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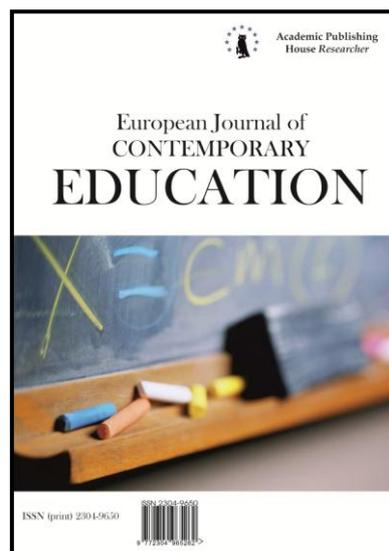
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## Problems and Challenges in Medical Education in India

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### Abstract

As India marches towards an exciting new future of growth and progress, medical education will play pivotal role in crafting a sustained development agenda. The idea of creating a healthy society is no longer a debatable luxury; its significance has been grasped by policy shapers worldwide. In a developing nation like India, medical services play a very important role in the well-being of their citizens and indirectly play a very important part in the economic and overall development of the nation. The medical education system is suffering from misdistribution, traditional curriculum, poor assessment, neglected research and lack of faculty development programmes. 'Vision 2015' has potential for creating substantial change in Indian medical education. A stronger strategic approach will ensure a solid foundation for the improvement in the health status of India. Conventional-theoretical and experimental teaching blended with a system of teaching which is innovative, aiming to develop under-graduates and post-graduates as community-teachers, true-academician/researcher should be emphasized. This paper focuses on the various challenges of medical education in India.

**Keywords:** challenges; medical education; leadership; policy making; development.

### Introduction

In 1947, when India achieved its independence, there were only fifteen medical colleges with an annual admission of about 1000 students the diploma-granting medical schools have been gradually up-graded to degree-granting colleges which are affiliated to various universities.

The All India Institute of Medical Sciences (AIIMS) was established in New Delhi in 1856 as an autonomous institution of national importance under an act of Parliament. The continuing

education of the physician has been receiving great attention from the specialist organizations as well as medical associations in India, as in other advanced countries, to keep the general physician and the specialist abreast of the latest advances in the medical sciences, and thus to improve the standard of medical care in the country.

In 1933, the Medical Council of India was constituted, and the standard of medical education in India reached the minimum level obtained in Great Britain during that period. The Medical Council of India was vested with the powers similar to those enjoyed by the General Medical Council in the United Kingdom. The Medical Council of India recommended the recognition of various medical institutions, conferred medical degrees or diplomas, conducted inspection of the institutions.

During the past fifty centuries of its unrecorded and recorded history, India has always been conscious of the fact that 'The health education of today shall determine the patterns of health care tomorrow'. But in a country as vast as India, with its ever increasing population and a limited range of resources available to tackle its health problems, the solution is formidable indeed. In a country where today at least 400,000 physicians are needed, there are only 90,000 and where more than 10,000 medical teachers are required, most of the medical colleges are working with only forty five percent of their proper teaching personnel.

India has the highest number of medical colleges in the world and still, there is rapid expansion with a trend favouring privatisation. The medical education system is suffering from misdistribution, traditional curriculum, poor assessment, neglected research and lack of faculty development programmes. 'Vision 2015' has potential for creating substantial change in Indian medical education.

### **Flaws in the Selection of Medical Students**

The Indian medical education system, one of the largest in the world produces many physicians who emigrate to the United States, the United Kingdom and several other countries. The quality of these physicians, therefore, has a broad global impact. Medical schools in India have rapidly proliferated in the past 25 years, doubling since 1980. Accreditation by the Medical Council of India (MCI) emphasizes documentation of infrastructure and resources and does not include self study. The number of schools is determined by each state; the allocation of income-generating 'payment seats' in private medical schools, coupled with the high emigration, may be motivating the increase in physician production. Student selection is almost exclusively based on performance in an entrance examination, with a lower cut off score for under presented minorities. Curriculum reform has been advocated for over 30 years, with calls for greater relevance of the curriculum to the needs of the community.

Revised guidelines from the MCI in 1997 supported these changes. The internship year has suffered from lack of supervision and minimal assessment; it is often used predominantly as a time to study for residency entrance examinations. Wider use of the in-depth accreditation process to be used by the National Accreditation and Assessment Council; currently applied to only 10 % of medical schools is recommended; as well as reforms in curriculum, student selection and internship assessment, in addition to stronger faculty-development efforts.

