

Present Teaching Learning Status of ‘Allied Subjects of Surgery’ in Undergraduate Medical Education of Bangladesh: Teachers’ Views

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Abstract

Introduction : This cross sectional study was conducted to identify the views of teachers of Surgery and its Allied Subjects about the present status of ‘Allied Subjects of Surgery’ in undergraduate medical education of Bangladesh. The study was conducted from January 2021 to December 2021. **Methods :** A self-administered semi-structured questionnaire was administered to collect data from 160 teachers of Surgery and its Allied Subjects. Convenience sampling technique was adopted for selection of eight medical colleges and the respondents were selected from the colleges purposively. **Results :** Study revealed that the contents and time allocated in the curriculum for the Surgery and its Allied Subjects were satisfactory but actual teaching hours and different teaching learning issues like number of teachers, lecture classes, tutorial classes, bedside teaching, evening clinical teaching, teaching at operation theater, teaching at emergency and casualty were poor in different Allied subjects of Surgery compared to General Surgery, Otolaryngology and Ophthalmology; and these differences were statistically significant in all most all cases. **Conclusion :** Hence it can be recommended that newer Allied Subjects of Surgery should get optimum importance during teaching learning in undergraduate medical education of Bangladesh.

Keywords: Allied Subjects of Surgery, Teaching learning of Surgery, Allied Subjects, Undergraduate medical education of Bangladesh.

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Introduction

Clinical teaching is the teaching and learning focused on and usually directly involving patients and their problems¹. Clinical teaching lies at the heart of medical education². At undergraduate level, medical and dental schools strive to give students as much clinical exposure as possible³. Common problems found with

clinical teaching are as follows: lack of clear objectives and expectation; focus on factual recall rather than on development of problem solving skills and attitudes; teaching pitched at the incorrect level, usually too high; passive observation instead of active participation of learners; inadequate supervision and provision of feedback; little opportunity for reflection and

discussion; informed consent not sought from patients; lack of respect or privacy and dignity of patients and lack of continuity with the rest of the curriculum⁴. A survey of students' perceptions of 'good' and 'bad' teaching concluded that teachers' interpersonal behavior, how carefully they prepare and plan their teaching and ability to run their session well, determine their worth as clinical teachers⁵. The process of medical education in Bangladesh began with the establishment of the Mitford school of medicine and Hospital at Dhaka within the early 20th century. The medical education system inherited the standard features of colonial education, which is extremely much on the traditional pattern: lecture-based, teacher-centered, discipline-based, examination-driven and hospital-oriented. Till 1988, there was no formal medical curriculum except a syllabus, published by Bangladesh Medical and Dental Council⁶. According to MBBS curriculum, 2012 Allied Subjects of Surgery are Orthopedics, Radiology, Radiotherapy, Transfusion medicine, Anesthesia, Neurosurgery, Pediatric Surgery, Urology, Burn Plastic Surgery, Emergency & casualty, Ophthalmology, and Otolaryngology. It is believed that due to more time and effort given for General Surgery, Ophthalmology & Otolaryngology both in teaching and assessment and lack of different facilities, the teaching and learning of other Allied Subjects of Surgery (Orthopedics, Radiology, Radiotherapy, Transfusion medicine, Anesthesia, Neurosurgery, Pediatric Surgery, Urology, Burn

Plastic Surgery, Emergency & casualty) are relatively neglected at undergraduate level which is reducing the competency of MBBS doctors in Bangladesh to manage the basic surgical problems in practical field. The objectives of this study is to find out the teachers' views regarding present teaching learning status of allied subjects of surgery' in undergraduate medical education of Bangladesh..

Methodology

This cross-sectional descriptive study was conducted from 01 January 2021 to 31 December 2021 (01 year) among the teachers of surgery and its allied subjects of eight medical colleges of Bangladesh which were selected conveniently. The sample size was 160. Purposive sampling technique was adopted to collect data. Their views were collected by using a self-administered semi structured questionnaire that contained twenty three questions on different aspects of teaching learning, assessment in final professional examination, barriers and suggestions about Surgery and its allied subjects in undergraduate medical education of Bangladesh. The questionnaires were distributed to the teachers of general surgery and its allied subjects and were collected with the responses and in some cases those were collected by online (WhatsApp) procedure due to COVID 19 pandemic situation. Data were computed and processed using SPSS software program version 26.

