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Indian Journal of Clinical and Experimental Ophthalmology

Journal homepage: www.ijceo.org

Guest Editorial

Indian medical care, the contingent paradox: An eye opener for medical educators

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ARTICLE INFO

Article history:

Received 23-12-2021

Accepted 27-12-2021

Available online 03-01-2022

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India has a doctor- population ratio of 1:1456, lower than the ideal 1:1000 recommended by WHO. India has one of the largest number of medical colleges produces more than 80,000 MBBS graduates every year. But majority of the population in India do not have access to basic health care facilities. This is indeed paradoxical ! Also, the quality of health care available in most of the state run hospitals is far from satisfactory. What is going wrong?

Albert Einstein said that education is not the learning of facts but the training of the mind to think. In Indian education system memory based recall has been the single most determinant eligibility criteria for getting admitted to medical school, by clearing entrance tests. Many revisions in the formats of the entrance tests to include applied and analytical abilities have indeed made these exams extremely competitive & difficult.

1. Medical Education

Classically, medical students were taught to follow established treatment guidelines, standard procedures globally. Textbooks written by original researchers, mostly from the Western world were followed by Indian students, until recent times. Over the last two or three decades, text books and manuals by indigenous authors have become popular. The concern is, whether the medical text books have incorporated newer teaching methods? Have they

been standardized ? Have they adapted to current Indian scenario?, etc. We have to critically analyze these factors and advise our undergraduate students.

In the middle of 20th century, Educators of the developed countries held a series of conferences to plan guidelines to design curricula and assessment, pioneered by Jewish American psychologist Benjamin Samuel Bloom. They classified Educational objectives in the Taxonomy of Educational Objectives: The Classification of Educational Goals.¹

In 1987, Milan Zeleny mapped the elements of knowledge hierarchy as Know – nothing, Know – what, Know – how & Know - why.² Application of this helps in blending of the DIKW pyramid to medical education with the ultimate goal of efficient patient care. Zeleny's description of knowledge as Action and not description of action is very relevant in medical education.

This enabled educationalists to move away from the teacher centric unidirectional curriculum delivery towards interactive student centric learning methods which helped the students in developing requisite skills. For all this to percolate into medical education, it has taken almost half a century.

2. What is expected in medical teaching ?

Knowledge in medical practice must enable the doctor with the wisdom of know HOW to do (procedural information), WHEN to do (applied knowledge diagnostic

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/ interventional). These are profound qualities and require hands-on experience. Mere knowledge of a procedure is not sufficient. Actually performing any clinical procedure involves psychomotor domain, which is an orchestra of physical movements & coordination. This requires confluence of motor skills, application of knowledge and analytical skills.³

In essence, medical curriculum which ultimately implies patient care, must follow the wisdom hierarchy as explained in DIKW pyramid – also known as information pyramid / hierarchy refers to the structural and /or functional relationship between information (data), knowledge (information) and wisdom (knowledge).⁴ Probably the medical education concentrated on the first two components only, which has resulted in the decay

Clinical diagnostic skills require integration of knowledge and quick decision making capacity in a limited time frame. All the cases described in any branch of medicine cannot be taught or discussed in a class room scenario at medical school. What is the right thing to do varies in each clinical scenario and is unique for each patient and patient. The heirarchical information - DIKW pyramid can be effectively integrated in to medical education. The clinical wisdom – where an instinctive quality with an ability to make sound judgement without much thought, is the quality desired in every clinician. This cannot be taught in the conventional way but requires a multidimensional, grass root level immersive teaching learning experience for students in medical school. This will bring them closer to real life experience and equip them better.

In Indian medical colleges, skill and application were taught for undergraduates in a ritualistic manner, they were not assessed universally. This has made many doctors incompetent in basic skills and resulted in sub optimal standard of care. Also, Research has never been in the forefront of Indian medical education. Medical records and data collection had not been a part of the curriculum and hence the Indian medical graduates are often unaware of the burning health issues and the government policies regarding them. Poor Doctor –patient ratio, inefficient logistical management, monopoly of private sector in healthcare delivery, etc. have compounded the problem. Now, the time for introspection & transition has come. Government of India has introduced & allocated funds for Ayushman Bharat scheme and Pradhan MantriJan Arogya Yojana. There is immense hope & expectation to improve the standard of health care training and delivery.