The selection of students in most of the colleges is based on the score obtained in objective type exam (containing multiple choice questions on subjects of Physics, Chemistry and Biology) which are more based on factual information, rather than communication skills and humanistic attitude which are the basic foundations for the doctors. This issue was brought up by the MCI.

It was recommended that merit in the board examinations or competitive tests should be combined with an aptitude test so as to form the criteria for selection.

Admission is based almost entirely on the Pre Medical Test score. Interviews are rarely used in the selection process, and other candidate traits are not significantly considered by most schools. Some points in the scoring system for admission may be awarded for community service, sports and military service. Preparation for Pre Medical Test often involves private coaching classes and disruption of other formal education activities. Individuals from 'socially backward' groups are admitted with a lower cut score. Medical educators in India have questioned the validity of selecting students solely on the basis of a single multiple-choice examination.

Private medical schools are required to have a government-determined proportion of 'merit-seats', for which students are charged about \$400 per year for the first 4 years of which students pay substantially higher tuition (about \$3000-\$6000 per year).

Both 'merit' and 'payment' students in private schools pay the same for the last two years (about \$4000-\$7000). Tuition levels for payment seats are determined by the state and are based on education costs reported by the medical school. In addition, higher fees may be allowed for Non-Resident Indians. The complicated nature of tuition and selection regulations has resulted in frequent litigation.

### **Privatisation of Medical Colleges**

A second key challenge is the increasing number of medical schools in India. New private colleges account for most of the growth in the number of schools. More than half of the growth in the number of new schools has been created in 4 states, namely, Maharashtra, Andhra Pradesh, Tamil Nadu and Karnataka. Although these states rank second, fifth, sixth and ninth respectively, in population, they already have ratios of medical school admissions to population well above the median. The sudden growth of medical schools in the country has also resulted in an increased need for medical teachers, with vacant faculty positions in many medical colleges.

Lack of effective government oversight of private medical education and the private health sector in general has led to many problems, including misdistribution of resources that favours urban areas, and even irrational use of medical equipment and services. Demand for medical education is so high that Indian citizens are attending medical school in Russia and China.

### **Accreditation Standards**

Modest accreditation standards have also facilitated the rapid growth in the number of medical schools. Accreditation of medical colleges by the MCI is compulsory, but the requested information emphasizes documentation of infrastructure and human resources rather than measures of the quality of medical education and outcomes.

### **Faculty Development**

A critical issue is that of strengthening the faculty in Indian medical schools. National Teacher Training Centres (NTTC) were established in 1974 at medical colleges throughout India, including Jawaharlal Institute of Post Graduate Medical Education (JIPMER) in Pondicherry, the Post Graduate Institute in Chandigarh and Maulana Azad Medical College in New Delhi. They were funded by the WHO until 1984, and from then, they were funded by the Government of India until 1999, when funding authorization was not renewed, presumably because of national spending constraints.

### **Flaws in the Quality of Medical Education**

The quality of medical education in India is also marred by the issue of capitation fee in the private sector medical colleges. It allows for admission of non-meritorious students into the medical college run by private sectors, by charging a heavy fee from them under the management quota and Non Resident Indian (NRI) quota. It greatly hampers the quality of input into the medical colleges and impairs the quality of medical services in the later period. The allocation of fixed percent of seats in the Government medical colleges to students belonging to a certain caste in society also raises similar type of problem.

Considering the seriousness of damage that can be caused by the slightest of mistake by the medical personnel, the quality of medical service cannot be compromised at any level. So this issue has to be seriously looked into to seek out some remedial measures to maintain a high standard of medical education in India.

### **Curriculum**

The curriculum of medical education in India needs to be revised. No stress is laid on subjects like Medical Ethics and Behavioural Sciences. The students thence fail to develop a compassionate doctor-patient relationship. Compassionate view by the doctor certainly improves the quality of medical service, and also helps to reduce the quantity of increasing medico-legal suits filed against physicians in long-term. No impetus is laid on research

activities in under-graduation course of MBBS in India. MCI needs to pay attention to this, since research is the backbone of development of medicine. They should modify policies and curriculum, ensuring that medical schools in India produce physicians that are not only good clinicians, but also great innovative scientists.

