

and creditworthiness of the DNB courses to bring them on par with world standards and to achieve the goals set out in the constitution of the National Board.

The National Board of Examinations needs to upgrade itself urgently to avoid the tag of "National Board of Eliminations".

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Medicine, merit, money and caste: the complexity of medical education in India

ABHIJIT M BAL

Department of Medical Microbiology, Crosshouse Hospital, Kilmarnock KA2 0BE Scotland, UK email: abhijitmbal@gmail.com

Abstract

Private medical colleges in India are under the scanner. There is a longstanding debate about the selection methodology that should be followed for admissions in medical colleges. A significant proportion of aspirants are able to afford medical education in private colleges despite not clearing entrance examinations. Others gain entry purely on the basis of caste. Medicine deals with human life and, consequently, there is a widespread feeling that admission criteria in medical schools should be based only on merit as assessed in entrance examinations. This article examines some of these contentious issues.

"She is quite a serious thinker, even though her grades are very good." School teacher in Shanti Niketan, West Bengal, quoted by Amartya Sen (1)

Medical education is a hotly debated subject in India these days. Government colleges have not increased in number while new private medical colleges are established each year, many of them with dubious infrastructures and questionable motives. The fact that private colleges make obscene amounts of money and allow rich people who can afford the exorbitant fees to bypass entrance examinations is anathema to many ordinary Indians. Similarly, the concept of caste-based reservation generates passionate arguments and the side one takes is generally, and indeed ironically, dictated by one's own caste. Many have castigated the entire admission process as based on money and caste. As merit is apparently the loser, some have

called for a single annual selection process for placements to all medical colleges with an end to caste-based reservations as well as paid placements. Others support privatisation of medical education for they see it as a necessary consequence of caste-based reservations in government institutes. The purist would simply want all private medical colleges shut without any debate on the subject. None of these views is without foundation. In the following paragraphs, I attempt to examine these issues in detail.

It is hard to argue against the use of entrance examinations for medical college placements in a country with relatively limited opportunities. Candidates selected through this formal assessment process, generally based on a multiple-choice format, answer more questions correctly than those who miss out on placements, with the cut-off grade based on the number of available placements. Entrance examinations for MBBS seats usually assess the applicant's knowledge in fundamental sciences; some universities give higher weightage to biology. A few universities have additional criteria. A passing grade in Gandhian thought is a prerequisite for entry into Mahatma Gandhi Institute of Medical Sciences, Sevagram, while 50 out of 60 seats in Christian Medical College (CMC), Vellore in the year 2009 were under the sponsored category. Candidates applying under this category are sponsored by Christian organizations which are members of the CMC Vellore Association or Council (2). The process is extremely rigorous and there are few survivors.

But does performance in entrance examinations define merit and measure brilliance? The examinations relate only to academic merit which is not what a doctor is all about. Moreover, true merit is the ability to convert competence into performance. However, when people put a case for merit-based entry, all they are saying is that when choosing students for a fixed number of placements, those candidates who score higher in a certain test format should be preferred over those who do not score as well. This does not imply that those who fail to gain entry have no merit; if that were the argument, the presence or absence of merit would be dictated solely by the number of available seats.

Private medical college is an option for those students who don't perform very well in entrance examinations conducted by government institutions – provided these students can afford to pay the fees. In turn, private colleges in many states subsidise the fees for a certain number of "government quota" students. This arrangement offers an opportunity to students who narrowly miss out in entrance examinations for government medical colleges. Students who fill the government quota in private colleges pay lower fees than others in these medical colleges. The challenge therefore is to see that both these groups achieve the same level of competence as their counterparts in prestigious government colleges.

The task is not easy because while over the years reputed institutes have created an environment which has led to sustained academic excellence, the new players lack in motivation and, often, in infrastructure. Moreover, the turnover of teachers in private colleges is high, as private jobs lack long-term security and adequate pension schemes. On the other hand, government colleges are more successful in retaining teachers who then develop a sense of belonging to the institute. However, the situation is fast changing. Few talented medical professionals are willing to teach at medical universities – private or government – because private practice offers better remuneration. And in any case most doctors from high quality institutions leave India (3). As a result, academic teaching has taken a turn for the worse in most institutes, government and private. Attractive pay packages in government and private colleges are essential to retain teachers.

