

## Role of Nepal Medical Council in MBBS Curriculum

Dixit H<sup>1</sup>

<sup>1</sup>Chairman, Education Sub-committee, Nepal Medical Council

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### Abstract

The development of the Bachelor of Medicine & Bachelor of Surgery (MBBS) course in Nepal is recounted. From the stage of having a single medical college to the stage of having ten is documented. The role that the Nepal Medical Council (NMC) has played in the development of medical education in Nepal has been adequately described. Comparison of the MBBS course that the three universities are running the MBBS is done and suggestions are made for possible future directions.

**Keywords:** Medical education, integrated system, PBL

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### Background

The medical curriculum may be said to have evolved during the course of the 20th Century. What had initially been an apprenticeship for professional training for a number of years was replaced by a course of study, to enter which the candidate had to be adequately versed in Biology and Chemistry (1). Some forms of adjustments were made with the existing system of professional training. As an example one can instance the situation in England, Scotland and Ireland where the different Royal Colleges and the Society of Apothecaries all produced manpower to function as practitioners in the health service sector. In the USA the products of the different medical schools, including those of Chiropractic were regularised to a certain extent following the publication of the Flexner Report of 1910 AD.

A medical curriculum constitutes the institutional goals, objectives, subject content, learning experiences and assessment techniques (1). The matter covered by the curriculum and imbibed by the medical student is from the day of entry into the medical school till the time that the internship ends.

As far as Nepal is concerned though Gray's Textbook of Anatomy was translated into Parbatiya as far back as 1909 it was only in 1978 that the first medical course in Nepal was started by the Institute of Medicine (2).

### *The IoM Curriculum*

Before work was started on the MBBS curriculum for Nepal there was a survey of the districts of Tanahu, Nuwakot, Dhankuta and Bara. This indicated the needs of the country and it was on these findings that the curriculum was based. The curriculum also took into account the job descriptions / requirements of the medical officer working in the districts of Nepal (1). To prepare the first version of the syllabus, there was extensive support by the WHO and the core curriculum was designed on what had been the guiding principles at McMaster University, Canada. The first part of the curriculum was ready when the course started in July 1978, though the printed first version of the full curriculum of the MBBS was only brought out in 1984.

In those early years, the Nepal Medical Council (NMC) executive consisted of nine members of which five were from the Nepal Medical Association (NMA). Following the first amendment of the act in 1988, the Dean, Institute of Medicine (IoM) was also made a member of NMC executive. It is interesting to note in this context that the first recommendations on medical education by the NMC only came out in 1993.

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### Correspondence

Prof. Hemang Dixit, Principal, Kathmandu Medical College, Sinamangal, Kathmandu. Email [hdixit@healthnet.org.np](mailto:hdixit@healthnet.org.np)

The NMC did not at the start have a syllabus of its own and in the early years stated that the "MBBS Curriculum of the Institute of Medicine would be the reference document of the NMC." It was at the time of the starting of the private medical colleges that the availability of a printed curriculum was sought and its lack was felt. Thus the revised second version of the IoM curriculum was hastily brought out. It was much later that a first version of the MBBS curriculum was prepared by the NMC but it has not been printed yet.

In the MBBS course started by the IoM in 1978, the idea was that students should have become a middle level health worker prior to starting the medical course. The introduction of such a course was met with comments that the products would be second-class doctors and not be recognised elsewhere. They would be confined to Nepal and that they would not be able to work or study anywhere else in the world. A study of such doctors with this background and others with I.Sc. that was done almost a decade ago showed that such doctors with a background of having worked as middle level workers in the health sector are more likely to go and serve in rural areas (2). It should be gratifying for NMC to note that it has played a pivotal role in getting the MBBS degrees of Nepal to be recognised by other countries of the world.

Though the MBBS curriculum of the IoM was revised as from the 11<sup>th</sup> batch of students in 1991, the printed form of the 2<sup>nd</sup> version did not come out till 1994 (3). Some sort of break down of hours for both the theory lectures and practical has been done in the document. The IoM divides its entire curriculum into 3 phases, Phase I, II and III. Phase I lasts for the first 2 years.