The new curriculum for an Indian medical graduate emphasizes on competency building. Each doctor should be able to perform basic clinical tasks with efficiency and ease. These can graded and taught in the form of entrustable Professional responsibilities depending upon the level of the training. Ophthalmology training has been following conventional methods which differ from institution to

institution. Training the undergraduate for competencies in ophthalmology is a humongous challenge as we first need to ascertain how much is Not Too Much ! Cataract, glaucoma, cornea, refractive errors, common eye injuries & infections need to be taught to undergraduates. They must be in a position to suspect or diagnose and initiate care before referral. A questionnaire based study done in a medical college in South India revealed that the diagnosis of ophthalmic emergencies & management was not up to the mark.

Unlike the old curriculum which focused on knowledge, was organized on systems and disciplines, was time-based, and had a summative evaluation, competency-based learning emphasizes the skills required for good medical practice. It focuses on learning the critical competencies needed for success in clinical practice and provides standards and framework for measuring performance. The basic feature of any competency-based training is that it measures learning that occurs in a training program, rather than time. It allows for self, objective, and multisource assessments. The approach has been used for training in diverse medical specialties.

We, the teachers of ophthalmology are at crossroads. We have to face the challenge to revive and revamp content and quality of Ophthalmology curriculum to competency building. It is imperative to optimally utilize the limited curricular time allotted to Ophthalmology for competency building using novel teaching & learning tools and practices. This is expected to improve the quality of eye care deliver and patient outcomes. There is an imminent need to practice universally acceptable educational strategies for effective learning of ophthalmology.

3. Transition of Medical Education in the Last Few Decades

In the last 20 years, the number of private medical colleges have seen more than 3 fold increase, while the public / government run colleges have more than doubled. In the last 5 years more than 100 medical colleges have been sanctioned and the number of MBBS seats increased up to 250. India produces more than 60,000 MBBS graduates every year now, many of them go overseas for further education and jobs. This has led to many discrepancies and raised doubts regarding the quality. Some of the concerns are, the lack of standardization, deficiencies in infrastructure, dedicated faculty and many more factors. The government of India has woken up to the serious gaps in the health care delivery system and has taken radical restructuring steps. In August 2019 The National Medical Commission bill was passed aimed to boost transparency, accountability & quality in government medical education. National Medical Commission replaces the Medical Council of India as the regulatory body for medical education. The NMC Bill of 2019 has mandated

NEET as the sole admission eligibility test in India. This is a part of the much required multi faceted revamping.

Another major step in the reformation has been the introduction of new curriculum called Competency Based Medical Education which is learner centric and integrated in approach - Integration of pre, para clinical subjects with clinical subjects. With the introduction of Formative assessments in medical education, assessments have become more real time, work place based with the aim of moving away from the summative assessment.

The new syllabus identifies the importance of feedback, inculcates attitude, communication & ethics so that the Indian medical graduate shall have the desired professional competencies and meet the health needs of the society and also be on par with the current international standards. The aim is to provide quality public healthcare at affordable cost.

4. The Way Ahead

Peter Hilton, a famous British mathematician, said that Adaptability to change itself is the hallmark of successful education. The increased number of medical colleges with better training facilities itself does not ensure higher quality of Indian medical graduates. The path ahead the medical educators is to seamlessly adapt to student centric teaching of competencies with existing logistics, which is easier said than done. A radical change in teaching & assessment

methods with the incorporation of technology is the need of the hour.

The competency building culture calls for an Indian doctor, including all of us, to be a lifelong learner. We have to unlearn archaic teaching practices, learn the interactive learner centric teaching methods to produce quality health care professionals. This the imminent need is to upgrade the sub optimal quality health care delivery systems in India to one that is of high quality, ethical and viable.

5. Conflict of Interest

None.

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Cite this article: Ramachandra S. Indian medical care, the contingent paradox: An eye opener for medical educators. *Indian J Clin Exp Ophthalmol* 2021;7(4):608-611.

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