

Research Article

Problems of medical education in India

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ABSTRACT

Background: Indian medical education system is one of the largest in the world. Medical colleges in India have rapidly proliferated in the past 25 years, doubling since 1980 for a current total of 422, each associated with university, producing 52565 MBBS doctors each year. Medical education is facing problems and challenges for quality education in the countries. Article is an attempt to identify and analyze the current problems and challenges of medical education in India.

Methods: Cross-sectional data collected over a period of three months from September 2015 to December 2015 from various sources including medical colleges regarding problems of medical education have been analysed and discussed in details to find out the possible solutions and actions required at regulatory authority including Government, institutions, administration, faculty and medical students.

Results: To achieve doctor- patient ratio, Indian Government is emphasizing to increase admission and training of medical students. One third of these doctors leave India every year for residency training and/or practice abroad. The quality of Indian medical education and of physicians it produces therefore has implications for entire world. An exploding number of medical colleges; a skewed distribution of these around the country; devaluation of merit in admission, particularly in private institutions; increasing capitation fees; admission of suboptimal quality of students with poor motivation; an alarming shortage of medical teachers, with those who exist being untrained in modern teaching learning technology; great shortage of patients/ clinical materials in many institutions; outdated curriculum; a less than desirable evaluation system and poor internship supervision all contribute to this downhill trend. Accreditation by Medical Council of India (MCI) emphasizes documentation of infrastructures and resources with doubtful assessment system.

Conclusions: Discussion of all medical problems and challenges faced in medical education required to be addressed at various levels. Roles of Government, accreditation system, institutions and faculty, legal issues including selection of medical students are required to address the problems.

Keywords: Medical education, Problems, Accreditation, Curriculum

INTRODUCTION

Reorientation of Medical Education (ROME) scheme was launched in 1977 to link community based facilities with medical colleges. National health policy (1983) provided directions to reconstruct the curriculum to train undergraduate medical students as primary care

physicians. Bajaj committee report (1986) emphasized on the need of a Medical and Health Commission.

Medical Council of India (MCI), a governmental agency under the Ministry of Health and Family Welfare was established in 1934. Indian Medical Council act (1956) is operational today which was amended in 1956, 1964, 1993 and 2001. MCI being a statutory recommending

body, it stipulates the rules for medical school curriculum, structure and content. In 1997, Government of India on recommendation of MCI promulgated the “Regulations on Graduate Medical Education” through a Gazette notification.¹ In 2011, the Board of Governors of MCI had announced a fresh set of curricular changes entitled ‘Vision 2015’ to re-look at the various aspects of medical education, training and practice for the country.²

Medical education is facing problems and challenges for quality education in the countries. Article is an attempt to identify and analyze the current problems and challenges of medical education in India.

METHODS

Cross-sectional data collected over a period of three months from September 2015 to December 2015 from various sources including medical colleges regarding problems of medical education have been analysed and discussed in details to find out the possible solutions and actions required at regulatory authority including Government, institutions, administration, faculty and medical students.

RESULTS

Rapid and uneven growth of medical colleges

Number of medical colleges has more than doubled during last 25 years. New private medical colleges account for most of the growth (Table 1 and Figure 1).

Proliferation of private medical colleges may have aimed at least on two rewarding issues for them

- An export oriented market for doctors
- Finance rewards offered by high demand of medical education coupled with high tuition /capitation fees.

Medical Colleges in India

Table 1: Numbers of medical colleges and seats in India (2015).

Category	Total medical colleges	MBBS seats	MD/MS/ diploma seats
Government medical college	200	27180	14208
Private medical college	212	25385	9495
Total	412	52565	23703

Regional imbalance

There is one medical college per a population of 11.5 million in Bihar and 9.5 million in UP. Whereas in Kerala and Karnataka, there is one medical college per 1.5

million population. Pondicherry with total population of 900,000 has 8 medical colleges.

Table 2: Growth of medical colleges in India since independence.

