



## Review Article

### A REVIEW ON PAST AND PRESENT STATUS OF MEDICAL EDUCATION SYSTEM

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#### ABSTRACT

The origin of medical education dates back to era of starting of Hindu civilization. The Vedic literature can be called as the source of all medical education systems. Amongst them Ayurveda is that science which has give emphasize on holistic approach towards health. Surprisingly the modalities for a learner of medical science have been well described in the texts of Ayurveda. The present situation is somehow different regarding the status of medical education all over the world. So, this study has been conducted to show the glorious approaches as present in ancient medical education system which can revive the present scenario and status of medicinal education.

**Materials & Methods:** The excessive texts of Ayurveda have been studied and critically analyzed to identify the status of medical education as described. Simultaneously the present states of contemporary medical education been studied. The demerits have been tried to evaluate & along with that some solution have been shown which may be helpful to change the present scenario of medical education throughout the world. **Results:** The result shows that the approach with the basic principle of Ayurveda can modify or resolve the problems as arises in modern medical educational system. **Conclusion:** Therefore, it can be proposed that a collaborative approach is the need of time to solve all the obstacles so that medical educational system can be updated & become more beneficial for the society.

**KEYWORDS:** Medical Education, Ayurveda, Holistic Approach.

#### INTRODUCTION

The Ayurvedic medical education system begins with different Samvasa (seminars) amongst more than fifty three sages having profound knowledge of life sciences in the earth and in the ancient Hindu civilization. There is a believe that Ayurveda was originated from Lord Brahma, then the knowledge of Ayurveda passed to Dakshaprajapati, then to Asvinikumardwaya, then further to devraj Indra & finally to Hrishi Bharadwaj.

The Ayurvedic medical education which was propagated by different sages of Hindi civilization are categorized into eight different dimensions viz.- Kayachikitsa (Medicine), Shalya Tantra (Surgery), Shalakya Tantra (Eye, ENT & Dentistry), Balaroga (Paediatrics), Agadatantra (Toxicology), Bhutavidya (Demonology), Rasayan (Geriatrics), Bajikaran (Science of Aphrodisiac).

Different preclinical, clinical & Para clinical branches of science in Hindu civilization are described in different Sthana (group of chapters) of different Samhita (Ayurvedic treatises) like-

- Sutrasthan (Basic Principles of Ayurveda)
- Nidanasthan (Pathological basic of diseases & diagnostic procedures)

- Vimansthan (Ayurvedic principles of treatment)
- Sharirsthan (Anatomy & Physiology)
- Indriyasthan (Prognostic part of medical science)
- Chikitsasthan (medical & surgical treatments include Rasayana & vajikarana also)
- Kalpasthan (Charak Samhita)- Different drug preparations
- Kalpasthan (Sushruta Samhita)- Toxicology
- Siddisthan (body purification procedures )
- Uttarasthan/Uttaratantra
  - Shalakya (Eye, ENT & Dentistry)
  - Kayachikitsa (Medicine)
  - Balaroga (Pediatrics)
  - Bhutavidya (Demonology)

#### AIM

A comparative study has been carried out to find the basis of Medical education from the past to present era with its revalidation.

## MATERIAL AND METHODS

### Selection of student in Ayurvedic system of Medicine

In Sushruta Samhita different qualities of student to whom Ayurvedic knowledge can be offered are well described in a systematic way.

#### Qualities of a student

The physician should select a student of young age coming from a noble family. He should be endowed with good character, prowess, cleanliness, manners, humility, energy and vigour. He should also possess good intellect, steadfastness, good memory & judgment and ability to act according to the circumstances. He should have a cheerful nature, pleasant speech and good manners & be painstaking. Those who possess the opposite qualities should not be selected for initiation.

Therefore, it can be realized that the entrance into the medical profession as a student was symbolized by a Vedic ceremony at that time. Before a student could be enrolled he had to undergo a test of his worthiness to become a would be doctor. The ceremony in the presence of a learned assembly had a great moral, social & psychological impact upon the student to take the medical career seriously. The students had to be of a certain minimum age preference was given to one having family background of medical environment, his physical appearance and mental aptitude had to be of a high order. These criteria emphasize the systemic approach of a high order employed in the selection of medical student.

