



MEDICAL SCIENCE EDUCATION IN VEDIC AGE AND ITS LEGACY

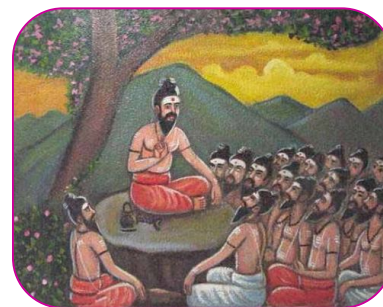
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ABSTRACT

Vedic period, though it is covered with myths, is often called as heroic age of ancient Indian civilization. It is also the formative period when the basic foundation of Indian civilization was laid down. This period of India's history lasted from around 1500 B.C. to 600 B.C.¹ though it is yet controversial.² Within this period, Rig-Veda, Sam-Veda, Yajur-Veda, Atharva-Veda, Upanishads, Brahmins, Aranyakas and other Vedic literatures were taken into shape and on the basis of Vedic culture, the great Indian Ayurveda was developed. The great physicians like Atri, Shushruta, Charaka and their successors of ancient India are highly acknowledged in the Medical Science Education in the modern era.



The chief **objectives** of this paper are to explain the nature of Medical-Science Education in the Vedic age by highlighting its distinctiveness and to analyze the contribution of Vedic Medical Science Education to modern age. It is largely a qualitative research and the present study is **historical** in nature. This **study finds that** the Vedic Medical Science Education was ornamented with unique features and it has great contribution in the later age even today. Ayurveda, as well as Allopath, Homeopath, Surgery and other branches of medicines are well contributed by the Vedic Medical Science Education which appreciates its Great Legacy.

KEY WORD: Medical Science education, Vedic age, Legacy.

INTRODUCTION

The Veda is the oceanic treasure world of Indian Art, Culture & Spiritual conscience. The ardent intellectual yearning about Sanskrit as well as Veda is gradually increasing not only in India but also in different countries of the world especially in the western countries. The Veda is actually the most ancient literature of the Hindus and it is also considered as a religious treatise. That's why; Veda is impregnated with the religious faith and customs of the-then society in which it was composed. But it cannot be said that there is lack of possible scientific conscience in that environment. Actually quality research is seldom found on 'Vedic Science & Technology', most of the researches given prior importance on Vedic Stotras, its literary value, Chronological order and other related matter. Even the discussions of some bewildered illusory facts have covered this phase under some mysterious gauzy veil. It needs a continuous scientific investigation and quality research in this regard.

¹ Kenneth, P., (2010), *The History of India*, New York, Britannica Educational Publishing, 60 – 61

² Muthu, C., (1913), A Short Review of the History of Ancient Hindu Medicine, In Sir Wm. Osler, [Ed], *Section of the History of Medicine*, p. 06, [Source: journals.sagepub.com/doi/pdf/10.1177/003591671300601515, Retrieved on 02/05/18]

The Indians are the carrier of some very precious and cultural conscience by inheritance. The education of Vedic India has become very much relevant in the different parts of the world. Joyful learning, ideals of teacher, healthy environment, message of peace etc. the root words of modern education were very much present in Vedic Education. In various hymns of Veda or Vedangas desire of long life is prayed. How a man can live a long and healthy life, how man can get cured from different diseases etc. were the special field of attention in the Vedic literature. India is enriched with a great and affluent Ayurvedic scripture and the primary discussion about this is first seen in 'Rig-Veda'. At that time the average span of life of the people was comparatively low. The importance of trees and shrubs or medicine to get a disease free and healthy life was first invoked in that age. Effort is given here to analyze the development of Medical Science Education in Vedic age and also to introduce its influence and contribution to the modern society.

OBJECTIVES OF THE STUDY

- i) To analyze the nature of Medical Science Education in the Vedic age.
- ii) To investigate the distinctive features of Vedic Medical Science Education
- iii) To evaluate the contribution of Vedic Medical Science Education in modern age.

RESEARCH QUESTIONS

1. What was the nature of Vedic Medical Science Education?
2. What were the distinctive features of Medical Science Education in Vedic period?
3. Is there any legacy of Vedic Medical Education at the present day?

METHODOLOGY

This paper is qualitative in nature and follows the **historical approach**. Qualitative data (secondary and tertiary) for this paper have been collected from various sources, like scholarly books, research papers, historical scriptures, authentic internet sources etc. Historical and sociological approaches have also been adopted for this analysis.

