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REVIEW PAPER

Evolution of medical education in India: some miles travelled, many miles to go

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ABSTRACT

The earliest known stream of medicine emerged out of magico-religious sources, and knowledge was imparted through a gurukul system within ashrams. With the advent of colonialism, the first steps towards science-based western medicine were taken. Undoubtedly, post-independence, with the influence of western ideas, several advances have been made towards a seemingly modern medical education model. Yet, a tendency to blindly emulate admission and teaching models from other socio-cultural contexts has caused some deep loopholes in the Indian medical education model. While on the one hand privatization of medical education has rapidly shifted the focus from quality education to profit-oriented business expansions; on the other, an obsession with statistical success has diluted the need for meaningful teaching and learning. To add to it, even regulatory practices such as MCI inspections are carried out as mechanical exercises which fail to ensure any actual qualitative checks on medical institutions. The objective of this piece is to outline the most glaring loopholes of the modern-day Indian medical education system, and emphasize the need for competency-based, skill-oriented teaching and learning to ensure that the future of healthcare is not defined by mere commercial and statistical success.

Keywords: *modern medicine, privatization of medicine, medical education.*

VEDIC GURUKULS TO MODERN ALLOPATHY

From its emergence in the Vedic Ages (1500-600 BCE) as a magico-religious practice, medicine has trodden a long, convoluted path to reach its present formal, institutionalized, educational form. Ayurveda evolved as one of the earliest offshoots of traditional medicine which eventually transformed into a highly systematic science, both taught and practised. Even while knowledge was being imparted formally, in the initial years, it was taught under the Gurukul system in ashrams and on caste-lines.[1] The Charaka Samhita asserted that it is training, not birth that makes a vaidya. Contemporaneously, other streams of medicine like Unani also developed under the influence of Arabic and Chinese traditions. The modern allopathic branch of medicine, however, developed once colonial rulers like the Portuguese and British came to India from the 16th century onwards.[2]

The colonial influence made an interesting cocktail of observational eastern traditional medicine and science-based western medicine. Initially, the practice of western medicine was largely confined to their military personnel. In 1822, the Native Medical Institution was established in Calcutta to provide medical education to Indians. In 1826, an Indian Medical School was started in South Bombay to teach western medicine but survived only six years. The Calcutta Medical College was established in 1835 to train Indian students "in strict accordance with the model adopted in Europe through the medium of English language." Successful candidates were called native doctors and allowed to enter public service with initial pay of Rs.30 per month.[2]

Inevitably, a clash of culture emerged between traditional medicine and western medicine with the introduction of modern medicine by the British. While western medicine was accorded the status of 'official medicine', the colonial state turned discriminatory and hostile toward other systems. The silver lining of this clash despite significant socio-cultural consequences was a paradigm shift in the field of Indian medicine evidenced by the initiation of a public health system, vaccination, importance of vital statistics, epidemiology and research on some dreaded diseases like plague, malaria, tuberculosis, leprosy etc.[2]

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MODERN MEDICAL EDUCATION IN POST-INDEPENDENCE INDIA: PRELIMINARY LOOPHOLES

By 1947, 19 allopathic medical colleges were established. Post-independence, a plethora of new challenges emerged – there was a sudden qualitative decline in medical education, curriculums were found to be unsuited to the Indian context and a defective student selection process prevented the optimal workforce creation by medical institutions. Even after seven decades of independence, some of these hindrances remain.

Today, India has around 542 medical colleges with 64 standalone post-graduate institutions. Approximately, 78348 undergraduate country-wide seats are available with a comparably increasing pool of postgraduate and other super speciality course seats. But the question is, is this sufficient? Given India's population statistics, it is quite insufficient. At present, India's population is around 1030 million and the incidence of doctor/population ratio now is stated to be 1:1700 with a desirable target of 1:1000, estimated to be achieved by 2031. It is also estimated that there will still be a shortage of 1 million doctors by the time India achieves the said target. Health indicators like Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are still far behind the desired goal. After the introduction of the National Rural Health Mission in 2013, there has been a marginal improvement in the state of affairs, yet drawbacks directly related to human resource availability continue to exist. The Bajaj Committee Report prepared in 1986 recommended the establishment of an Educational Commission of Health Sciences and simultaneously noted that most faculty at medical education institutions while being adept in their clinical specialities, lacked capacity as educators.[3] Those states which followed these recommendations have eventually demonstrated better health indicators.