#### Oath taking ceremony

In relation to oath taking procedure, it is said that the ideals for medical profession should be like that- a patient should be treated only on humanitarian grounds without desiring money and personal benefit in return, and it is also mentioned that he who regards kindness to humanity as his supreme religion and treats his patients accordingly, succeeds best in achieving his aims of life & obtains the greatest pleasures. In relations to ethical principles of a doctor it is said that friendship, sympathy towards the sick, interest in cases according to one's capabilities and no attachment with the patient after his recovery these are the four major ethos for a upcoming doctor. And it is also said that it is the physical duty to look after a patient as his own son.

The basic knowledge of pre clinical subjects of Ayurveda described in Samhita in first few sthan like knowledge of human anatomy (Sharir Rachana), knowledge of human physiology (Sharir Kriya), basic principles of Ayurveda in Sutrasthan and partially in

Vimansthan. Those kinds of knowledge are also given in different institutes of medical sciences all over the world. Knowledge of para clinical subjects like pathology & clinical pathology (Nidan), Toxicology (Agada Tantra), social & preventive medicine (Swashavritta evum yoga), pharmacology & pharmaceuticals (Dravyaguna ecum Rasasastra) etc. are described in the next Sthana of different Samhita (Kayachikitsa), surgery (shalya tantra), Obstetrics & gynecology Prasuti Tantra Evum stree roga), Pediatrics (Kaumarbhritya). Geriatrics (Rasayana) are described in the last Sthana viz. Chikitsasthan, siddhisthan & Uttarasthan/Uttarasthan.

The selected students were given extensive knowledge of basic science in Ayurveda & later on they were distributed into two different streams - Atreya Sampradaya (medicinal discipline), Dhanvantari Sampradaya (surgical discipline). Though these disciples trained into two different streams of Ayurveda, they have great respect to each other as proved in different context like referring one patient into other as per need.

In three stages i.e. pre clinical Para clinical & clinical parts of both the streams of Ayurvedic medical education, extensive textual knowledge & practical knowledge were delivered for perfectness in the treatment of patients. As it is said that-

एकं शस्त्रमधीयानो न विद्याच्छास्त्रनिश्चयम् ।  
तस्माद् बहुश्रुतः शास्त्रं विजानीयाच्चिकित्सकः ॥

(Su.Sut. 4/7)

So, it is mentioned that without textual. Knowledge and practical training Ayurvedic education cannot be fruitful.

With extensive knowledge after completion of the course students were allowed to perform Yogya (experimental practical work in models) under the direct supervision of Guru (Teacher) i.e. the period of internship as now found in modern system of medicine.

After completion of Yogya (Internship), passed out students have to take permission from king (authority) i.e. the process of obtaining medicine registration certificate before entering to the practices which is similar to the process of registration under any medical council. The physician has to follow the rules and regulations of the state which is also found in modern medicine i.e. according to rule of the country they are bound to practice.

अधिगततन्त्रेणोपासिततन्त्रार्थेन दृष्टकर्मणा कृतयोग्येन

शास्त्रं निगदता राजानुज्ञातेन .....

(Su.Sut. 10/3)

During the conveying of Ayurvedic medical education, ethical aspects has been vividly described

for both the students and teacher. The teacher and student relationship has been nicely explained which is now-a-day the hour of need to get a morally correct physician in the society. In this context it is said that good doctors understand responsibility better than privilege and practice accountability better than business. (Facing the challenges in medical education today – by Uttara J. Malhotra).

To achieve this, there is a quotation in Sushruta Samhita which implies that “A physician should treat every patient as if his own child and to take utmost effort to cure a patient.” (Su.Sut.)

This is the unique utterance in Indian system of medicine and not mentioned by other systems of medicine.

The knowledge of medical ethics in terms of general ethics, professional and academic ethics, pre-operation, operative & post operative ethics, experimental surgical ethics, ethics in emergency surgery, ethics in professional conduct all those have been detailed discussed in Sushruta Samhita. (Ref. Journal-IJAPC, Vol.7, Issue 1 of Das & et.al.- Surgical Ethics: Then and Now)

Emphasis have been given to prepare the Ayurvedic student mentally be fit for proper diagnosis of the disease in terms of tissue involvement, aetiopathological study, prognosis. The prognosis has to be explained to attendants and decision of treatment to be taken accordingly.