DELIMITATION

The study has been restricted to the period of 1500 B.C- 600 B.C and investigation has been made by dividing the entire period in separate two phases: Early Vedic age (1500 B.C. – 1000 B.C.) and Later Vedic age (1000 B.C. – 600 B.C.).

Evolution & Nature of Medical Science Education in Vedic Age (1500 B.C. – 600 B.C.)

Vedic age mainly expands from 'Rig Vedic' period (1500B.C. – 1000 B.C.) and the later Vedic period (1000 B.C. – 600 B.C.).³ Rig Vedic period is denoted for the composition of the 'Rig-Veda' whereas the later Vedic period is known for the composition of 'Sama-Veda', 'Yajur-Veda', 'Atharva-Veda Samhita' including Brahman, Aranyak and Upanishad, although from the ending part of the later Vedic period, 'Sutra Era' started where 'Grihya-Sutra', 'Dharma-Sutra' & 'Swalya-Sutra' got their formation.

Medical consciousness in the Rig-Vedic period was limited within a small circle. The Vedic sages were sentient enough about the effectiveness of medicines. Not only that, there are some clear hints of surgical treatments in some hymns of the Rig-Veda. In the 'Sukta' no. 1/116/15 of 'Rig-Veda', it has been referred that a leg of 'Bishpala', wife of King 'Khel' was broken and detached from her body in a war like a clipped off wing of a bird, where it was prayed – " Oh! Aswidwaya, thou put on a metallic shank to 'Bishpala' for going and to get immense treasure from fighting opponents" – i.e. 'Aswinikumar' brothers 'God of Vedic age', were basically physicians and they put on metallic shank to 'Bishpala'. From this point of view, relevant information has been found about the dexterity in surgery of Rig-Vedic era. They knew method to set artificial limb to limb-less persons. In that era fragmented leg could be substituted by artificial legs. In

³ Kenneth, P., (2010), *The History of India*, New York, Britanica Educational Publishing, 60 – 61

modern age, the treatment for replacement of artificial limbs is actually the contribution of Medical Science in Vedic age.⁴

Rig-Veda pointed out 'Agni' or fire as the envoy connecting the God with the worshiper. The priests of the 'Agni' cult – the 'Atharvans', the 'Angiras' and the 'Bhrigus', were treated as professionals in curing the human health. They are also known as the authors of the 'Atharva-veda', which contains details about overall understanding of human body, its diseases and their cures.⁵ Plants and associated products formed the major portion of the *Materia medica* of the Vedic healers. There were specialized sages and schools of herbalists who were considered to have identified, described and propagated the use of specific plants that were often named after the sage. For example, 'Kanwa' was given honour with the discovery of the plant 'Apamarga' as a medicine, which was then popularly known as 'Kanwa's Plant'.⁶

In the Rig-Vedic era, the development of Medical Science Education was taken place as an associative part of religious activities; for a long and healthy life, medical awareness with religious performances was given priority. This led to a change in the idea of disease and its treatment. In the later Vedic period, Medical-Science Education was immensely developed and Atharva-Veda was the directional source. In the 'Atharva-Veda (3/4/1)' bath and exposure to sunrays were recommended for healthy life and protecting elements of diseases.⁷ In the Atharva-Veda, drugs were classified into two groups. The first one is 'Ayusyani' means the drugs which are used to prolong life and the second one is 'Bhaisajyani', the drugs which cure diseases. According to this Veda, there are several causes, external and internal for diseases. It is mentioned that those causes are possession by demons, rage of God, seasonal changes, warms, loss of humoral balance, heredity, contamination and unhealthy food. This Veda also pointed out that human body consists of 360 bones, 360 bone marrows, 1440 cells, 2880 tendons, and same number of ligaments, 700 vital organs, 100 arteries, 1000 veins, 72000 naries (channels), 09 orifices, and 08 basic elements.⁸ If these numbers are taken into consideration, it would be found that these numbers are mostly nearer to the division of year into days and the parts there of. In case of surgery, the stone weapons were transformed into bamboo splinters with sharp edge. Various natural items were taken as medicine such as Cow's milk and its products, water, various soils, powdered shells and rock salts. Besides oral medicine, several other things like inhalation, fumigation and topical application of ointments were also used. With this specific noted plants were used as amulets. Not only that these medicines were administered at specified places and times to get highest result.