### **Neglected Research Activities**

MCI can make some amendments to selection of students for post graduation courses, whereby students with active interest in research and publications in indexed journals be given a little extra advantage of few marks. This will certainly increase the research acumen in the students and help develop scientist-doctors who in later life can easily gather and analyze data from clinics and thus contribute to evidence-based medicine.

The selection of students for the post graduate courses also faces the same problem as that for selection of students for graduate studies. The number of seats for post graduation courses is very limited; the students pay lesser attention on practical training and more emphasis on the theoretical knowledge to score high in the post-graduate entrance exams. The result is that students fail to acquire the clinical skills, leadership qualities and human resource management to their maximum potential, thus affecting the quality of doctors being produced by the medical colleges in India.

### **Shortage of Clinical Materials**

The acquisition of clinical skill requires constant and continuous availability of patients for examination. Unfortunately, since treatment at several medical colleges, particularly in the private sector, which now constitute a majority is not subsidized or free, the patient-load is poor with bed occupancy being far less than 50 %. The only method to monitor this would be by conducting sudden and unannounced inspections, which do not appear logically feasible for so many colleges. To some extent, the deficiency in patient material can be overcome by having good clinical laboratories equipped with modern teaching-learning aids and manikins. However, these can supplement but not supplant clinical teaching. Besides, the cost of establishing such laboratories is prohibitive and there is no incentive for colleges to opt for these<sup>15</sup>.

### **Role of Universities and Colleges**

In the past years, the number of institutions with deemed university status has increased. However, these institutions merely serve as venues for conducting the courses or the examinations. There are no innovations in education and the contribution to research is practically nil. Internal faculty development activities are minimal. Most medical college teachers remain untrained in modern teaching-learning methods.

### **Role of the Regulator**

The MCI as the sole regulatory agency has by far the most important role in controlling the quality of medical education in the country. For various reasons, it has failed to play this role effectively. One of the reasons for the skewed distribution of medical colleges in the country is the archaic regulations of the MCI, which add considerably to the cost of setting up of a medical college. The regulation requiring a fully residential medical institution in a unitary campus pushes new medical colleges away from large towns and cities to semi-urban and remote areas and the outskirts of cities where the patient load is minimal, thus seriously compromising teaching-learning activities. Several archaic instruments still form part of the mandatory list of equipments for a new medical college. This list needs to be re-examined and rationalized on the basis of modern requirements.

When the MCI conducts simultaneous inspections of all medical colleges run by a state or by a private organization, the practice of sharing and transfer of human and material resources between different colleges under the same government prior to inspections will continue. MCI inspections occur annually during the first 5 years after the establishment of a medical college, and thereafter they occur at regular intervals. Thus, there is no regular monitoring of standards of admission, training, teaching-learning activities, evaluation, facilities and teacher adequacy. Everything is left to the universities or individual institutions. This leads to a wide disparity in standards.

### **Role of Courts**

Another factor which is increasingly impacting medical education is the role of courts in the process of awarding recognition to new medical colleges. The MCI has been compelled to make several re-inspections of specific colleges after the last date because of directions from the government or courts.

MCI has been putting a lot of efforts to improve the quality of medical education in India. But we believe that still a lot has to be done to further the cause. Strict measures should be adopted to regulate the functioning and management of private medical colleges and evaluation for renewal for recognition of medical colleges should be done on a more strict and regular basis. We believe that MCI should raise the curriculum more frequently to update it and keep it at pace with the advancements in the field of medicine to upgrade the standard of medical education.

### **Reforms in medical education in India**

Medical education in India has experienced many challenges over the last few years. The countries of South-east Asia have taken initiative with the help and support of international organizations (WHO, World Bank, Overseas Development Administration) to reorient their medical education in order to meet the emerging community needs.

The profile of the doctor has been refashioned, the curricula has been reviewed with an increased use of community as learning resource, innovative approaches to medical education, such as problem-based learning and community-oriented education have been adopted, greater flexibility has been introduced into the educational programs; teachers' training on medical education has been initiated; and quality assurance, accreditation and curriculum evaluation mechanisms are being implanted. Political commitment and leadership in the arena of medical education is urgently and acutely needed with provision of allocation of enough funds and private hospitals.