The knowledge has been given in the Sushruta Samhita regarding life threatening situation for the patient and treatment to be planned accordingly if permitted.

अक्रियायां घृवो मृत्यु क्रियायां संशयो भवेत् । .....

(Su.Sa. Asmari Chikitsa)

So, in most of the time, the medical graduates can't face the situation in the society in relation to critical care. That is why the doctor, patient relationship declining day by day.

The concept of doctor, patient relationship has been well explained in Sushruta Samhita. The relationship regarding patient, attendant patient nursing staff are also well explained there. If the moral base remains pure amongst the doctor patient, patients attendant & nursing staff, then there is no chance of origination of conflict of interest and thus a medical system can run smoothly.

The benefit for studying the Ayurvedic system of medicine has been well explained in the text of Sushruta Samhita. Thus it can be said that there is no uncertainty regarding the future for medical graduate under this stream of science i.e. it is not fruitless.

So, a student can devote himself in studying this system of medicine leaving all insecurities.

The ultimate goal of a doctor to have respect from the society, not turn his noble profession to a business profession. The path to get fame in the society has been well explained in the Ayurvedic science.

तद इदं शाश्वतं पुण्यं स्वर्ग्यं यशस्यामायुष्यं वृत्तिकरं चेति ।।

(Su.Sut. 1/19)

Though with the evolution of modern scientific technological tools, the diagnostic and treatment procedure become easy, yet modern medical system fails to offer full satisfaction to the patients. Because modern medical science gives more emphasis on physical body regarding the treatment principle. But in Ayurvedic system of medicine, the principle of treatment is based on Sarir Satva Atma i.e. treatment of physical body, mind & spiritual soul as a whole which has shown more benefit and fulfill the purpose of the society.

It is also mentioned in the classical text:

सतताध्ययनं वादः परतन्त्रावलोकनम् ।

तद्विद्याचार्यसेवा च बुद्धिमेधाकरो गणः ।।

i.e.

In order to broaden the knowledge of medical science, one should study the subject regularly take part in scientific debates & discussions, observe the allied sciences and take training from specialist of those branches.

It is also mentioned by Acharya Charaka that to increase knowledge these should be three phases in medical education system. They are-

- i) Adhyana (to study)
- ii) Adhyapana (to teach)
- iii) Tatvidhsambhasa (to do seminar, symposium, group discussion)

In modern medical education, the main emphasis has been given on basic medical education post graduate medical education and continuing professional medical education for personal development of medical doctors.

In Ayurvedic science it has been asked to learn Astanga Ayurveda first i.e. the basics of medical sciences. And after completing the tasks of basic sciences (both in theory & practical), the upcoming physician should enter the any of the two basic disciplines, so called Atreya school of thought and Dhanvantari school of thought. Thereafter only a physician can well versed in his or her profession. In another context, it has been asked to undergo Adhyayana, Adhyapan & Tatvidhsambhasa. And concept of doing seminar, CME etc. has been vividly discussed in Atreya School of discipline.

Along with the extreme knowledge of theory, practical, experimental surgery, a upcoming doctors should enter into the medical profession.

A student should first procure the knowledge of theory followed by practical under the supervision of guru. Then after he should enter the profession.

So, the great scholars of Ayurveda should remain well attached with students of own institute rather than doing other works. There should be seminar and symposium with participation of students and faculties with collaboration of immanent personalities of relevant different sciences. In the group discussion of symposium topic should be strictly related with Ayurvedic basic principles of treatment of both these two disciplines.

The mushrooming of private Ayurvedic & medical colleges is a great threat for medical education in India as reported by many eminent scholars of India.