In Atharva-Veda, Medical Science was recognized as 'Ayurveda' and it was also mentioned as a part of Atharva-Veda. There were different branches of Ayurveda and these branches were correlated to each other. A medical student had to learn every stream, not only that everyone must have the ability to acquire theoretical as well as practical knowledge. A learner must have adequate knowledge about surgical treatment and which category of medicine and which specific combination might have to be applied in the injured area of the patient. In the said time period it was possible to acquire sound knowledge about the span of human life by studying Ayurveda. For this reason the people could able to maintain their own health and society also. So the education of Ayurveda was indispensable to keep the people healthy and to create good environment. The institutional learning of Ayurveda was open for the devotee persons. Intelligence,

⁴ Roy, H., History of Medicine with Special Reference to India, [Source: www.histopathology-india.net/history_of_medicine.htm, Retrieved on 07/ 05/ 2018]

⁵ Roy, M., (2001), Vedic Medicine: Some aspects, Medicine and Life Sciences in India In B.V. Subbarayappa, D. P. Chattopadhyay (Eds), *History of Science, Philosophy and Culture in Indian Civilization*, New Delhi, Centre for Studies in Civilizations, Part 2, IV, 39-58

⁶ Roy, M., (2001), Vedic Medicine: Some aspects, Medicine and Life Sciences in India In B.V. Subbarayappa, D. P. Chattopadhyay (Eds), *History of Science, Philosophy and Culture in Indian Civilization*, New Delhi, Centre for Studies in Civilizations, Part 2, IV, 39-58

⁷ Goswami, B.B., (2000), *Atharva-Veda Samhita*, Kolkata, Haraf Prakaashani, 48-49

⁸ Chattopadhyaya, D., (1982), *Case for a Critical Analysis of the Carak Samhita*, Vol. 1, New Delhi, Editorial Enterprises, 15-27

clear vision, high cognitive ability, presence of mind, ethics, professional efficacy, power to acquire knowledge, boldness etc. were the eligible criteria of a learner to admit in Ayurveda.⁹ Theoretical and practical both were included in the curriculum. For the preparation of medicine, knowledge over local plants, creepers and herbs was essential. The great 'Jibaka', 'Charaka', 'Shushruta' were the emerald outcomes of this tradition.

In those days there was no existence of any text books in the study of Ayurveda. Retentive disciples acquired knowledge as instructed by their teachers mainly through Corus and they kept the contents in their memory. After completion of their study, when they entered in their domestic life they applied those acquired knowledge of Ayurveda in the society and in later life they gradually gained huge experiences and became professional specialists. They also shared their knowledge and experiences with their own disciples. Thus knowledge was transmitted from one generation to another through this ongoing process but in future courses volume of the subject was so enlarged that not possible to memorize it for a single person. So the demand of written preservation was developed. The first effort in this regard was 'Agnibesh Samhita' by Maharshi Agnibesh. His disciple 'Charaka' later improved that Samhita and wrote another Samhita, 'Charaka Samhita' with a new look and idea. Disciple of great 'Dhanwantari', 'Shushruta' wrote 'Shushruta Samhita'. Later such many Samhitas were gradually composed.

Ancient Ayurveda as a discipline was divided in eight segments, for this it is called 'Astanga Ayurveda Shastra' (eight folded Ayurveda). The divisions are, –

- Physical treatment: To cure disease by the application of Ayurvedic medicine.
- Surgery treatment: To cure the disease by surgery;
- E.N.T treatment: Treatment of year, nose, throat by surgery and reconstruction of deformed limbs;
- Treatment of mental disorder (Bhut-Vidya);
- Treatment of children (Koumarabhrityantra);
- Toxicology (Agadtantra);
- Treatment to increase power of procreation (Bajikarana);
- Treatment by the application of chemical compound (Rasayanatantra);¹⁰

The physicians of that time must have to learn 'Physiology' & 'Anatomy' both; otherwise their medical knowledge was not completed, for this they had to dissect a dead body. In Vedic India veterinary treatment was also existed, it was another wing of Medical Science Education. In later Vedic period the arrangement of this branch was organized comprehensively where treatment was taken place for the cows, horses, elephants and other different animals.

In the Teaching-Learning process Teacher taught the students by reciting slokas and verses. Beside the proper intonations, it was very important to understand the inner meaning and method. Not a particular Branch, a student must have to learn every stream as mentioned earlier, otherwise the learning was considered as incomplete.