Medical schools should have policies for recruitment of quality teaching staff, staff development and review, promotion and posting. Medical colleges should have continuous and inbuilt curriculum evaluation mechanism to receive feedback from the Stakeholders and to bring changes accordingly. In addition to social needs, medical schools need to continuously adapt to changes in scientific, educational and health practices.

### **Vision 2015**

#### **Under-graduate Medical Education**

The proposed new under-graduate medical programme is designed to create an 'Indian Medical Graduate'. The total duration of the course will remain the same (5 years). However; the course will be reconstructed to enable the student to be more participatory and competent. The First MBBS will include a two month foundation element after admission.

To facilitate horizontal and vertical integration between disciplines, exposure to basic and laboratory sciences would be maximized in the first year. There would be increased clinical exposure. Introduction of case scenarios for classroom discussion/case-based learning would be emphasized. Contemporary education technologies will also be incorporated. Clinical training will focus on commonly presented problems. A mandatory and desirable comprehensive list of skills would be recommended and certification of skills would be necessary before licensure.

#### **Entry Criteria for Post-graduate Courses**

Students would be ranked based on the NEET-PG exit test at the completion of Final MBBS examination and for achieving their licentiate; they need to pass a skill-based examination at the completion of internship. There will be additional weighing (5% or more) if the candidate has additionally completed two years of rural service.

#### **Post-graduate Medical Education**

The proposed framework suggests the introduction of a 2-year Master of Medicine (M.Med) programme as the first level of specialists with a focus on skill development and community care. Further post-graduate specialisation programmes will allow for research development and academia. After the M.Med, the graduates will be able to pursue a doctoral degree; Doctor of Medicine (MD) or Master of Surgery (MS) or other dual degree programmes like PhD.

### **Increasing Faculty and Promoting Research**

Efforts would be made to increase faculty numbers and several innovative approaches would need to be explored. All newly recruited teachers would mandatorily undergo a course in modern medical education in approved centres and would mandatorily undergo a course in Research Methodology.

In areas of critical shortage, the problem of shortage of teachers can be dealt by relaxing the eligibility criteria for teachers, special weight age and incentives for teachers, employing retired teachers on a part-time basis as a short-term measure, sharing of faculty between adjacent medical colleges in disciplines with critical shortage.

In the interest of promoting research in medical colleges, the MCI should seriously consider placing a person with PhD degree at a higher rank or allowing such a person to join as an Associate Professor instead of as an Assistant Professor. In addition, The MCI should insist that medical colleges show a minimum number of papers published annually and indexed in Scopus/Science Citation Index / Pubmed or other databases to maintain recognition.

### **Assessment**

The MCI has the intention to conduct a licentiate examination after internship completion to qualify for Indian Medical Graduate status (IMG). To ensure uniformity and standardisation across the country, a National Eligibility Entrance Examination (NEET) is recommended.

### **Model Systems**

Considerable progress needs to be made in medical education pedagogy. Schools need to incorporate problem-based and team-learning, group discussions and learning through stimulation. The curricula also need to include inter-professional and community-based education. American medical schools are already integrating Complementary and Alternative medicine (CAM).

### **Role of Professional Organizations and Non Government Organizations (NGOs)**

In India, there are many professional organizations of all subjects involved in CME programs, hands on training workshops, fellowship. These courses cover basics and advanced training with lectures and live demonstration.

### **Conclusion**

Medical education should aim to progress by training compassionate, professionally excellent and ethically sound individuals who will go out as leaders of health teams and healing communities. Their service may be in preventive, curative, rehabilitative or palliative aspects of health care in education or research. The present Medical Education system should be able to produce health professionals who are efficient in providing quality health care in remote corners of rural India, to treating complex and rare illnesses by using the latest medical technology. Colleges must be able to provide a glimpse of all these aspects to students.

To promote innovation and to meet the global standards in medical education, India needs to substantially re-think and re-evaluate all aspects of its programmes. This can only be achieved by a concerted and combined effort between all those involved in medical education. Innovation should also target to develop communication skill and public dealing. A stronger strategic approach will ensure a solid foundation for the improvement in the health status of India. Conventional-theoretical and experimental teaching blended with a system of teaching which is innovative, aiming to develop under-graduates and post-graduates as community-teachers, true-academician/researcher should be emphasized. Medical education should be integrated, problem-based and evidence-based. Teaching

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