



Original Article

Present Assessment Status of 'Allied Subjects of Surgery' In Undergraduate Medical Education of Bangladesh: Fresh MBBS Graduates' Views

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Abstract

Background: The assessment is an integral part of the clinical teaching-learning process in undergraduate medical education.

Methods: This cross-sectional study was conducted to identify the views of fresh MBBS graduates about the present assessment status of 'Allied Subjects of Surgery' in undergraduate medical education in Bangladesh. The study was conducted from January 2021 to December 2021. Self-administered semi-structured questionnaires were administered to collect data from 40 fresh MBBS graduates. Data were collected from purposively selected 40 fresh MBBS graduates who passed the MBBS course with the completion of internship training within five years working in government and private hospitals or giving health care services in their chamber after getting permission from the respondents.

Results: This Study revealed that the conditions of different issues like formative assessments, summative assessments (Professional examinations), short answer questions (SAQ), multiple choice questions (MCQ), structured oral examinations (SOE), objective structured clinical examinations (OSCE) and short cases were poor and in case of long cases were very poor in most of the Allied Subjects of Surgery compared to General Surgery, Otolaryngology and Ophthalmology. These differences were also statistically highly significant in all cases.

Conclusion: Hence it can be recommended that most of the Allied Subjects of Surgery should get optimum importance during the assessment procedures in undergraduate medical education of Bangladesh according to the health needs of the community and current global health care situation.

Keywords: Allied Subjects of Surgery, Assessment of Surgery, Assessment of Allied Subjects of Surgery, Undergraduate Medical Education.

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Introduction

Clinical teaching is the teaching and learning focused on and usually directly involving patients

and their problems.¹ Clinical teaching lies at the heart of medical education.² At the undergraduate level, medical and dental schools strive to give

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students as much clinical exposure as possible.³ The purpose of assessment is to meet the public anticipation about the quality of graduates, to give feedback to the educational directors about the class, to separate the scholars according to their gift, and to cover their literacy. The assessment also provides a high degree of fairness and neutrality in testing and produces data to enable constant quality enhancement.⁴ The welfare and, indeed, the future health of people depend on the quality of medical graduates, and the quality of medical graduates depends on the quality of medical education. Educationists believe that changing the learners' assessment style can affect how students engage with the topic contents.⁵ The process of medical education in Bangladesh began with the establishment of the Mitford school of medicine and Hospital at Dhaka in the early 20th century. Medical education inherited the standard features of colonial education, which is significantly much on the typical 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 Council.⁶ Medical education should always be moving like a river. Otherwise, it will not reach a deal with new health issues. However, curriculum change is not easy, and 'turf battles' are expected.⁷ According to the MBBS curriculum, 2012 Allied Subjects of Surgery are Orthopedics, Radiology, Radiotherapy, Transfusion medicine, Anesthesia, Neurosurgery, Pediatric Surgery, Urology, Burn Plastic Surgery, Emergency & casualty, Dentistry, Ophthalmology, and Otolaryngology. It is believed that due to

Results

Comparing the level of satisfaction of fresh graduates about marks allocated in the written segment in the final professional examination between Surgery with other Allied Subjects in the MBBS course, it was found that the mean scores were higher in the case of Surgery than all Allied Subjects except Ophthalmology and Otolaryngology and the differences were statistically highly significant in case of all Allied Subjects except Ophthalmology and Otolaryngology as shown in table 1.

more time and effort given to General Surgery, Ophthalmology & Otolaryngology and the lack of different facilities, the teaching and learning of Allied Subjects of Surgery are relatively neglected at the undergraduate level, which is reducing the competency of MBBS doctors in Bangladesh to manage the fundamental surgical problems in the practical field.