Medical colleges	Year	1947	1965	1980	1990	2006	2015
Total No.		23	86	112	143	262	412
Government		23	83	72	109	131	200
Private		-	3	10	47	131	212

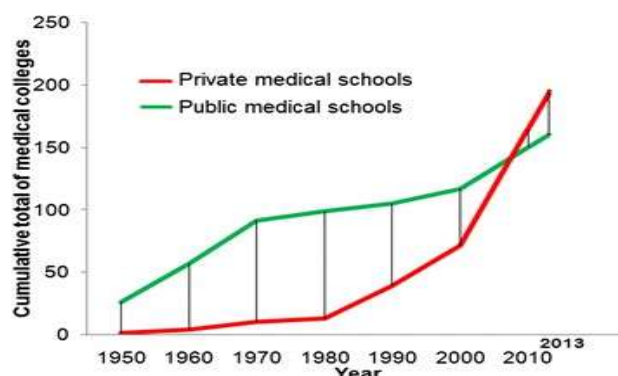


Figure 1: Growth of private and public medical colleges in India since 1950 onward.

Accreditation standards

Accreditation by MCI is compulsory but requested information emphasizes documentation of infrastructure and human resources (head counting) rather than measures of quality of medical education and outcomes. There is no monitoring of standard of admission, training, teaching-learning activities, evaluation, facilities & teachers adequacy, thus leading to wide disparity in standard. Although voluntary accreditation is offered by National Assessment & Accreditation Council (NAAC) for additional quality status but less than 10% medical colleges have been accredited by NAAC.³

Selection of medical students

Validity of student selection policies for private medical college is questionable and prove devaluation of merit in admissions particularly in private med colleges due to increasing capitation fees and admission of suboptimal quality of students with poor motivation. While in public sector medical colleges, students are accepted to their preferred medical college based on PMT ranking.

Shortage of medical teachers

There is 30-40% shortage of medical teachers. In last 3 years, numbers of medical colleges has gone up to 38, thus requiring 4000 more teachers additional to already shortage of medical teachers. Thus resulting in unhealthy practices at time of MCI inspection to fulfil prescribed norms and relaxing in eligibility criteria/ quality of

teachers e.g. retirement age, DNB, ESI doctors, Russia/China qualified doctors etc.⁴

Poor internship supervision

Internship training supposed to be for skill development for them, is mostly devoted to preparation and coaching for PG entrance examination.

Poor faculty development

Internal faculty development activities are minimal, reliance being placed in NTTC & regional medical education units. Most medical college teachers remain untrained in modern teaching –learning technology. There is no innovations in education and contribution to research are almost nil (Table 3).

Table 3: Numbers of papers indexed (citation added) in PubMed in 5 years block period.

Period	World	India (% of world)
1991-1995	392354	12079 (3.07%)
1996-2000	442000	13282 (3.00%)
2001-2005	606000	26016 (4.29%)
2006-2010	699420	51815 (7.40%)
2011-2015	806326	49219(5.49%)

Curriculum is outdated

Medical education has a history of tinkering with the curriculum endlessly without realizing larger educational objectives. Medical Schools have yet to create a true learner- centered environment that makes active, self-directed learning under the close tutelage of interested faculty members.

Shortage of clinical material

Since the treatment in most private medical college is costly & not subsidized, the patient load is poor with bed occupancy less than 50%, thus depriving medical students for constant & continuous availability of patients for exam & learning skills. Cost of establishing good clinical lab and other equipment is prohibitive and there is no incentive for medical colleges to opt for these.

A less desirable evaluation system

The existing evaluation system has become obsolete and evaluates only the memory power and gives no room for an objective assessment of knowledge and skills. With the introduction of choice-based credit system, continuous evaluation has become the choice of evaluation in the Arts and Science Colleges. In medical education also, we have to evolve the indicators for a continuous objective observation and assessment of each student by his own faculty instead of conducting summative evaluation at specific intervals as is followed

now.⁵ Instead of using patients as clinical material for evaluation of clinical competencies of medical students, time is ripe for us to bring in healthy role players and simulators to the maximum extent possible and minimize the use of actual patients for educational purpose. OSCE and OSPE should be made integral components of clinical and practical exams for various subjects.⁶

Research activities

Most of the Medical colleges appendages ‘research institution’ added to their name due to administrative reasons but research activities are practically negligible as evident in Table 3. About 57% of Indian medical institution do not have single publication in last 10 years which included Maharashtra (67%), Karnataka (63%), Andhra Pradesh (67%), Tamil Nadu (74%) and Kerala (84%). Most of the publication pertains to three medical institutions i.e. AIIMS, PGI Chandigarh and CMC Vellore.⁷