It is a popular notion that only the most brilliant can become good doctors. But popular views are not necessarily right. Excellence in mathematics is popularly thought to relate to the ability to compute numbers speedily and chess is perceived to be a game where the player who calculates all possible moves wins. Anyone who has played chess at a higher level would be quick to see the fallacy of this line of thinking. Great chess players simply know the best move without the need to calculate. What they figure out is how best to place the pieces, although some of it may be a result

of deep-seated mental calculation; we do not know. But, certainly, calculations in chess are not made in the manner that people commonly perceive. Micheal Bezold, a German grandmaster, sums this up when speaking of the world chess champion Bobby Fisher: "He just felt that a certain move was the right move without calculation. And after analysing, we saw it was the right one." (4) Similarly, a skilled mathematician relies on abstract ideas, not on quick multiplication of digits. In much the same way, medicine is not about knowing, say, Harrison's textbook of internal medicine, for that is a relatively simple task and, in any case, not a measure of brilliance. It is the training component of medicine that makes a good doctor. This training gives an insight into the myriad conditions that affect humankind while imparting an ability to make sound judgements in relation to various illnesses by putting disease symptoms into a specific pattern. All of this is accomplished by well-directed effort and is the culmination of rigorous training. It requires years of experience. Anyone with reasonable ability can become a good doctor by fulfilling these conditions.

Over the years, stiff competition in India ensured that only the high-end performers at entrance examinations could get placements in medical schools, given that medicine was a highly sought-after profession. Thus, although medicine does not need brilliance, only hard-working, diligent, and possibly brilliant people could hope to become doctors. Moreover, the growth of private medical schools in the 1980s and 1990s coincided with changing social values in India. Money was no longer seen as evil. For the average person, therefore, the private medical college graduate was out there to get returns on his or her investment.

If brilliance is not a prerequisite, how do we address the issues surrounding placements in medical colleges? One option is to use interviews as an addition to other evaluations. However, although interviews should be an important part of the selection process, they are unlikely to gain acceptance in India because we lack a transparent system. Public confidence in an interview-based selection process is bound to be low. Few institutes in India have remained free of accusations of malpractice and sooner or later, an interview-based selection process would be tainted with allegations of corruption. Hsuan Tsang, a Chinese traveller in 7th century India, said of Indians: "They do not practice deceit, and they keep their sworn obligations...They will not take anything wrongfully, and they yield more than fairness requires." (5) Much has changed in India since then.

It is likely that government funding in medical education will be further curtailed in the future. Private colleges should therefore be allowed to flourish in order to meet the demands of healthcare and medical education. However, it is equally important to ensure that private institutes invest the money

back into education while keeping a reasonable profit for themselves. If assessment standards are clearly defined and if examinations are conducted by external boards comprising members who are above suspicion, private colleges will be forced to invest in their infrastructure, or else a string of poor pass percentages will dissuade people from taking admissions in these colleges. Even if regional authorities are unbiased in overseeing the process, external committees for final year assessments will help generate confidence in the system. Also, once these assessments are conducted in a fair and transparent manner, the original method of entry at the MBBS level will become less relevant. On the other hand, it is reasonable to have a two- or even a three-tier fee structure so that students who get selected through an examination process pay lower fees while ensuring that everyone gets the same level of training without any discrimination.

The same arguments apply to caste-based reservations. Reservations based on economic criteria find many sympathisers. Indeed, individuals who despise the concept of caste-based reservations often agree to some kind of reservation for the poorer sections of society. Further, their argument that caste-based reservations compromise merit still finds a place in forums and debates. Surely, there is a contradiction. Merit is compromised no matter what the basis of reservation is. Why do we think that while the poor would catch up at a later stage of their careers, those from backward castes will struggle and end up as incompetent doctors? This reflects a deep-seated bias in the minds of the majority of Indians. It is only fair that social settings are taken into consideration when providing opportunities for higher education.

And once again, fair exit assessments would nullify the merit argument. CMC has consistently been voted amongst India's best medical schools despite religious sponsorships accounting for a fair proportion of places. It has even been awarded a five star rating by the National Assessment and Accreditation Council (6). This further underlines the fact that academic merit is not the sole indicator of performance. A great deal of competence can be acquired with rigorous training in professional life irrespective of one's performance in graduate level entrance examinations. The need to regulate doctors' performances throughout their professional careers cannot be over-emphasised.

We must understand that the selection process is only need-based. The education component and, in this context, medical training, has little to do with the attributes judged in the selection process. Moreover, we need to define the objective of medical education. If the sole objective of the graduate level MBBS education is to produce doctors who will be expected to acquire the ability to pass postgraduate entrance examinations, and if the objective of the postgraduate course

is to produce specialists who will do well at super-specialist entrance examinations, then of course we need a merit-based graduate entry process that selects candidates with a flair for the particular format of assessment. But if the objective of medical education is to produce good doctors who can provide healthcare, then these attributes are meaningless and the sole reason to continue with the rigorous selection process is lack of opportunities in a country with so many young people. The need for a selection process – whether based on merit or any other measure – is therefore understandable but the principle is not all that sacred.