Although the curriculum, envisaged integrated teaching, the reality is that the pre clinical subjects are taught separately though some form of co-ordination and concurrence is maintained by teaching the same system in the different subjects. Phase II (3<sup>rd</sup> year) lasts for one year. Phase III encompasses another one and half years. The total course of the IoM, gives a total of 7098 hours of which 1889 is for Basic Sciences and 5209 for Clinical Sciences (The second version of the curriculum states it to be 8221 hours). Following this there is a one-year period of compulsory rotating internship. The reason for this choice of internship was that the product of the IoM should have a workable knowledge in all areas of

medicine and surgery and thus be capable to work in any part of Nepal.

### *Curricula of BPKIHS & KU*

It is worthwhile looking at the curriculum of the three MBBS courses in Nepal. When BP Koirala Institute of Health Sciences (BPKIHS) and Kathmandu University (KU) curriculum were compared in their Phase I and Part I respectively it was found that a total of 887 hours of theory and 793 hours of practical classes are allotted by BPKIHS whereas 1194 hours of theory classes and 963 hours of practical classes are allotted by KU (4, 5, 6 & 7). Moreover KU has allotted 80 hours of additional classes for clinical orientation, 30 hours for Medical Informatics and 336 hours for self-study in this curriculum in Part I. Anatomy has been given more emphasis in terms of hours of instructions allotted in both institutions. KU has given a total of 472 hours for Anatomy whereas BPKIHS has given 396 hours for the same. Similarly, Physiology and Biochemistry also get more hours in the KU curriculum as compared with the BPKIHS curriculum. Physiology gets 306 hours in KU and 269 hours in BPKIHS curriculum. In Biochemistry, the difference is more prominent when one notes that KU gives 300 hours whereas only 199 hours are given by BPKIHS. Pathology is given a total of 214 hours theory and 86 hours practical classes in KU curriculum whereas in BPKIHS it is 147 and 129 respectively. Microbiology gets 208, Pharmacology 267 and Community Medicine 314 hours of instruction in KU curriculum where the same subjects are given 229, 155 and 91 hours in BPKIHS curriculum.

It may be noted that the teaching of Basic Medical Sciences in an integrated, system wise and with a problem solving approach is the stated objective of all the three curriculum of TU, BPKIHS and KU. The degree of implementation varies from institution to institution and this is more due to unfamiliarity with the methods rather than opposition by the implementers. Even in the case of the IoM, although integrated teaching is mentioned in the curriculum, it is not practised as all the subjects are taught separately. Students seem to be left to fend for themselves most of the time. Some correlation seminars are held. In the Phase I university final examination a combined theory paper is given but the practical examination in all the basic science subjects are held separately. What must also be noted is that except in the IoM there is, in all the other institutions,

a fair amount of turnover of the faculty. Thus the introduction of just the educational methodology will not serve any purpose. Its widespread use has not only to be stabilised but also to be practised, irrespective of whatever the implementers may claim. Teacher training cells have to be institutionalised to become more effective. It remains to be seen as to how successfully the PBL methodology will be implemented at Kathmandu University Medical School (KUMS), the most recent entrant to the field of medical education in Nepal (8).

Now that KUMS has started the Problem Based Learning (PBL) type of course, one option for this may be that only students who have a minimum of 15/16 years of study viz. 10+2 plus a 3 or 4 years Bachelor degree would be eligible for it. The Bachelor degree could be in Science or even Humanities. It could even be MSc in medically related subjects such as Anatomy, Physiology or even Biochemistry. Such a change would be in conformity with the Bachelor of Business Studies (BBS) and in the format of the Master of Business Administration (MBA) programme run by the KU and which in turn is compatible with the practice in America. After all it is Harvard and other universities of USA, which are involved with the programme at KUMS. In such a way we would also be doing relevant research in medical education.

Perhaps the reason why the NMC has not brought out a printed format of the MBBS curriculum is because the question has been raised at its own meetings as to whether it is appropriate for the NMC to be involved in such details. Members felt that what was being taught was also the responsibility of the universities concerned. The feeling was that there should be some variability in the different MBBS courses being run by the different medical education institutions in the country, as this would be proof of a healthy trend. Currently BPKIHS is revising the 1993 first version of its curriculum whilst the IoM its second 1994 version of the MBBS curriculum.

#### **NMC Influence in Academic and Service Sectors.**

Just after the *jana andolan* of 1989/ 90 there were efforts to make the NMC responsible for the standard of the various nursing homes in the country. NMC took the view that it would inspect not only government hospitals but also private ones if academic activities were conducted there. Consequently hospitals involved in undergraduate or

postgraduate teaching and internship programmes have been inspected periodically to see whether they are upto the standard for such activities.