Result

Table 1 Distribution of teachers by their opinion about different issues of teaching in Surgery and allied subjects in MBBS course (n=160)

Issues related to the curriculum	Number (%) of agreement with corresponding score				Mean(\pm SD)
	HIAdq	IAdq	Adq	HAdq	
	1	2	3	4	
Contents of in the curriculum	2(1.3)	14(8.8)	75(46.9)	69(43.1)	3.32(0.686)
Total time allocated for in the curriculum	3(1.9)	17(10.6)	73(45.6)	67(41.9)	3.28(0.726)
Existing number of teachers at your department	1(6)	36(22.5)	5(36.3)	65(840.6)	3.17(0.795)
Total lecture classes allocated for respective allied subject of surgery	5(3.1)	40(25.0)	82(51.3)	33(20.6)	2.89(0.757)
Actual teaching hour that is available to teach the students	17(10.6)	44(27.5)	72(45.0)	27(16.9)	2.68(0.879)
Total tutorial classes allocated	20(12.5)	56(35.0)	69(43.1)	15(9.4)	2.49(0.832)
Scope of bed side teaching	20(12.5)	61(38.1)	70(43.8)	9(5.6)	2.42(0.781)
Total classes allocated at outdoor	32(20.0)	81(50.6)	32(20.0)	15(9.4)	2.28(1.083)
Scope of teaching in operation theatre	23(14.4)	72(45.0)	65(40.6)	0(0.0)	2.26(0.696)
Total classes allocated at emergency	36(22.5)	95(59.4)	27(16.9)	2(1.3)	1.98(0.713)

HIAdq = Highly Inadequate, IAdq = Inadequate, Adq = Adequate, HAdq = Highly Adequate

Table 1 showed distribution of teachers by their opinion about different issues of curriculum and teaching in Surgery and Allied Subjects in MBBS course. From their opinion it was found that out of 4 point scores, the mean scores of ‘contents in the curriculum’, ‘time allocated in the curriculum’ and ‘existing number of teachers in respective department’ were above 3. In case of ‘actual teaching hour

that is available to teach the students’, ‘total lecture classes allocated in the subjects’ the mean score in between 2.5 to 3. In case of ‘total tutorial classes allocated’, ‘scope of bed side teaching’, ‘total classes allocated at outdoor’ and ‘scope of teaching in operation theatre’ the mean score in between 2 to 2.5 . In case of ‘total classes allocated at emergency’ mean score was below 2.

Table 2 Comparing opinion of teachers about different issues of curriculum about teaching in Surgery and allied subjects in MBBS course (n=160)

Issues related to curriculum and teaching	Mean(\pm SD) of the level of agreement of different subjects groups				P Value
	Group A (n=50)	Group B (n=33)	Group C (n=36)	Group D (n=41)	
Contents in the curriculum	3.80(.404)	3.30(.467)	3.08(.732)	2.95(.740)	.000*
Total lecture classes allocated	2.73(.674)	2.64(.639)	2.46(.596)	2.89(.757)	.000*
Total time allocated in the curriculum	3.76(.517)	3.30(.467)	3.08(.732)	2.83(.771)	.000*
Existing number of teachers in your department	3.54(.676) ^β	3.27(.839) ^β	3.08(.732)	2.71(.716)	.000*
Total tutorial classes allocated	2.39(.609)	2.28(.741)	1.90(.700)	2.49(.832)	.000*
Actual teaching hour that is available to teach the students	3.40(.670)	2.52(.667)	2.44(.735)	2.15(.823)	.000*
Scope of teaching in operation theatre	2.72(.497)	2.18(.528)	2.08(.649)	1.93(.787)	.000**
Total classes allocated at outdoor	2.58(.499)	3.09(1.47) ^α	1.67(.586)	1.80(1.054)	.000**
Total classes allocated at emergency	2.34(.557) ^β	2.09(.459) ^β	1.69(.577)	1.71(.929)	.000**
Scope of bed side teaching	3.04(.570)	2.55(.564)	2.39(.599)	1.61(.542)	.000**

*One way regular ANOVA done due to homoscedasticity

** Welch ANOVA done due to heteroscedasticity

Group A includes the opinion of teachers of Surgery, Ophthalmology and Otolaryngology

Group B includes the opinion of teachers of Orthopedics, Emergency and casualty

Group C includes the opinion of teachers of Neurosurgery, Pediatric Surgery, Urology and Burn & Plastic surgery

Group D includes the opinion of teachers of Radiology, Radiotherapy, Transfusion Medicine and Anesthesia.

teaching in ‘Surgery and Allied Subjects’ in MBBS course. The mean scores were statistically very higher in case of Group A than other groups in the most of the cases except the ‘α’ marked area where Group B had higher mean than Group A. After regular ANOVA / Welch ANOVA Post Hoc Dennett 2-sided t test were done to examine the differences between Group A and other groups. It was different in all cases except the ‘β’ marked areas where there were no differences between group A and Group B.

