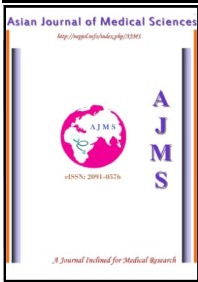


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## Student's Accreditation of integrated Medical Education in Nepal

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### Abstract

**Objective:** Course curriculum of medical sciences is made by learned professors of Universities, politicians and the government officers in education ministry without consulting the students for whom it is made. Student's Accreditation of curriculum may be useful in further modification of teaching & learning methods. In Nepal, Medical education is an experimental integrated teaching of four and half years for MBBS degree is going on for more than two decades, until now no Accreditation has been done as to what type of Doctors we are producing. The aim of the study was to find out whether integrated teaching or classical medical studies produce better doctors.

**Material & Methods:** The study was conducted from November 2009 to February 2010 at Manipal college of Medical Sciences, Pokhara, Nepal. The present study was done to assess the teaching/learning and evaluation procedures adopted by getting Accreditation from students of 2nd, 3rd and 4th semester. A structured questionnaire was prepared and a pilot study consisting of 10 students from each batch (randomly selected) was done. Results were analyzed and discussed by the authors before undertaking the main study. Later in the main study accreditation of 186 medical students was collected by same multigraded questionnaire and analyzed for the benefit of further modification of medical education by universities and medical colleges in Nepal in particular and general elsewhere.

**Results:** All the results of the study were discussed in detailed one by one in discussion. Out of them for example one of the result of the study was that subjects like Pathology, Microbiology & Pharmacology should be reduced or not at all taught in first 2 semesters and should be continued till 7th semester like community medicine when the students attend clinical subjects for better understanding of medicine and producing better doctors.

**Conclusion:** Overall the results were alarming & may be taken up seriously by the policy makers. They can bring about amendments in course curriculum of universities in future.

**Key Words:** Medical Education; Multigraded Questionnaire; Bachelor of Medicine & Bachelor of Surgery

### 1. Introduction

Accreditation is a process widely used in higher education to evaluate the quality of educational programs. It serves an important public purpose, which is to assure citizens, government agencies, and professional groups that educational programs and institutions meet the requirement of the country.<sup>1</sup>

Medical education is centuries old & still recently it was a classical training of MBBS student for a period of four & half years plus one year compulsory internship. In classical training first one year is devoted to study of Anatomy, Physiology & Biochemistry followed by university exams. At the end of this period the medical student is conversant with normal structure & functions

of a human body, then only the paraclinical subjects like Pathology, Microbiology, Community Medicine and Pharmacology were taught in which they learn about the diseased human body and learn how to treat diseased human body in clinical years. Medical education is individualized almost one to one learning; initially the Medical students try to imitate their role model doctors who have taught them. This is followed by ENT, Ophthalmology, and Forensic Medicine in the third year, along with them the four major clinical subjects Surgery, Medicine, OBG & Pediatrics are taught in the final year.

The Case Western Reserve school of Medicine in USA started the first integrated method of teaching and learning process in the late 1950's.<sup>2</sup> Throughout the nineteenth century the American Medical school relied on apprenticeship model of education<sup>3</sup> but in the first two

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preclinical years Anatomy comprising of Histology & Embryology, Physiology including Biochemistry, Pharmacology, Pathology & Bacteriology were taught.<sup>4</sup> It was in the 20th Century subjects like Immunology, Virology & Genetics were included in the course.<sup>5</sup>

In Nepal medical education was first started in the year 1933 at Kathmandu in Nepal Rajakiya Ayurvedic Vidyalaya for the training of Ayurvedic health workers.<sup>6</sup> Civil Medical school to train the compounders and dressers was started in the year 1934.<sup>7</sup> The first idea of training the doctors was thought in 1963.<sup>8</sup> Institute of Medicine(IOM) ,Kathmandu was the first Medical college of Nepal to start the MBBS course was established in the year 1978. Thus at first integrated course in Nepal was first implemented in Tribhuban University followed by other universities like Kathmandu University. Postgraduate course on General Medicine was also started in Institute of Medicine, Kathmandu in 1982 followed by Ophthalmology in 1987 in the same institution.<sup>6</sup>

In Nepal MBBS course is divided into nine semesters. There is integrated teaching in which for the first two years all the seven subjects like Anatomy, Physiology, Biochemistry, Community Medicine. Pathology, Microbiology & Pharmacology are taught for the first two years, but Community Medicine is continued upto 7th semester. After 4th semester Medicine, Surgery, OBG & Pediatrics are introduced and continued up to 9th semester. ENT, Ophthalmology & Forensic Medicine are introduced in the 6th semester & are continued up to 7th semester.