NMC has over the years been able to influence the direction that the MBBS and the Bachelor of Dental Surgery (BDS) courses have taken over the years. From drawing up minimum standards and guidelines there have been periodic inspections of the ten medical and three dental education institutions in different parts of the country. Besides this, the many visits that have been periodically done at these institutions over the years resulted in maintaining the standards that was necessary to conduct properly the MBBS and BDS courses.

#### **Discussion**

Whilst each university formulated its own curriculum, the overall objective of all the MBBS courses is to produce a doctor who is aware of the health care requirements of Nepal. What needs to be looked at is whether the objectives of the course, the requirements for the teaching / learning process and the end result are in conformity with what was envisaged. The hope is that the authorities are not in their ivory towers, unaware of what is happening below. The recent steps by the NMC regarding this is the intended accreditation process by which the producers of Human Resources for Health (HRH) are obligated to review their own status, fill forms, submit the same to NMC and then await an inspection.

What is heartening in all this is that all the medical schools functioning under the aegis of the three universities of the country are to a certain extent based on modern thoughts of community oriented, system based and integrated teaching. The amount of instruction that is actually being carried out on the basis of these pious wishes is debatable. What is also apparent is that the medical education in this day and age is influenced by the practices that are currently in use, not only in the UK and the USA but also elsewhere in the world. The period following the *jana andolan* has been a very hectic period for medical education in Nepal. Besides the 10 medical colleges in the country, it is stated that there may be another five applications in the pipeline for the starting of medical education institutions. What direction medical education will take in this country is therefore still not clear. Is there a bumpy road ahead? Will medical education change from being restricted to a selected few to all as per their wishes?

Will the standard of health care improve or become worse in the future? Will there be dilution in ethical practice?

What certainly needs to be looked at are the standards and the capability of the teachers imparting the education. Have all the teachers – be they faculty or otherwise, had some form of training or experience to guide the new students coming for acquiring education? Have they all been appointed as per certain guidelines or is it at the whim of a certain individual of the institution? Is there a method by which the performance of the appointees is assessed? Are there opportunities to improve oneself and attain some form of career advancement? Are the faculty members involved in producing research papers and publish results or are they just teaching on the basis of notes made 10 to 20 years ago? (9) These are some of the questions that the universities and the NMC ought to look at.

One of the realities considering medical students in Nepal is that many are not mature by age to feel the responsibilities of medical students. A fair percentage of the students miss classes on the slightest pretext, avoid assessments, presentations and are thus very irregular in attendance. This may be related to not only the lack of motivation but also to the standard of teaching which is not interesting enough or not up to the standard. Fortunately many of the students have inherent capabilities. The IoM selects 40/50 students from an entrance test in which there are generally over 1200 applicants. The successful ones need but guidance on what and how to study. In spite of many classes that may not be taken and the innumerable cultural and sports activities, most of the students come out with flying colours. But what about private medical colleges where an important criterion is the capacity to self finance ones education? Is this going to have a bearing on the quality of the future doctors produced in Nepal? Will they try to recoup as quickly as possible the financial amounts that they have spent for acquiring their medical qualifications?

### Review of Activities & Recommendations

1. The Nepal Medical Council has tried to keep up with the development in medical education elsewhere by:
  - a. Printing guidelines for MBBS education in 1993 and 1995. For BDS education

similar guidelines were issued in 1993 and 1997 (10).

- b. Bringing out minimum requirements for intake of 100 medical students in 1995 and dental students in 1993.
  - c. Updated requirements for MBBS students – 50, 100 and 150 in 2002.
2. The first version of the Code of Ethics for all doctors came out in 1992. All newly qualified doctors had to sign a declaration that they would abide by this. This Code of Ethics has been updated and revised in 2001 and 2002.
3. Since 1991, when new medical and dental colleges came into being, NMC has stated guidelines for:
  - a. Requirements of faculty in both medical and dental colleges and the faculty / student ratio.
  - b. Requirement of own land, and a 100 / 300 bed hospital or accessibility of same.
  - c. Student / bed ratio is a bone of contention now as the old hospital norms no longer exist e.g. Delivery cases now barely stay half or one day, eye operations are mostly done on daily basis and surgery can vary from day cases to those staying for 3/4 days. Gone are the days when patients left the hospital only after the stitches are out.
4. The status of faculty is something, which NMC has to co-ordinate. Whilst TU has three categories of faculty, both KU and BPKIHS have four categories. To bring about better exchange of thought, expertise and healthy working environment, it is necessary that faculty should be able to work at different institutions under the three different universities that have their own MBBS programmes. There will therefore be different ways in which the recommendations can be implemented e.g. exchange visits or even transfers. Faculty postings could be on time bound basis and dependent on performance.
5. What is surprising is that whilst a Doctorate in Medicine or Surgery (MD / MS) course insists that candidates develop teaching expertise during the final year and give instruction. They are