UNIQUE FEATURES OF VEDIC MEDICAL SCIENCE EDUCATION

Vedic Medical Science Education were identified by some unique features–

- The Medical Science Education in Vedic India was advanced in comparison with other civilizations of the world in Vedic contemporary period. If the history of other Vedic contemporary civilizations of the world is analyzed, it would be came to notice that the treatment procedure, efficiency of physician, infrastructure of treatment mode, prolific utilization of medicine, necessary steps of post treatment procedure in Vedic age were rarely found in the other civilizations of the world.

⁹ Zysk, K. G., (1999), *Mythology and the Brahmanization of Indian Medicine: Transforming Heterodoxy into Orthodoxy*, Gothenburg, Sweden, Goteborg's Universitet, 125-145

¹⁰ Roy, H., *History of Medicine with Special Reference to India*, [Source: www.histopathology-india.net/history_of_medicine.htm, Retrieved on 07/ 05/ 2018]

- Medical Science Education was not same everywhere in the said time period. Instead of system, self dexterity of individual physician had got importance and recognized. Generally physician and preceptor was the same person. His lifestyle, working mode, perseverance, other natural factors, his efficacy, proper diagnosis power put him in the position like a 'Rishi' (monk). They devoted themselves in this field. In Vedic era a small number of physicians were found, they were respectable and honorable in the world and were worshipped as great 'Rishis' (monks).
- Treatment procedure and its teaching was limited to one's own periphery/ own school which were transmitted to the next generation. The persons belonging to that school acquire adequate knowledge in particular field and prepare the scope of specializations. Though it was a controversial issue, however in practical field, the acquired knowledge in medical science was applied in succession of lineage and this style was transformed in genealogical feature where new innovative ideas were generated.
- The evidences relating to Medical Science Education of the Vedic source especially in the Atharva-Veda were actually a minor part of the whole picture. The most organized sector which had a direct connection with the source only that part was reflected. Most of the other parts were out of this. So, it can be said that the larger part of the-then Medical Science Education is not yet discovered.
- Direct utilization of natural resources was the general technique of treatment and development of that knowledge was the essential part of education.¹¹ In treatment procedure to cure and diagnose of diseases, arrangements of proper diet etc. were originated from 'Panchamahabhuta' (water, soil, fire, air & ether) from which the creepers, roots, trees, other livings and non-livings are created. From that source the extracted fluids and crude elements were used as medicine. It is proclaimed that there are no elements in the environment which are not utilized for the beneficiary of the human being. Optimistic utilization of natural resources and procure them correctly for application were the important aspect of Medical Science Education.
- Diagnosis of disease, remedial measures, nursing of affected persons, proper instruction of maintaining the sound health etc. were the motivating force of Medical Science Education and this force enlightened an individual by devoting life for human welfare as well as social rectification which aspire him/her to reach to the highest level of spirituality. As a medical practitioner, the profession was not considered as a source of income and to procure essential elements to maintain standard of living, the main attitude was the benevolence of human life.

CONTRIBUTIONS OF VEDIC MEDICAL SCIENCE EDUCATION IN MODERN AGE, IT'S LEGACY

Once Jawahar Lal Neheru, first Prime Minister of India was asked about the India's greatest pride. He answered that India's glorious past, treasury of Sanskrit literature like Veda, Upanishad, Aranyak, its hymns and other allied matters are the India's most pride.¹² In this context his speech was most sensible. The contribution of Vedic civilization is not limited within India; it has been spread out all over the world. The commencements of glorious Vedic India adhere to Mathematics and other scientific innovations. The special contribution of Medical Science Education in Vedic age is also highly acknowledged in the modern age.

Ayurveda is the main gift of Vedic Medical Science Education. Simultaneously Allopath, Homeopath, Surgery are also have remarkable contribution of this age. The idea of Vedic Medical Science Education is based on a combined study of body (Sharira), sense organ (Panchaindria), mind (Mana) and soul (Atma). Equilibrium of these five items is related to sound health and cure life but dysfunction of them is the cause of death. 'Homeostasis' of the internal organs is the essential consideration for the absence of disease which is quite similar to the definition of health as introduced by 'World Health Organization'. So, it can be said that the modern concept of good health is actually the contribution of Vedic India.