Integrated teaching was introduced with the idea that organ based division of human body was done instead of system based division in the Classical teaching. The drawback of integrated teaching is that practically there is no integration. Pathology & Pharmacology is better understood by the student who is already seeing cases in a hospital as in Classical teaching.

This Student's Accreditation was done in Manipal College of Medical Sciences, Pokhara, Nepal because it is the oldest private medical college in Nepal. It has international students from Srilanka, Bangladesh, India, Canada, US and South Africa on its roles. Therefore this Accreditation is of great importance.

## 2. Material and Methods

After taking permission from the ethical committee for Human experiment, we designed a multi-graded

questionnaire which was pretested in a group of 10 students randomly selected from 2nd, 3rd and 4th semester and the results were analyzed by proper stastical methods.

After doing this pilot study and re-discussing the questionnaire among authors it was distributed among the medical students of the 2nd, 3rd & 4th semester. A total of 186 students participated in the study 15 students did not responded to our questionnaire. They were asked to fill the questionnaire honestly & confidentially. The study was conducted from November 2009 to February 2010 at Manipal college of Medical Sciences, Pokhara, Nepal.

In this institution some syllabi, are special. As the aim of this institution is to develop total personality of a student besides making them a good doctor. The extra syllabi here are Seminars, FNT'S, Communication skills, Personal drug selection and Problem Based learning which are not done anywhere else in this country. Eye opening results were obtained. The impact of these special topics was also highlighted in this paper

## 3. Results

The total number of students in 2nd semester was 79 out of them only 64 students were present who were given the questioner, so 81.01% students represented the 2nd semester.

Table-1: Students interested, increase in theory hours for teaching and clinical relevant for Anatomy

| No of student interested in anatomy | No of student wants to increase practical class in anatomy |     | No of students fee anatomy relevant to clinical study |     | Total |
|-------------------------------------|--|-----|---|-----|-------|
|                                     | Yes  | No  | Yes   | No  |       |
| Yes                                 | 42   | 19  | 61  | 0   | 61    |
| No                                  | 0  | 125 | 2   | 123 | 125   |
| Total                               | 42   | 144 | 63  | 123 | 186   |

P < 0.001

Similarly in 3rd semester there were 74 students and all of them filled the questionnaires so 3rd semester was represented 100%. There were 48 students in 4th semester out of them 48 filled the questionnaires so 100% represented the 4th semester.

Table-2: Students response for Community Medicine

| No of students feels Community Medicine uninteresting | No of students wants to decrease theory in Community Medicine |     | no of students thinks com med as least relevant to clinical studies |     | Total |
|---|---|-----|---|-----|-------|
|   | Yes   | No  | Yes   | No  |       |
| Yes   | 46  | 21  | 61  | 6   | 67    |
| No  | 0   | 119 | 0   | 101 | 101   |
| Total   | 46  | 140 | 61  | 107 | 168   |

Appropriate statistical method was applied to show significance of this survey. There can be some relationship in some of the questions. Whereas in others there is all or none replies.