Another phenomenon in recent times in the medical education sector is an unprecedented boom in private medical colleges. Undeniably, the mushrooming of private institutions is a consequence of the government's apathy in the health education sector and the inability to provide both adequate number of seats as well as infrastructural avenues to medical students. With the privatization of the medical education sector, significant power has landed in the hands of influential politicians and businessmen, who in the guise of promoting medical education, are running these educational establishments as business houses. Besides, while educations avenues have been statistically enhanced due to these private establishments, issues of shortage of qualified faculty, the danger of imposter faculty, lack of transparency in fee etc. continue to remain unaddressed.[4] In the present climate of cutthroat competition, a teacher-student ratio where more tutor attention is available to students is the need of the hour to ensure meaningful learning during apprenticeships.

BLIND EMULATIONS: TRACING THE DECLINE OF MEDICAL EDUCATION IN INDIA

Producing unskilled, semiskilled doctors and allowing them to treat a diverse population with no infrastructure is counter-productive; even, self-defeating. There is a huge disparity of medical training both at the regional and national level. Both government and private institutions have their limitations. Western models of corporate hospitals and medical education institutions are being blindly adopted, without taking into account the populational angles specific to the Indian context. Corporate hospitals are also training postgraduates keeping their interests ahead. Many a time ad hoc decision, political considerations, self-interests, corruptions, inefficiency in implementations seem to be some of the reasons which cripple the system. The functioning of new AIIMS-like institutions can be considered as a glaring example of policy paralysis in tertiary care as also mentioned by the concerned Parliamentary Standing Committee.[5]

In this decade, medical education has become one of the most sought-after education streams in India. Approximately 16 lakh students are likely to appear in the NEET examination in 2020, of which only around 75000 students will qualify for undergraduate seats. Likewise, 89549 students qualified in the PG NEET out of 160888 candidates who appeared. They will be applying for around 31000 seats. Medical education is a career choice of preference for many reasons - it is considered to be a relatively stable profession with high social acceptance, while earnings are moderate initially, they can be eventually rewarding; family-owned healthcare establishments prefer continuity through generations; and finally, many opt-in with an idealistic notion of pursuing 'a noble profession', although the commercialization of healthcare in recent times has arguably eroded this nobleness.

It is difficult to say from which point the quality of medical education declined. One is definitely from the year 2013 when a common entrance examination was mooted. At the outset, this test is a wholly memory-based test where aspirants are screened based on multiple-choice questions. The deciding factor in such a scenario is not necessarily actual academic prowess, but simply the ability to memorize and retain large amounts of information. It does not test aptitude, problem-solving ability and skilful clinical performances etc.

Similar problems have crept into post-graduate selections too. Immediately following their undergraduate degrees, interns are focused on preparing for post-graduate entrance examinations. This tendency causes an inevitable compromise of their learning during the training period leading to long-term qualitative compromises. Private coaching institutes have established a dense country-wide network and preparation for entrance examinations has become a trade in itself.