required to have a further two years of experience, although this is not applicable in some institutions. Such requirements may be all right for clinical subjects but in the case of the Basic Sciences faculty there should be some leniency so that young doctors are attracted to this field.

6. There have been guidelines concerning the internship training for the MBBS course. The initial one concerning the rotating internship was in 1998. Subsequent revision in allowed for different schemes that have been approved by NMC as per the requirements of the student concerned from the different countries.
7. The MBBS course needs to be periodically reviewed. Additions, which need to be done immediately, are:
  - a. Medical informatics
  - b. History of Medicine in the Community Medicine course of MBBS.
  - c. The Code of Ethics or Medical Ethics in the Forensic Medicine course of MBBS.
  - d. Medical Genetics on a larger scale.
  - e. Teaching of humanities to make a humane doctor.
8. Some parts of the course need to be shortened somewhat like the Anatomy course of about 950 hours of some two decades ago, which has been halved. The question that needs to be seriously considered is whether so many hours need to be devoted to dissection when the numbers of students going on to be finally surgeons, who would require to stress on Anatomy, is a very much smaller percentage. After all, all of us know that many schools / colleges in the developed countries do not do dissection of the human body these days. Should we therefore not adopt alternative methods? As there is a grave shortage of medical anatomy teachers, should we not use more non-medical personnel as faculty? Besides encouraging medical doctors to take up postgraduate studies in Basic Sciences NMC has recommended that dental surgeons be also encouraged to take up career development on these lines also. Cannot the general and orthopaedic surgeons also instruct the students in anatomy? NMC has allowed this by permitting qualified surgeons to function as resource person to teach anatomy. As physicians are permitted to teach physiology, the NMC has been a little

forward looking. It is because of this that frog-muscle experiments are no longer the mainstay of the physiology department?

Last but not least is the holding of the licensing examination. Though the idea for having this was first suggested as far back as 1986, the legal provision was enacted only in 1996 and finally implemented in 2002.

What cannot be disputed is that NMC has been very active during the course of the last 12 years as far as medical education in this country is concerned. It is only by seeing, learning and doing, that improvements can be done in the MBBS & BDS courses that we are suggesting to be conducted in Nepal. Changes must also be periodically instituted if developments are to occur.

### Conclusion

It is apparent that NMC has been involved in medical education from the time of the starting of the Medical / Dental education institutions, the courses conducted, the standards and numbers of faculty, the faculties on hand for teaching, the services provided to the public, the observation of the examinations and the provision for the internships. Seeing all these activities it is perhaps also rational to be satisfied with what is being done. However one should perhaps question whether the present MBBS course duration is sufficient for all that has to be learnt. Should it be extended to even five years as has been done in some countries? There are many such questions that will need to be asked from time to time in the future.

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It is customary for HO / SHO position at KMC Teaching Hospital to start on 1<sup>st</sup> Shrawan & 1<sup>st</sup> Magh B.S. every year. Interviews for positions will be held about 15 days prior to this viz. 1<sup>st</sup> Jan & 1<sup>st</sup> July A.D. Applications should state:

1. Post applied for (HO/SHO). Two departmental preferences in terms of priority.
2. photocopies of academic certificates from SLC.
3. Certificate of registration by NMC.
4. Certificate regarding previous posts if any.

**For further particulars contact:**

**Personnel Manager,  
KMC Teaching Hospital  
Sinamangal, Kathmandu.  
Phone: 4-477920  
Email: [kmc@unlimit.com](mailto:kmc@unlimit.com)**

NB: Doctors with postgraduate qualifications, who are interested in joining Kathmandu Medical College, should enquire regarding existing vacancies.