

Original research article: Scarcity of doctors or case of mismanagement?

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Abstract: Scarcity of doctors is an age old problem in India. Many steps have been taken to tackle this problem with no relief. The present study shows that a simple modification of the MBBS curriculum can improve the quality of doctors as well as a doctor patient ratio in rural areas.

Keywords: Medical education, MCI, NMC.

Date of Submission: 12-04-2018

Date of acceptance: 30-04-2018

I. Introduction

India is the home for 1.3 billion population. On paper India has the dismal doctor patient ratio of 0.62:1000 as against ideal doctor patient ratio of 1:1000. (1) Various measures have been taken by Central government, state governments as well as by MCI to tackle this problem. Some of the measures includes 1. Minimizing the requirements for the establishment of new medical college 2. Increased number of medical colleges 3. Increased number of medical seats 4. Allowing the crosspathy practice of AYUSH doctors and 5. Compulsory rural service after completion of MBBS. Even after taking above steps there is no cure in sight. The present study has been performed to see the use of modified MBBS curriculum to improve the quality of doctors and for improving the doctor patient ratio in rural areas.

II. Material And Methods

Graduate medical education regulations, 1997 and suggestions from junior resident doctors are systematically studied and based on same an attempt is made to introduce tweaks in the present MCI MBBS curriculum.

III. Result

As per the MCI Graduate medical education regulations, MBBS curriculum has been divided into 3 phases plus internship training program conducted over the span of 5 and half year (Table No.1).

Table 1: Present MBBS curriculum (2)

Phase	Duration	Subjects covered
Phase I: Non clinical	1 year	Anatomy, Physiology, Biochemistry + Community medicine
Phase II: Para clinical	1.5 year	Pathology, Pharmacology, Microbiology, Forensic medicine & Toxicology + Community medicine, Medicine, surgery
Phase III part 1: Minor Clinical subjects	1 year	ENT, Ophthalmology, Community medicine + Medicine, surgery
Phase III part 2: Major clinical subjects	1 year	Medicine, Paediatrics, Surgery, obstetrics and gynaecology
Internship	1 year	1 year training in all clinical departments in the parent medical college

Apparent problems with the present MCI curriculum includes:

- Inadequate time for teaching:** Present curriculum has no provision for unexpected situations like delayed admissions (delayed admissions have become routine in many states). In such situations phase I syllabus is completed in a haphazard manner.
- Loss of interest:** a) Expectation of the medical student at the time of admission is to study about the disease and how it develops. But what they do is just roaming around normal anatomy, physiology and biochemistry resulting in loss of interest. b) Subjects taught during phase I in haphazard manner due to non-availability of time invariably results in loss of interest in the study.
- Less understanding of the subject:** About 90% students in medical colleges pass 1st year subject by scoring 50 to 65% marks. That means their mind has retained only 50 to 65% of phase I subjects. Pathology is the most important subject in the entire MBBS curriculum. Teaching pathology to students having only

50 to 65% knowledge of basic subjects will invariably result in to less understanding of the pathology and the formation of substandard doctors.

4. **Lengthy curriculum:** Almost every subject taught in the MBBS curriculum has some topics which are completely useless for undergraduate level making curriculum lengthy. Such topics should be removed from undergraduate curriculum. The syllabus should be prepared by a committee involving 50% expert (MD/MS) in the subject and 50% experienced MBBS doctors so that unnecessary topics can be easily identified and removed.
5. **Not enough time for internship:** Internship is the time when student gains experience by directly treating patient under expert guidance. The present MCI curriculum has provision for 1 year internship which seems to be inadequate for gaining maximum experience.

Feedback from Junior resident doctors: Following questions were discussed...

1. Do you think Phase I should be of long duration?
2. What is the good time for learning pathology/ microbiology/ pharmacology/ forensic medicine/ ENT/ ophthalmology/ community medicine?

We got following feedback: 1. It would be better if Phase I is of longer duration as it will give enough time to study basic subjects. 2. Classes for pathology should start in phase I along with basic subjects for better understanding of disease process. 3. Present 2 year time interval between forensic medicine and start of the internship should be reduced and preferably forensic medicine should be taught in phase III to avoid fading away of medicolegal knowledge. 4. Community medicine should be taught during internship as it will be easier to learn it by direct interaction with community.

By considering the drawbacks of present curriculum and feedback from junior resident doctors following changes are considered to modify present curriculum.