It is a boon that we have different kinds of medical establishments. Some have religious affiliations while others have unique selection criteria as mentioned earlier. There are government-funded colleges with a selection process based on entrance examinations. There are private colleges with selection based on central university-conducted examinations as well as self-funded placements to those who fulfill basic criteria for undergraduate medical education. In fact, there is enough room for international colleges now so as to attract non-Indian foreign nationals and not just non-resident Indians or people of Indian origin. We need to invest in this diversity rather than create a rigid, monotonous, structure with the dull uniformity that is the hallmark of decadence. India has tremendous potential to prosper as a knowledge economy if we manage to address some of our basic problems.

Finally, we must revisit our teaching format. India traditionally worships knowledge. The hymn from the Brihadaranyak upanishad is recited in many Indian homes at prayer times:

“Lead us from falsehood to truth, from darkness to light and from death to immortality.”

Accessible to only a select few for thousands of years, knowledge became a highly precious commodity. It is therefore not entirely surprising that our education system is based on information gathering that is considered an end rather than a means, and the one who has most information usually ends up getting the highest grade. The subsequent self-fulfilling idea equating examinations with knowledge and wisdom soon finds its feet. But too much emphasis on acquiring information can kill raw curiosity without which scientific ideas cannot advance. And this is what has generally happened with our university education. As a result, we acquire degrees without a proportionate level of skill, and learning is deprived of curiosity. The effect that traditions and culture can have on education is an interesting subject in itself. For example, it has been suggested that countries with Buddhist traditions have done well with regards to literacy because of the Buddhist emphasis on enlightenment (7).

We do not have to look outside for bringing about a change. Asks a vedic sage (8):

Why does the wind not cease?
Why does the mind not rest?
Why do the waters, seeking truth,
Never ever cease?

The freshness need not be borrowed from elsewhere.

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Financial incentives and the prescription of newer vaccines by doctors in India

RAKESH LODHA¹, ANURAG BHARGAVA²

¹Department of Paediatrics, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110 029 INDIA email: rldoha1661@gmail.com ²Jan Swasthya Sahyog, I-4, Parijat Colony, Nehru Nagar, Bilaspur, Chhattisgarh 495 001 INDIA email: anuragb17@gmail.com

The pharmaceutical industry spends a significant amount of resources on marketing its products. According to one estimate, the top 50 companies in India alone spent Rs 5,340 crore in 2004 on drug promotion, spending 290% to 1,025% more on marketing than on research and development (1). The interactions between the pharmaceutical industry and the medical profession related to promotion of medicines have been described as an entanglement; 16 forms of this entanglement have been described (2), and they range from acceptance of gifts and sponsorship of lavishly organised continuing medical education events featuring industry-sponsored speakers, to industry-sponsored research (2). While physicians claim that they are not influenced by the promotional practices of the industry, there is compelling evidence that aggressive promotional efforts lead to irrational and incautious use of more expensive, newer medicines, and escalation of healthcare costs (3,4). The primary responsibility of physicians is to promote their patients' best interests, while the primary concern of the industry is to promote profitability (4). In the past few years, there has been increasing concern over the influence of the pharmaceutical industry over the practice of medicine, medical education and research (5), and guidelines of professional bodies strongly discourage physicians from accepting costly gifts, hospitality, trips and subsidies of any type from the industry (6). The WHO's criteria for ethical medicinal promotion clearly prohibit industry from offering financial inducement and incentives (7). In India, where unethical drug promotion is a significant problem (8), the Medical Council of India's code of conduct (9) still does not address what constitutes appropriate, ethical and legal conduct

in the interactions between professionals and their associations with the pharmaceutical industry.

We report, here, a new and disturbing form of entanglement being employed as a marketing strategy by vaccine manufacturers in India, and discuss briefly its ethical, scientific and public policy implications. This strategy involves the promotion and sale to doctors of newer vaccines - including polyvalent vaccines which are not part of the Expanded Programme of Immunisation (EPI) - at a highly discounted price in relation to the maximum retail price (MRP). The prices of vaccines quoted in a communication sent to doctors are given in Table 1. As highlighted in the table, the percentage margin between the price to doctors and the MRP ranges from 30% to 69%, while in rupee terms, the discount over the MRP per vaccine dose ranges from Rs 85 to Rs 620. Many vaccines require the administration of three or even more doses, wherein the margins of profit for each vaccine could even be Rs 1,800 per child vaccinated. In addition to the private communications to physicians, companies have now started advertising the price of their vaccines to doctors in medical journals. Another company (Chiron Panacea) has placed advertisements in paediatrics journals quoting the price of the pentavalent vaccine 'Easyfive' as Rs 275 to the doctor while the MRP of the vaccines is Rs 585. While physicians will incur some costs for the storage of vaccines, the margin of profit is still huge, and could be termed as profiteering. Such high margins are difficult to find in other professions or industries or in the case of other goods. Unlike other goods, in the case of medicines, patients are unable to make an informed choice about the need and choice of medicine, and rely on the