

Medical education in India - An overview

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The path leading to the history of medical education in India is very interesting journey. Long before the world started talking about Harvard and Cambridge, when Royal college of Surgeons was unheard of. India had given birth to a civilization that gave immense importance to medical sciences as well as doctors. The country has produced a number of competent physicians, gurukuls of vedic period provided training in medical science. However it was only after the arrival of British, that modern medicine was introduced [1].

The medical college of the modern medicine materialized way back in the year of 1835 in Madras. At the time of independence, India had 19 Medical Schools from which 1,200 doctors graduated every year [2]. Today India has 412 medical colleges in the country that offers 52715 MBBS seats, thus making India the largest creators of doctor in the world. In comparison the USA only produces 18000 doctors in a year [3-4]. Currently doctor population ratio in India is 1:1700 as compared to world average of 1.5:1000. The aim of MCI is to achieve the target doctor population ratio of 1:1000 by the year 2031 [2].

It is as often repeated criticism that our medical colleges are producing graduates who are not well equipped to tackle the health care needs of the society. The situation is no different in other parts of south East Asia and much like it was hundred years ago in USA [5]. While the graduates generally possesses reasonably sound knowledge of medical science they are often found deficient in the performance of clinical skills and problem solving which form the core of clinical competence [6]. India is one of the countries where there is high demand for medical seats.

More than six lakh students write the pre medical entrance tests every year; 45000 students are fortunate enough to secure seats. It has often been pointed out that the method of selection of doctors-to-be is highly defective. Though the exam system has been changing from year to year, the fundamental exam pattern has remained more or less the same. Aspirants are screened through these MCQs. Hence, the medical education system in India presently allows anyone who can memorize and store a large amount of information to be a doctor. Competency of medical students in analyzed in foreign countries using OSCEs (Objective Structured Clinical Exams) whereas in India prominence is given to theoretical knowledge than clinical skills. The traditional long case-short case system which India follows requires the students to learn a lot of facts rather than gain clinical experience [1].

We follow Building Block approach of education, where subjects are taught as separate entities which lead to unnecessary repetition, disjointed approach to teaching, creating confusion in the students mind [6-7]. Traditionally medical curriculum stuffed with large body of knowledge regarding basic sciences and clinical disciplines which over burdens students with information and makes it difficult to apply in patient care. Are the graduate doctors well trained to perform their clinical responsibilities? Are they aware of their ethical moral and legal responsibilities? The answer to these questions cannot be emphatic, affirmative [7]. The state medical education in India presents a scenario marked by rhetoric and wishful thinking rather than concrete steps in right direction. Thus the

search for a need based curriculum is not new. Ironically the need has been felt for ages both by academicians and regulatory bodies, but the curriculum have not really changed [7]. There should be a continuous mechanism to update the curriculum. Even at schools there is a revision of curriculum every 5 years, however no such revision happened in medical curriculum for the past 4 decades [2]. While the commercialization of the medical profession is cited as a common reason for dilution of the quality, doubts have been raised regarding the quality of the teaching and training imparted to the students [6]. There are areas in curriculum, viz, medical ethics, behavioral science, communication skills, managerial skills which we don't receive due attention in existing curriculum, as they should do [8-9].

The latest MCI guidelines stipulate that undergraduate medical education should be oriented towards health and community. Students training must aim at inculcating scientific temper, logical and scientific reasoning clarity of expression and ability to gather and analyze information [10].

In the traditional curricula, the stress has been laid on the acquisition of knowledge as against the development of skill. More attention needs to be given to the development of various skills, viz., problem-solving skills, psychomotor or performance skills, attitudinal and communication skills [6]. As a part of the medical educational policy, focus should be on the practical and operational aspects of use of existing knowledge. In order to grapple with this problem it is essential to define the core content which every student 'must learn', the things that are 'useful to learn' and 'nice to learn' but do not need the same emphasis [6].

The development of the skills, needs to be strengthened by introducing a clinical clerkship (where students actively take part in management of patients) and reinforce during internship. It is commonly observed that, the period of internship is not utilized to develop skills rather used for preparation of PG entrance examination which can be overcome by changing the schedule of the examinations and making them test higher knowledge and skills than mere recall of facts. [6]. The assessment should predominantly be

based on the core of curriculum and should be criterion referenced that is the performance of the students is assessed against a standard criterion and not just in comparison to others [6]. Another issue is selection of student for medical courses has been based on marks obtained by students on an MCQs, whose validity is highly doubtful and which are usually directed towards testing of mere of recall of facts [6]. Hence, the medical education system in India presently allows anyone who can memorize and store a large amount of information to be doctor [1]. According to MCI aptitude test when combined with competitive tests should form the criteria for the selection [6].

Teachers of medical students rarely receive formal training in teaching, education, or assessment of learners. The assumption is that a doctor with a post graduate medical qualification automatically qualifies as a medical teacher. As suggested by MCI, development of medical education units in all medical colleges will go a long way in the development of teaching skills amongst their faculty [6]. The MCI has recommended both horizontal (anatomy, physiology and biochemistry) and vertical integration (anatomy with surgery) to be introduced throughout the curriculum [7]. Close to the concept of integrations the philosophy of problem based learning is Problem based learning (PBL), introduced in many medical schools outside India. Problem based learning is a learner centered education method [7]. PBL is designed to help the students learn the sciences basic to medicine and at the same time, they develop reasoning process used by physicians and other health professionals in their clinical practice [7].

The evidence based medicine follows that the practitioners/ consultants/ postgraduate students, when faced with any problem/dilemma in the clinical context of a patient, should be able to perform a literature search, identify the literature evidence available on the clinical condition, critically evaluate it, and determine the 'Best Evidence' to diagnose/ treat/ manage the patient [7]. Continuing Medical Education provides platform for updating the knowledge after the

completion of the formal training. The need for CME has been well documented and is now widely accepted. Rounds, educational meetings, conferences, programs, seminars, lectures, workshops and symposia are examples of such educational activities. Interactive techniques such as case discussion role-play or hands on practice sessions are generally more effective [7]. 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. Medical research with New teaching methods like Integrated teaching, Problem based learning, Evidence Based Medicine, Continuing Medical Education and use of new technology in class rooms will make a huge impact in future.

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