belief is that the theory of humoral pathology was known to the Indians long before it was elaborated by Hippocrates's. We find reference in Rig Veda and early Buddhist literature to prove this point. However, certain scholars believe that too much had been made of the resemblance between the Greek and the Hindu theory and practice of medicine.

The analogy is more superficial than real and does not seem to bear a close examination. The Hindu system is based upon the three humors, namely, the air, the bile and the phlegm, whilst that of the Greek is founded upon four humors, namely, the blood, the bile, the water and the phlegm—a cardinal point of difference.”

The art of surgery was also known to the people of ancient India and was quite advanced. We come across various references of the major operations like ambulation, laparoscopy (opening the abdomen for intestinal obstruction or other trouble), lithotomic (extraction of stone) and atrophying of the skull were known to the ancient surgeons.

We get the first reference to the surgical operation in Rig Veda which says that when a young maiden named Visalia lost her leg in a conflict the Asvins, the divine doctors, provided her with an iron leg. The Susruta and Vagbhata have given an excellent description of the surgical instruments of the period which evoke our admiration.

The Greek and the Roman surgical instruments were merely replicas of the Hindu instruments. The various surgical instruments referred to included saws, lancets, needles, knives, scissors, hooks, pincers, probes, nippers, forceps, tongs, syringes, loadstones, etc.

The Indians were also the first to realize the necessity of dissection of the human body for the education of physicians and surgeons. Susruta writing about two thousand years ago recorded in unmistakable terms:

“Therefore whoever wishes to get a clear idea of salya (surgery) must prepare a corpse in the proper way and see by careful dissection every part of the body in order that he may have definite and doubtless knowledge”.

It may be noted that in Europe the dissection of human subject was opposed till the middle ages. Surgery as well as medicine made great progress during the Buddhist period in India because Buddhism insisted on alleviation of the sufferings. A number of hospitals were opened for the men as well as beasts. Usually these hospitals were located in the monasteries. The inscriptions engraved on the rocks, pillars etc. also contained prescriptions for the treatment of various diseases.

Similarly the Indians knew about the circulation of blood much before it was discovered by Sir William Harvey in the 17th century. This is borne out by the Charaka Samhita, Sutra which says: “From that great centre (the heart) emanate the vessels carrying blood into all parts of the body the element which nourishes the life of all animals and without which life would be extinct. It is that element which goes to nourish the foetus in utero and which flowing into its body return to the mother's heart.”

In the field of Pharmacology and Pharmacy, the properties of drugs and foodstuffs were investigated by the five senses and by subjective and objective phenomena manifested on the human system. It was insisted that the diagnosis should be made by the five senses supplemented by interrogation. The method of direct auscultation or hearing of breath-sounds was known to them.

Similarly in Susruta Samhita we get references which show that the people knew about the bacterial origin and the infective nature of certain diseases as the eruptive fevers, leprosy, small-pox, tuberculosis, etc. But probably the most important achievement of the Hindu medicine was the introduction of metallic preparations, especially those of mercury and iron.

The great Buddhist scientist Nagarjuna who flourished in the 8th or 9th century A. D. was the first to use mercury preparation Kajjali (black Sulphide of mercury) in medicine. Hiuen Tsang who stayed in India from 629 A. D. onwards has also greatly praised the knowledge of Nagarjuna in the science of medicine. He says: “Nagarjuna Bodhisattva was well practiced in the art of compounding medicine; by taking a preparation (pill or cake) he nourished the years of life for many hundreds of years, so that neither the mind nor appearance decayed.”

The ancient Indians considered the medical profession as a very noble profession. Giving relief to the suffering humanity was considered to be a noble cause. Charaka says: “neither for money nor for any earthly objects should one treat his patients. In this the physicians work excels all vocations. Those who sell treatment as merchandise neglect the true treasure of gold in search of mere dust”. Charaka had formulated the ethical code of Ayurveda which provided: “You should seek the happiness of all beings. Every day, standing or sitting, you should try to heal the sick with your whole heart. You should not demand too much from your patients even to maintain yourself, you must not touch another man's wife even in thought, nor hanker after others' wealth. You should be sober in dress, and temperate, you must not commit a sin nor be an abettor of it and you must speak words that are gentle, clean, and righteous,” and so on. He further says: “If you want success in your practice, wealth and fame, and heaven after your death, you must pray every day on rising and going to bed for

the welfare of all beings, especially of cows and Brahmans, and you must strive with all your soul for the health of the sick. You must not betray your patients, even at the cost of your own life... You must not get drunk, or commit evil, or have evil companions. You must be pleasant of speech...and thoughtful, always striving to improve your knowledge”.

“When you go to the home of a patient you should direct your words, mind, intellect and senses nowhere but to your patient and his treatment . . . Nothing that happens in the house of the sick man must be told outside, nor must the patient’s condition be told to anyone who most do harm by that knowledge to the patient or to another.”

The people of ancient India also practiced veterinary medicine. Encouraged by the doctrine of non-violence arrangements were made for the stay of animals and proper care was taken of the sick and the aged animals. There were doctors who specialized in the disease of animals like horses and elephants and were given a very respectable position at the court.

#### IV. CONCLUSION

It is clear from the above discussion that the Indian Medical Science system was quite advanced and it exercised considerable influence on the contemporary countries of the West and the East namely, Arabia, Egypt, Rome, Greece and China. It is now accepted on all hands that these countries drew most of their medical knowledge skill and inspiration from India. The Greeks and Romans particularly adopted the Indian system as well as the Indian names and recipes. Harun-al-Rashid, the Caliph of Baghdad sent Scholars to India towards the close of the 8th century A. D. to study Medicine and Pharmacology. Certain Hindu Physicians were also invited to Baghdad and appointed as Superintendents of the hospitals. They were also requested to translate the important Sanskrit works of Medicine, Pharmacology and Toxicology in Arabic.

Similarly some of the Chinese visitors also studied the Indian Medical system. The famous Chinese traveller, I-tsing, who visited India during the last quarter of the 7th century also made a study of the Indian Medical System. During the next few years also the Muslim scholars continued to visit India to study the Indian Medical Science.

The Atharvaveda, a sacred text of Hinduism dating from the Early Iron Age, is one of the first Indian text dealing with medicine, like the medicine of the Ancient Near East based on concepts of the exorcism of demons and magic. The Atharvaveda also contain prescriptions of herbs for various ailments. The use of herbs to treat ailments would later form a large part of Ayurveda.

Ayurveda, meaning the "complete knowledge for long life" is another medical system of India. Its two most famous texts belong to the schools of Charaka and Sushruta. The earliest foundations of Ayurveda were built on a synthesis of traditional herbal practices together with a massive addition of theoretical conceptualizations, new nosologies and new therapies dating from about 600 BCE onwards, and coming out of the communities of thinkers who included the Buddha and others.

According to the compendium of Charaka, the Charakasamhitā, health and disease are not predetermined and life may be prolonged by human effort. The compendium of Suśruta, the Suśrutasamhitā defines the purpose of medicine to cure the diseases of the sick, protect the healthy, and to prolong life. Both these ancient compendia include details of the examination, diagnosis, treatment, and prognosis of numerous ailments.

As an alternative form of medicine in India, Unani medicine got deep roots and royal patronage during medieval times. It progressed during Indian sultanate and mughal periods. 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. 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.

Thus the scattered information on medical science and physician in ancient India, however, scanty, suggest that this branch of science was well cultivated. It is hoped that a more serious study of the subject apart from this would bring more information about the subject.

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