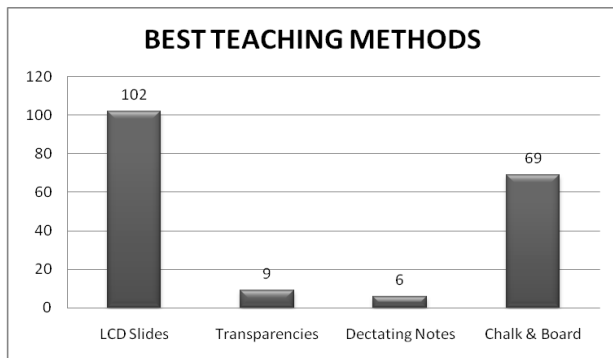


Figure-1: Best Teaching Methods

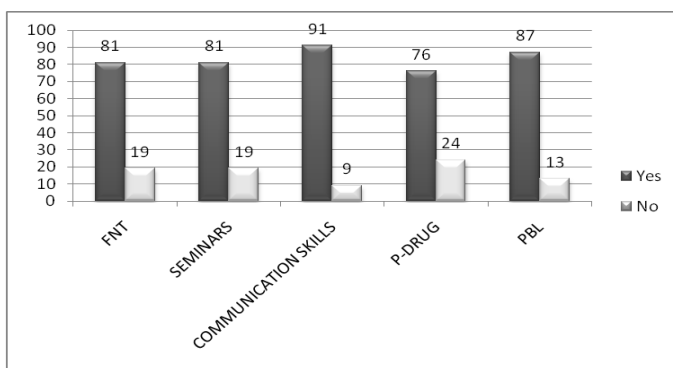


Figure-2: FNT'S, Seminars, Communication Skills, P Drug selection, PBL Should be there (Yes) or to be removed (no)

Some of the questions were on teaching methods and some questions were on those topics in Pharmacology practical's. There are some topics which are not covered anywhere in Nepal like Communication skill, Forth nightly tests, seminars and selection of P drugs. Our Problem based learning is also slightly modified as compared from other medical Institutions of Nepal.

#### 4. Discussion

Discussing Multigraded questionnaire one by one, the most interesting basic medical science subject was Anatomy (33%), followed by Physiology (21%), Pharmacology (14%) & Pathology (12%). Very few has opted for Microbiology (4%) & Community Medicine (4%). There was some relation between the most interesting subject, most relevant subject to the clinical studies, subject in which the theory as well as the practical hours should be increased. It was found that 61 students out of 186 said that the most interesting subject is Anatomy. It was also interesting to know that out of 61 students those who said Anatomy as the most interesting subject among them 46 and 43 students wanted the-

ory and practical classes should be increased in Anatomy. 63 students also said that Anatomy is the most relevant subject to clinical studies. The Cross tabulation between the most interesting subject and the practical hours should be increased and their significance was found by application of chi square test is shown in Table-1. It was found that  $p < 0.001$ . The relation of most interesting subject and clinical relevant subject is also shown in Table 1. 67 students found Community Medicine as the most uninteresting subject and teaching hour should be decreased in Community Medicine (46 students). Out of 67 students who said community Medicine as the most uninteresting subject 61 also said that it is the least relevant subject to the clinical studies. The relation among these is shown in Table-2. The  $p < 0.001$ , so it is statistically significant). Whereas the practical hours should be decreased in Microbiology (34 students) Then there were questions on special aspects in Pharmacology as mentioned above. 151 students medical students said that FNT & Seminars were necessary whereas 169 said that there should be communication skills-P Drug is not liked by 45 & 162 students said that there should be PBL. This is shown in Fig- 2. Almost 91% students didn't respond to the question no.11 This question was on teaching methods & Examination pattern. LCD slides (102 students) according to them is the best teaching method followed by chalk & board (69 students) shown in Fig-1. Sessional examination should be less frequent, according to them (42%). If assured of attendance students would not like to attend Community Medicine class (41%). According to 34% Pharmacology should be extended up to 7th semester like Community Medicine. Majority agrees to finish Anatomy, Physiology & Biochemistry before other subjects of Basic medical sciences. Whereas 65% of the students says that integrated system is better, as they are not sure that which one is better. It is for the Universities to decide which one is better & to be continued.

#### 5. Conclusion

Medical education is for life long because in Medical colleges we develop a personality of a doctor irrespective of social status & most of us try to copy our respected teachers & we try to cultivate their good points in our personality. As evident from this paper that certain subjects like Pathology & Pharmacology requires a clinical background & it is important for the medical students to see patients of a particular disease where treatment or Pathology is being taught to him/her in

class. So, in case integrated teaching is continued it is very important that these subjects should be reduced in first four semesters or not at all taught & continued till 7th semester to train better doctors of tomorrow.

According to the students for teaching medical science it will be better that medical postgraduate be employed except in Biochemistry, rest of the subjects require a medical background of a teacher. Gradually Basic medical science subjects are not attracting medical people; the Universities should device ways & means to make them more attractive.

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