Materials and Methods

This cross-sectional descriptive study was conducted from 01 January 2021 to 31 December 2021 after approval from the Intuitional Review Board (IRB) of the Centre for Medical Education of Bangladesh (CME) as a part of the thesis of Masters in Medical Education (MMEd) under Bangabandhu Sheikh Mujib Medical University (BSMMU). Data were collected from purposively selected 40 fresh MBBS graduates who passed the MBBS course with the completion of internship training within five years working in government and private hospitals or giving health care services in their own chamber after getting permission from the respondents. Their comments regarding assessment were collected in a self-administered semi-structured questionnaire that contained fifteen questions on this issue in Surgery and its Allied Subjects in undergraduate medical education in Bangladesh. The questionnaires were distributed to the fresh MBBS graduates and were collected with the responses face to face; in some cases, these were collected by online (WhatsApp) procedure due to restrictions in the COVID-19 pandemic situation. Data were entered, processed, and analyzed by using the SPSS software program version 26.

Table 1: Level of satisfaction of fresh graduates about marks allocated in the written segment in the final professional examination of Surgery and its Allied Subjects in MBBS course (n=40)

Subjects	Level of satisfaction with the corresponding grade				Mean(+SD)	P value
	HIAd=1	IAd=2	Ad=3	Had=4		
Surgery	-	-	12(30.0)	28(70.0)	3.70(.464)	Act as control
Orthopedics	--	3(7.5)	22(55.0)	15(37.5)	3.30(.608)	.001*
Radiology	1(2.5)	1(2.5)	1(2.5)	-	2.58(.549)	.000*
Radiotherapy	4(10.0)	16(40.0)	20(50.0)	-	2.40(.672)	.000**
Transfusion medicine	4(10.0)	19(47.5)	16(40.0)	1(2.5)	2.35(.700)	.000**
Anesthesia	2(5.0)	9(22.5)	28(70.0)	1(2.5)	2.70(.608)	.000*
Neurosurgery	1(2.5)	11(27.5)	28(70.0)	-	2.68(.526)	.000*
Pediatric Surgery	-	8(20.0)	31(77.5)	1(2.5)	2.83(.446)	.000*
Urology	-	4(10.0)	33(82.5)	3(7.5)	2.98(.423)	.000*
Burn Plastic Surgery	-	15(37.5)	25(62.5)	-	2.63(.490)	.000*
Emergency & casualty	1(2.5)	12(30.0)	25(62.5)	2(5.0)	2.70(.608)	.000*
Ophthalmology	-	1(2.5)	9(22.5)	30(75.0)	3.73(.506)	.818*
Otolaryngology	-	-	8(20.0)	32(80.0)	3.80(.405)	.308*

*Unpaired t test done due to homoscedasticity **Welch t test done due to heteroscedasticity HIAdq = Highly Inadequate, IAdq = Inadequate, Adq = Adequate, HAdq = Highly Adequate

Comparing the level of satisfaction of fresh graduates about marks allocated in the oral segment in the final professional examination between Surgery with other Allied Subjects in the MBBS course, it was found that the mean scores were higher in the case of Surgery than all Allied Subjects except Ophthalmology and Otolaryngology and the differences were statistically highly significant in case of all Allied Subjects except Ophthalmology and Otolaryngology as shown in table 2.

Table 2: Level of satisfaction of fresh graduates about marks allocated in the oral segment in the final professional examination of Surgery and its Allied Subjects in MBBS course (n=40)

Subjects	Level of satisfaction with the corresponding grade				Mean(+SD)	P value
	HIAd=1	IAd=2	Ad=3	Had=4		
Surgery	-	1(2.5)	12(30.0)	27(67.5)	3.65(.533)	Act as control
Orthopedics	-	4(10.0)	28(70.0)	8(20.0)	3.10(.545)	.000*
Radiology	1(2.5)	18(45.0)	21(52.5)	-	2.50(.555)	.000*
Radiotherapy	4(10.0)	24(60.0)	12(30.0)	-	2.20(.608)	.000*
Transfusion medicine	4(10.0)	28(70.0)	8(20.0)	-	2.10(.545)	.000*
Anesthesia	1(2.5)	15(37.5)	24(60.0)	-	2.58(.549)	.000*
Neurosurgery	1(2.5)	15(37.5)	24(60.0)	-	2.58(.549)	.000*
Pediatric Surgery	-	11(27.5)	28(70.0)	1(2.5)	2.75(.494)	.000*
Urology	-	6(15.0)	31(77.5)	3(7.5)	2.93(.474)	.000*
Burn Plastic Surgery	-	22(55.0)	18(45.0)	-	2.45(.504)	.000*
Emergency & casualty	1(2.5)	20(50.0)	18(45.0)	1(2.5)	2.48(.599)	.000*
Ophthalmology	-	-	12(30.0)	28(70.0)	3.70(.464)	.656*
Otolaryngology	-	1(2.5)	9(22.5)	30(75.0)	3.73(.506)	.521*