¹¹ Zysk, K., (1996), *Medicine in the Veda: Religious Healing in the Veda*, New Delhi, Motilal Banarsidass Publishers Private Limited, 22 – 23

¹² Nehru, J.L., (1999), *The Discovery of India*, New Delhi, Jawaharlal Nehru Memorial Fund, 69 – 70

The concept of 'Plastic surgery' in modern surgical treatment is also the gift of Vedic Medical Science Education. Most popular example of Shushruta Samhita to Plastic Surgery is the reconstruction of the deformed nose, known as 'Rhinoplasty'. Similarly the idea of Cataract Surgery was also present whose successful application is found in Shushruta Samhita. To eradicate cataract from the eyes, Great Shushruta applied a curved needle, 'Jabamukhi Salaka', to remove the Lens and push the cataract out of eyes. The effected eye/eyes then were bandaged for a few days till the eye/eyes healed totally.¹³ This method later was translated to Arabic Language; from there it became significant in the Western World.

Not only cure from diseases but also the guidelines for preventive measures of well health were found in Vedic literature. Another important characteristic of the Vedic period is the ambrosial incorporation of the mind and the Mother Nature – this fusion was made possible by the sharp observation of the life in all forms.¹⁴ The unique contribution of the said time to the humanity was the lately lost faculty of lifting the mind to the ultimate spiritual level through physical exercise and meditation. In a hymn of Atharva-Veda, sharp bestowing of longevity has been introduced.¹⁵ In a hymn 13/1/32, of Atharva-Veda reveals that "the rising sun is spread to destroy the infective organisms". This connotes that the presence of ultraviolet rays in the sunlight was known to the Vedic people. It is also introduced that Pathogenic Bacteria becomes strong in darkness and die during sunrays.

CONCLUSION

The principles of Vedic education have been a source of inspiration to all educational systems of the modern World and this is also fact for Medical Science Education. The modern Medical Science Education has been developed tremendously but corruption has also entered in various corners. In this regard to achieve high ideal of perfect mastery over senses, in order to erect the ideal of truth, the ideal of liberty, the ideal of equality, peace, unity and professional ethics, it is essential to accept the ideals of Vedic system specially in the field of Medical Science Education.

REFERENCES

- Acharya, N., Pandurang, S., (1945), *Sushruta Samhita*, Bombay, Nirnaya Sagar Press.
- Chattopadhyaya, D., (1982), *Case for a Critical Analysis of the Carak Samhita*, Vol. 1, New Delhi, Editorial Enterprises.
- Dasgupta, S.N., (1932), *A History of Indian Philosophy*, Vol. II, Calcutta, Cambridge University Press.
- Goswami, B.B., (2000), *Atharva-Veda Samhita*, Kolkata, Haraf Prakaashani.
- Kenneth, P., (2010), *The History of India*, New York, Britanica Educational Publishing.
- Muthu, C., (1913), A Short Review of the History of Ancient Hindu Medicine, In Sir Wm. Osler, [Ed], *Section of the History of Medicine*, p. 06, [Source: journals.sagepub.com/doi/pdf/10.1177/003591671300601515, Retrieved on 02/05/18].
- Roy, M., (2001), Vedic Medicine: Some aspects, *Medicine and Life Sciences in India* In B.V. Subbarayappa, D. P. Chattopadhyay, (Eds), *History of Science, Philosophy and Culture in Indian Civilization*, New Delhi, Centre for Studies in Civilizations, Part 2, Vol. IV.
- Singh, U., Lahiri, N., (2010), *Ancient India: New Research*, India, Oxford University Press.
- Zysk, K., (1996), *Medicine in the Veda: Religious Healing in the Veda*, New Delhi, Motilal Banarsidass Publishers Private Limited.
- Zysk, K. G., (1999), *Mythology and the Brahmanization of Indian Medicine: Transforming Heterodoxy into Orthodoxy*, Gothenburg, Sweden, Goteborg's Universitet.

¹³ Acharya, N., Pandurang, S., (1945), *Sushruta Samhita*, Bombay, Nirnaya Sagar Press, 106 – 121

¹⁴ Singh, U., Lahiri, N., (2010), *Ancient India: New Research*, India, Oxford University Press, 15 – 16

¹⁵ Dasgupta, S.N., (1932), *A History of Indian Philosophy*, Vol. II, Calcutta, Cambridge University Press, 289 – 290