Earlier, in medical colleges, subjects were taught as separate entities without any cross-subject integration. Inevitably, this led to unnecessary confusion, repetitions and a drain of time and energy. Since 2018, this disjointed approach has been partially replaced with a competency-based approach. It remains to be seen how this new approach will be implemented. At present, medical education in India is largely based on unrealistic rhetoric.[6] A need-based curriculum, which takes into account the patterns of illnesses and diseases in the Indian context, is long overdue and needs to be introduced in place of a subject-oriented monotonous model of teaching currently in practice. Due to the lack of adequate infrastructure, students are unable to obtain any hands-on practice of their academic learnings. While it would be unrealistic to suggest a complete overhaul of the existing

system, a well-thought-out, time-bound and purposefully implemented way forward is needed to be worked out on an urgent basis. Some steps in the right direction have already been taken. For instance, AETCOM (Attitude, Ethics and Communication) modules have been introduced which emphasize the significance of a right attitude, ethics and communication skills in the medical profession. In addition to this, it may also be helpful to include behavioural sciences and managerial skills to ensure a more holistic medical education. The focus should be on the operational and practical part of accumulated knowledge. The core curriculum of medical education should be segregated based on practical relevance into three broad categories - 'must learns', 'practically useful to learns' and 'academically good to learns'.

Another problem that cripples medical education is the medical teachers' selection process. The Medical Council of India (MCI), now the National Medical Commission (NMC), which is replaced by the Board of Governors has only undergone a nomenclatural change while its functions remaining the same. It sets the regulations for the selection of medical teachers. No measures are set for quality assessments. Publications are made a mandatory requirement in recruitment processes; however, no avenues are in place to ensure skill-building for meaningful academic writing. In government medical colleges, frequent transfers made largely on political considerations clubbed with inadequate infrastructures make research secondary. In their attempt to establish new medical colleges, the same group of teachers are transferred from one college to another overnight, leading to an illusion of expansion of medical education establishments with nothing more than a massive quality compromise in reality. It is rather surprising that the NMC itself does not maintain records of faculties of different medical colleges and is ill-equipped to detect artificial manpower overlaps. Even simply monitoring the number of faculty (which is itself often artificially built to serve MCI inspections) is grossly insufficient, the ability to impart quality teaching needs to be measured. Since the introduction of the Curriculum Implementation Support Program (CISP), some movement in the right direction has been seen with an emphasis on problem-based learning, evidence-based medicine, CME and use of technology in classroom teaching.

Another ironical practice is the inspection by MCI inspectors who belong to the same pool of government medical teachers with their limitations. In the absence of any specific training, it is almost as if they momentarily attain some divine superiority and excellence with the ability to examine and assess the same loopholes which they often fail to identify in their home institutions. A mindlessly strict approach, without consideration for the various practical circumstances within which an institution operates, can often destroy an institution at its threshold along with the future of enrolled students. Thus, instead of an ad-hoc assessment by professionals not necessarily equipped with any special training, a meticulous, time-consuming, fact-finding, remedial exercise should be carried out by trained inspectors with the facilitation of growth of institutions inspected as the primary goal. In my professional career, I have frequently been engaged in the inspection of some medical colleges and seen colleges lacking clinical materials and faculties still obtain materials in time for inspection with the aid of informal advice routes. Such an approach fails not only a particular institution but the entire medical education sector since it becomes impossible to assess the true potentiality of inspected institutions. While this assertion may be difficult to prove, it is an open secret of the medical education sector.

CONCLUSION: A WAY FORWARD

Undoubtedly several miles have been travelled in the Indian medical education sector towards making the same 'progressive'. Yet, the system continues to be blinded by its obsession to not only mimic western models but also to create mere statistical success. Many miles remain to be travelled to ensure substantive and sustainable reforms which lead to a better screening process of medical aspirants, a thorough and hands-on teaching model in undergraduate and postgraduate studies and finally a qualified and widespread network of committed medical professionals at institutions of quality. Measures have to be initiated both at a regulatory level by the NMC as well as at the level of individual teachers and institutions, with complete commitment at both levels to academic excellence. Most importantly, the prevalent tendency of pandering to the number game at the cost of complete dilution of the nobleness of the medical profession has to be done away with, with a sense of both personal and institutional urgency.

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Contribution of the author: I declare that this work was done by the author named in this article and all liabilities about claims relating to the content of this article will be borne by the author.

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