*Unpaired t-test was done due to homoscedasticity

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

Comparing the level of satisfaction of fresh graduates about marks allocated in the practical segment in the final professional examination between Surgery with other Allied Subjects in the MBBS course, it was found that the mean scores were higher in the case of Surgery than all Allied Subjects except Ophthalmology and Otolaryngology and the differences were statistically highly significant in case of all Allied Subjects except Ophthalmology and Otolaryngology as shown in table 3.

Table 3: Level of satisfaction of fresh graduates about marks allocated in the practical segment in the final professional examination of Surgery and its Allied Subjects in MBBS course (n=40)

Subjects	Level of satisfaction with the corresponding grade				Mean(+SD)	P value
	HIAd=1	IAd=2	Ad=3	Had=4		
Surgery	1(2.5)	1(2.5)	10(25.0)	28(70.0)	3.63(.667)	Act as control
Orthopedics	1(2.5)	3(7.5)	27(67.5)	9(22.5)	3.10(.632)	.001*
Radiology	2(5.0)	17(42.5)	21(52.5)	-	2.48(.599)	.000*
Radiotherapy	5(12.5)	23(57.5)	12(30.0)	-	2.17(.636)	.000*
Transfusion medicine	5(12.5)	27(67.5)	8(20.0)	-	2.08(.572)	.000*
Anesthesia	2(5.0)	15(37.5)	23(57.5)	-	2.53(.599)	.000*
Neurosurgery	2(5.0)	17(42.5)	21(52.5)	-	2.48(.599)	.000*
Pediatric Surgery	1(2.5)	12(30.0)	27(67.5)	-	2.65(.533)	.000*
Urology	1(2.5)	5(12.5)	32(80.0)	2(5.0)	2.88(.516)	.000*
Burn Plastic Surgery	1(2.5)	22(55.0)	16(40.0)	1(2.5)	2.42(.594)	.000*
Emergency & casualty	2(5.0)	22(55.0)	13(32.5)	2(5.0)	2.38(.673)	.000*
Ophthalmology	-	1(2.5)	11(27.5)	28(70.0)	3.68(.526)	.452*
Otolaryngology	-	1(2.5)	5(12.5)	34(85.0)	3.80(.564)	.601*

*Unpaired t-test was done due to homoscedasticity

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

Discussion

In the case of marks allocated in the written segment and marks allocated in the practical segment of the final professional examination, it was found that the mean scores were higher in Surgery than all Allied Subjects except Ophthalmology and Otolaryngology, and the differences were statistically highly significant ($P < .05$) in case of all Allied Subjects except Ophthalmology ($P = .818$) and Otolaryngology ($P = .308$) in the written segment and Ophthalmology ($P = .452$) and Otolaryngology ($P = .601$) in the practical segment. So in the case of marks allocated in the written segment and practical segment of the final professional examination,

Surgery, Ophthalmology, and Otolaryngology got more preference than other branches of Surgery.

In the case of marks allocated in the oral segment in the final professional examination, it was found that the mean scores were higher in the case of Surgery than in all Allied Subjects except Ophthalmology and Otolaryngology, and the differences were statistically highly significant ($P < .05$) in case of all Allied Subjects except Ophthalmology ($P = .656$) and Otolaryngology ($P = .521$). So in the case of marks allocated in the oral segment of the final professional examination General Surgery, Ophthalmology, and Otolaryngology got more priority than other branches of Surgery.