DISCUSSION

Indian medical education system is one of the largest in the world. Medical colleges in India have rapidly proliferated in the past 25 years, doubling since 1980 for a current total of 422, each associated with university, producing 52565 MBBS doctors each year. Medical education is facing problems and challenges for quality education in the countries. Sudden growth of medical colleges resulted increased need of medical teachers, with vacant faculty position in many medical colleges. MCI Regulations were revised for undergraduate medical education in 1997 to promote the following:⁸

- Small group learning
- Greater emphasis on health and community
- Problem based learning approaches
- Horizontal and vertical integration
- Training & Assessment

The possible solutions and actions required at regulatory authority including Government, institutions, administration, faculty and medical students.

To achieve doctor- patient ratio, Indian government is emphasizing to increase admission and training of medical students. One third of these doctors leave India every year for residency training and/or practice abroad. The quality of Indian medical education and of physicians it produces therefore has implications for entire world. An exploding number of medical colleges and a skewed distribution of these around the country resulted in major regional imbalance. Five South Western states (Maharashtra, Karnataka, Kerala, AP, TN) with country's 31% population account for 58% of medical colleges in India (public + private).⁹ Rural Service criteria for entry in postgraduate courses like Accreditation & ranking of institute imparting PG Medical Education, Increasing Faculty Pool: Efforts

would be made for increasing the faculty pool and several innovative approaches would need to be explored.

Devaluation of merit in admission, particularly in private institutions; increasing capitation fees; admission of suboptimal quality of students with poor motivation; Although some studies have reported that there was little difference in background characteristics, motives for entering medicine or career aspirations between medical students in from public and private sector institutions⁴. Complicated nature of tuition & selection regulations has resulted in frequent litigation. Admission of socially backward group is admitted with lower cut off score to increase their representation but they also hardly served their locality.¹⁰

An alarming shortage of medical teachers, with those who exist being untrained in modern teaching learning technology; great shortage of patients/ clinical materials in many institutions are challenges. Microsoft founder Bill Gates predicted that TV will be shut in 10 years. In future, there will be elimination of textbook or books altogether, because we will have tablet/ smartphone connected to internet that will carry with you all the time.¹¹

Curriculum is outdated and insensitive to modern concept of the process of teaching –learning, rigid and discourages innovation.^{12,13} “The doctors of tomorrow with today’s curriculum and yesterday’s teaching – learning methods”.

A less than desirable evaluation system and poor internship supervision all contribute to this downhill trend. Accreditation by Medical Council of India (MCI) emphasizes documentation of infrastructures and resources with doubtful assessment system.

Research work is limited by Indian as compared to medical professional of developed countries more so quality of publication is also questionable by public & private medical institutions.¹⁴ Only 25 (4.3%) of the institutions produced more than 100 papers a year but their contribution was 40.3% of the country's total research output. In comparison, the annual research output of the Massachusetts General Hospital was 4600 and the Mayo Clinic 3700.^{15,16} Albert Einstein propagated “I never try to teach my students anything. I only try to create an environment where they can learn”. As deliberated by some workers the present doctor population ratio of 1:1700 in India, it is possible to achieve the doctor population ratio to 1:1000 by the year 2031 as the MCI is targeting.¹⁷

CONCLUSION

Indian medical education system is one of the largest in the world. Medical colleges in India have rapidly proliferated in the past 25 years, doubling since 1980 for a current total of 422, each associated with university,

producing 52565 MBBS doctors each year. Medical education is facing problems and challenges for quality education in the countries.

To achieve higher standards of medical education, our goal should be to re-evaluate each and every aspect; create an efficient accreditation system; promote an equal distribution of resources, redesign curricula with stricter implementation and improved assessment methodologies; all of which will generate efficient medical graduates and consequently better health care delivery, and resulting in desired change within the system. This will require sincere and useful role of Government at national and state levels, universities, institutions, faculty and students. The menace posed by the growing merchandisation of medical education has to be warded off and efforts should be made to ensure maintenance of standards and check the unplanned growth of substandard medical colleges.

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