Table 2: Modified MBBS curriculum

Phase	Duration	Subjects covered
Phase I: Basic phase	1.5 year	Anatomy, Physiology, Biochemistry, Pathology + Microbiology and pharmacology*
Phase II: Minor phase	1 year	Pharmacology, Microbiology, ENT, Ophthalmology + medicine and surgery
Phase III: Major phase	1.5 year	Medicine, Paediatrics, Surgery, obstetrics-gyne, Forensic medicine and toxicology + Community medicine*
Internship	2 year	1 year urban internship + Community medicine 1 year rural internship* + Community medicine
1. *Classes for Microbiology and pharmacology should start once teaching of anatomy, physiology and biochemistry is over. Microbiology and pharmacology should get a minimum of 2 months during phase I. 2. *Examination for community medicine should be conducted at the end of internship and based on same repeat internship in community medicine for the maximum period of 90 days can be awarded. 3. * If a student secures seat in PG entrance examination waiver of internship should be given (not more than 3 months). 4. Clinical posting should start in phase I after 1 year . 5. Clinical postings should be adjusted by making small changes in duration.		

Proposed reforms and their expected results for better health human resources:

1. 2 year internship without any significant change in duration of MBBS course → Experienced doctors for community
2. Provision of 1 year rural internship → This will make doctors available in rural area
3. Learning span of almost all subjects has positively (not too long or too short) been increased → Sufficient learning span will help in better understanding of subjects and it will invariably produce well baked doctors

Additional advantages of modified curriculum:

1. Enough time for phase I & phase III subjects.
2. Better understanding of pathology as it is taught simultaneously with the normal human body.
3. Easier to learn basics of clinical postings like history taking as students are already aware of various diseases and their pathology.
4. The teaching of FMT and community medicine in phase III will help student in better management of medico-legal issues and practice of preventive medicine during internship.
5. No need of compulsory bond service.
6. No need to start bridging course between MBBS and AYUSH. This will not only prevent the formation of substandard crosspathy doctors, but also help in strengthening of AYUSH system.
7. This modified curriculum should be readily acceptable to MBBS students as
 - Span of MBBS curriculum is decreased by 6 months (4.5 to 4 years)
 - Provision for waiver of internship if student secures seat in the PG entrance examination.
 - Compulsory bond service is removed.

IV. Discussion

Scarcity of practitioners of modern medicine is not the new problem in India. As per WHO acceptable doctor patient ratio is 1:1000. To solve this problem, the government has taken some important decisions like

1. Decreased faculty requirements for medical college (3): Probably this is the worst decision taken since the establishment of the medical apex body. No doubt it has helped in the establishment of many medical colleges but at the same time it resulted in to formation of substandard doctors which is readily apparent in recent years. Unfortunately, instead of treating the cause MCI is still focusing on the symptoms by conducting less effective programs like MET, clinical posting in phase I etc.

For the proper engagement and interactive teaching environment in any pre, para or clinical subject minimum teacher student ratio should be 1:25. National and international education bodies like UGC, UNESCO, Ministry of human resource development itself has mentioned that ideal teacher student ratio should range between 1:25 to 1:30 (4,5,6). But for the basis unknown MCI has increased this ratio to whopping 1:50 for most of the subjects in the MBBS curriculum causing an irreparable dent to the MBBS education system. Does it mean Indian children have inborn knowledge of medical subjects so they don't need a teacher?

To increase the interest of students in studies and thus the quality of doctors recently MCI has introduced/ is planning to introduce clinical posting in Phase I. Again we think this decision has no relevance. For example, if we ask an Indian who has no knowledge of Chinese language to work in china then definitely he will lose interest in his work. Similarly a MBBS student who don't know what is disease and how it develops (pathology) attends clinical posting in phase I then definitely he will lose his interest instead of gaining it.

2. Allowing the crosspathy practice to AYUSH (7): Virtually it may look like the problem of scarcity of doctors is solved to some extent, but it has resulted into bigger problems like injudicious use of medicines that may result in widespread and rapid antibiotic resistant as AYUSH practitioners has insufficient knowledge of modern medicine. At the same time practice of allopathy by AYUSH doctors has weakened their own AYUSH system.

3. Bonded service (8): Another step taken by the government is the compulsory bond service for 1 year after completion of MBBS. MBBS is one of the longest time consuming course. This rule may look like draconian for a person who has already spent five and half year of his life in the MBBS course.

India produces almost 68000 MBBS doctors per year (1). As per the modified MBBS curriculum (Table No.2) if all these doctors are deployed for rural internship there will be hardly any vacancy in rural hospitals.

V. Conclusion

Present study shows that modification in the MBBS curriculum can help in managing many issues like bond service, crosspathy practice, the quality of doctors, strengthening of AYUSH system etc. Active work from MCI and government is necessary in this matter. From the present study it is also apparent that scarcity of doctor in India is an artificially produced entity and with proper management of MBBS curriculum and internship doctor patient ratio can be easily improved.

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DrGhuge Minakshi "Original research article: Scarcity of doctors or case of mismanagement?".IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 4, 2018, pp 28-30.