So from the above discussion, according to the opinion of the fresh MBBS graduates, General Surgery, Ophthalmology, and Otolaryngology got more priority in different assessment procedures in the final professional examination of Surgery in the MBBS course. These findings probably due to General Surgery, Ophthalmology, and Otolaryngology have been being recognized as separate subjects and having separate papers in written examinations and separate viva boards from the beginning of the MBBS course in Bangladesh, whereas the newer subjects getting relatively less priority in case of different segment of assessment still now which also hampering their teaching-learning (table 9-14). There is an unavoidable truth that assessment drives learning⁸. In a study in India, they felt that their students were assessing subjects from an examination point of view rather than importance in clinical practice. One student wrote that 'the teaching is sufficient for the 60 marks of theory and one short case which is the required in the Orthopedics MBBS examination'. Another student mentioned, 'Orthopedics is a low priority than the upper marks awarded to other final MBBS Subjects.' Orthopedics, therefore, must be accorded the status of a separate subject within the medical curriculum with independent evaluation, almost like ENT or Ophthalmology. So expanding the curriculum isn't sufficient; the examination process must be more relevant⁹. In a study in India, it was recommended that Pediatric Surgery should be included as a separate subject in the medical curriculum with independent evaluation similar to Pediatric Medicine, Orthopedics, ENT, etc. The examination process must be more relevant, practical oriented and these changes will eventually translate into raised patient care¹⁰

Conclusion

The newer Allied Subjects of Surgery that were included in the MBBS curriculums in 2002 and 2012 are neglected in present assessment procedures compared to Surgery, Ophthalmology, and Otolaryngology in the MBBS course of Bangladesh. Now we should give adequate emphasis during assessments on these Allied Subjects according to the curricular contents,

which were definitely formulated considering the country's health needs.

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Conflict of interest: None declared

References

1. Islam MS, Khan I, Talukder HK and Akther HK. Clinical teaching in dermatology of Undergraduate Medical Students of Bangladesh [Intenete]. Bangladesh Journal of Medical Education. 2010; 01(01):16-24. Available from: <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 from: DOI: 10.1038/bdj.2008.10.
4. Amin Z, Purposeful assessment Medical Education 2012[Internet]. Med Edu. 2012; 46: 3-12. Available from: <http://dx.doi.org/10.1111/j.1365-2923.2011.04170.x> PMID:22150188.
5. Salam A, Rabeya Y, Mahmood CB. Assessment in undergraduate medical education: a review of course exams [Internet]. JCMCTA. 2013;15(1&2):15-18. Available from: <https://www.academia.edu/48222805/>.
6. Majumder MAA, Medical Education in Bangladesh: Past Successes, Future Challenges. Bangladesh Medical Journal. 2003; 32: 37-39. Available from: http://www.academia.edu/205999/Medical_Education_in_Bangladesh_Past_Successes_Future_Challenges.
7. Harden R M, An Educational Series. Trends and the future of postgraduate medical education [Internet]. Emerg Med J. 2006; 23(10):798-802. Available from: <https://dx.doi.org/10.1136%2Femj.2005.033738>.
8. Wormald BW, Schoeman S, Somasunderam A, Penn M, Assessment Drives Learning: An Unavoidable Truth? [Internet] Centre for Medical and Healthcare Education, St George's, University of London, London, United Kingdom, Anat Sci Educ. 2009; 2: 199-204. Available from: https://www.researchgate.net/publication/26801830_Assessment_Drives_Learning_An_Unavoidable_Truth.

9. Menon J, Patro D K, (2009) Undergraduate orthopedic education: Is it adequate? [Internet]. Indian J Orthop. 2009[cited 20 October 2021]; 43(1): 82–86. Available from: doi: 10.4103/0019-5413.45328.
10. Mukhopadhyay B, Undergraduate medical education in India and scope of pediatric surgery teaching [Internet]. J Indian Assoc Pediatr Surg. 2009[cited 12 October 2021]; 14(3): 83-84. Available from:doi: 10.4103/0971-9261.57697.

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