Table 2 comparing the opinion of teachers about different issues of curriculum about

Discussion

From the overall mean scores of the opinions of the teachers (table 1) it was found that contents and time allocated in curriculum and existing number of teachers in different branches of Surgery can be considered as satisfactory (mean score >3). This table also indicates that some teaching related issues need improvement because the mean scores of actual teaching hour and total lecture classes were slightly below this satisfactory level. It was also found that some teaching related issues need more attention because mean scores of hours or time for total tutorial and outdoor classes, scope of bed side teaching and teaching in operation theatre were much below the satisfactory level and for classes allocated at emergency were very poor. The situation coincides with another study of USA where the students are able to graduate from more than two thirds (68 per cent) of their medical schools without having any required clinical exposure (other than some lectures) to urology⁷.

In this study for easy comparison among different branches of Surgery, four groups were created according to similarity of scope of teaching and learning. Groups are: Group A includes the opinion of teachers of Surgery, Ophthalmology and Otolaryngology; Group B includes the opinion of teachers of Orthopedics, Emergency and Casualty; Group C includes the opinion of teachers of

Neurosurgery, Pediatric Surgery, Urology and Burn & Plastic surgery; and Group D includes the opinion of teachers of Radiology, Radiotherapy, Transfusion Medicine and Anesthesia.

The mean scores regarding all issues of teaching (table 2) Group A was in better condition than other groups except total classes allocated at outdoor where Group B has slightly higher mean than Group A. There were statistically significant difference among the mean scores of group A with other groups except total classes allocated at emergency and existing number of teachers in respective department where there were no difference between group A and Group B. From these findings it can be assumed that Surgery, Ophthalmology and Otolaryngology were in better position than other subjects. Similarly Orthopedics, Emergency and Casualty were in better position in some cases than other subjects. This findings probably due to Surgery, Ophthalmology and Otolaryngology have been being recognized as separate subjects from beginning of MBBS course in Bangladesh and Orthopedics (including Emergency and Casualty) got importance just after the independence of Bangladesh due to increased demand in that situation; on the other hand, other subject relatively new and gradually flourishing in the country. A study of India showed that, in most of the government hospitals and medical colleges across India still lack basic neurosurgical infrastructure, and hence incapable of

providing neurosurgical training⁸.

Conclusion

The contents and time allocated in the curriculum for the Surgery and its Allied Subjects were satisfactory but actual teaching hour and teaching learning status of different Allied subjects of Surgery except General Surgery, Otolaryngology and Ophthalmology were poor in many aspects. Now we should give adequate

emphasis during teaching learning on these Allied Subjects according to the curricular contents which were definitely formulated considering the country health need.

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References

1. Islam MS, Khan I, Talukder HK and Akther HK. Clinical teaching in dermatology of Undergraduate Medical Students of Bangladesh [Internet]. Bangladesh Journal of Medical Education. 2010; 01(01):16-24. Available at: <https://www.banglajol.info/index.php/BJME/article/view/12854/9240>
2. Bissel V, McKelie RA, Kinane DF, McHugh S Teaching periodontal pocket charting to dental students: a comparison of computer assisted learning and traditional tutorials [Internet]. Br Dent J, 2003; 195(6):333-336. Available from: DOI: 10.1038/sj.bdj.4810535 (Accessed: 13 October 2021).
3. Chadwick RG, Carena AP, Hunter B, Campbell K, Evaluation of a head mounted camera for clinical dental teaching [Internet]. Br Dent J. 2008; 204(2): 93-96. Available at: DOI: 10.1038/bdj.2008.10.
4. Janada MS, Schitteck, Simulation of patient encounters using a virtual patient in periodontology instruction of dental students: design, usability and learning effect in history taking skills[Internet]. Eur J Dental Educ, 2004; 8(3): 111-119. Available from: DOI: 10.1111/j.1600-0579.2004.00339.x.
5. Metcalfe DH, Mathura M, (1995) Students' perceptions of good and bad teaching: report of a critical incident study [Internet]. Med Educ, 1995; 29(3): 193-197. Available at: doi: 10.1111/j.1365-2923.1995.tb02829.x.
6. Majumder MAA, Medical Education in Bangladesh: Past Successes, Future Challenges. Bangladesh Medical Journal. 2003; 32: 37-39. Available at: http://www.academia.edu/205999/Medical_Education_in_Bangladesh_Past_Successes_Future_Challenges.
7. Rous S N, Lancaster C, (1988). The current status of undergraduate urological teaching [Internet]. The Journal of urology, 1988; 139(6): 1160-1162. Available at: doi: 10.1016/s0022-5347(17)42846-1.
8. Raj A, Agrawal A. (2018) Neurosurgery in

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India: Success and challenges [Internet].
Medicine, Kasturba Medical College,
Manipal, Karnataka, India, Department of
Neurosurgery, Narayana Medical College
Hospital, Nellore, Andhra Pradesh, India,

2018; Available at: <https://www.ijam-web.org/article.asp?issn=2455,5568;year=2018;volume=4;issue=1;spage=89;epage=90;aulast=Raj>.