## DISCUSSION

### Towards a better system

A range of reforms to improve this sad state of affairs immediately is of utmost importance. The selection and assessment of students need to undergo changes. The aim of the system should be to create socially committed and skilled doctors. Students should be given opportunities to develop their communication skills and leadership abilities. Whole body healing should be given more importance and a holistic approach to health should be encouraged. Problem, based learning, group learning, team work, use of new technology in class rooms and integration of subjects can make a huge impact. Medical research should also be encouraged along with new teaching methods and clinical skills. It is indeed high time that policy makers, physicians and officials take action.

Reforms in the medical education will lead to reforms in the health sector. This will in turn lead to a better society.

### Challenges and recommendations

The challenges in medical education in India (Both Ayurveda and Modern system of Medicines), include the rapid, uneven growth of medical schools, the questionable validity of student selection policies curriculum goals that are weakly forced on health care needs with significant deficiency in the internship year and a lack of faculty development to meet the needs of the expanding number of medical schools. It can be recommended that curriculum redesign should emphasize social & clinical context, including a greater focus on bedside teaching. Improved vertical integration through problem based. Organ system design of the curriculum can

also help address this issue formative student assessment should be added to the predominantly summative examinations with criteria referenced standards, should augment the current multiple choice-dominated assessment design. Internship must be used for skill oriented training & should include meaningful supervision & assessment.

Faculty development programs have been constrained by lack of regular funding. A medical education unit capable of promoting this should be developed in all colleges and it should have the requisite resources for faculty development, research in medical education, curriculum design & implantation, student assessment and program evaluation of institutional education policies & programme.

It is to be believed that reforms should be based on sound educational research, with government agencies held accountable for evidence based regulation where no current evidence exist, experimentation should be encouraged. If reforms are successful the impact of improving Indian medical education will be felt around the world.

### Essentials

1. In the 20<sup>th</sup> century, innovations in medicals education were primary confide to the preclinical curriculum.
2. Health care system worldwide is under increasing pressures that together result in less than optimal educational experiences.
3. One possible solution is to implement a paralld curriculum designed around careful sequences of clinical cases using emerging digital technologies.

In Ayurvedic system along with the theoretical knowledge, BAMS doctors should be given well exposure to hands on training regarding new Ayurvedic & modern medical procedures. So, all the Ayurvedic Colleges should have a state of art level hospital with sufficient numbers of patients in all the department. In all the fundamental clinical departments like Shalya Tantra, Shalakyia Tantra, Prasuti Tantra Evum Stree Roga, Kaumarbhritiya, Swastha Rakshan, sufficient numbers of patients should remain in OPD & IPD to give exposure to interns to cheer up during their pre clinical, clinical and internship period. The laboratories for preclinical paraclinical & clinical department should attain the standard of contemporary medical institutes.

The standard of Ayurvedic education should be maintained strictly in all Ayurvedic institutes or all under prepared Ayurvedic doctors, if passed out of

these institutes will be accepted as quack in the society.

In the PG level the students should be admitted into the disciplines depending upon the qualities of the BAMS doctors both in the theoretical & practical aspects. So, the questions of PG entrance examination should be practical & clinical oriented instead of purely theoretical one. It will bound the aspirants of PG course to understand the medical science rather than memorize it.

Exchange of knowledge between the similar discipline of contemporary medical science between teachers & students are also needed. Exchange of knowledge between reputed medical institutes of entire India i.e. Exchange Programme should be conducted. In post graduate institute quality should increased rather than quantity.

### CONCLUSION

The concept of systematic medical education available now a days worldwide actually correlated from ancient Indian civilization.

Concept of entrance examination, pre-Clinical Para-clinical, clinical teaching along with internship are also corroborated from ancient medical science in Ayurveda.

Teachings & practical in different disciplines of medical sciences are also corroborated from the same science.

Medical ethics, doctor patient relationship, doctor attendance relationship etc. are well explained

in Ayurveda which is the burning problem to present medical generation. The concept of CME workshop & seminar for augmentation of knowledge of physicians are also found in Ayurvedic treatises which are the basic need for medical graduates in India.

So, the different components of medical education are described in Ayurvedic treatises extensively. The problems arises all over India to medical graduation can be solved properly with the principles described in Ayurvedic treatises. There should be proper integration between Ayurvedic & modern medical education system to offer benefit of health sciences to common people.

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