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Science and technology is advancing every day. Similarly medical science is advancing rapidly. To cope up with this advancement the process of medical education (consisting of Teaching & Learning & other issues) should also develop similarly. Keeping in mind the above fact, CME is dedicating this volume of journal to medical education related articles only. The articles in this issue will focus light on different aspects of medical education and will help to build up awareness about different dimensions and importance of medical education among the medical teachers.

A cross sectional study was conducted by Sharmeen A et al. on "Satisfaction of Medical Interns and clinical teachers on duration of internship in Bangladesh". The participants were 400 intern and 50 clinical teachers of eight (both govt. & non govt.) medical colleges of Bangladesh. The study revealed that the interns and clinical teachers had high level of satisfactions (3.6 to 4.4 mean score in 5 point Likert scale) with the duration of placement in different departments of 'Medicine and allied subjects', 'Surgery and allied subjects' and 'Gynecology and allied subjects'.

Talukder MAS et al. conducted a descriptive type of cross sectional survey on "Teachers' perception about the present resources and future scope of e-learning and assessment in medical colleges of Bangladesh" among 172 teachers of all four phases of 8 randomly selected medical colleges (both govt. & non govt.) of Bangladesh. According to this study all of the teachers stated that there were no e-library and only 9.3% teachers assured about the presence of established IT Lab in their medical colleges. The teachers expressed their concern so that the authority should take necessary steps for implementing e-library and e-assessment facility in their institutes that will improve the quality of undergraduate medical education in future.

Rahman MM et al. conducted a cross sectional study on "Present teaching learning status of 'Allied subjects of surgery' in undergraduate medical education of Bangladesh: Fifth year students' and intern doctors' views". The study participants were 138 fifth year students and 151 intern doctors from different medical colleges (both govt. & non govt.). The study revealed that the contents and time allocated in the curriculum for the surgery and 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 theatre, teaching at emergency and casualty were poor in different allied subjects of surgery compared to general surgery, otolaryngology and ophthalmology and their suggestions were for improvement for these areas.

Barua R et al. conducted a cross sectional study on "Current practices of 'community based medical education (CBME) related activities in undergraduate medical education of Bangladesh: students' view", among 617 medical students of eight medical colleges (both govt. & non govt.).

According to this study most of the students were agreed that CBME related activities motivate students to serve at community level (78%) and orient them for community involvement (77.6%). Study also identified some drawback and to overcome those drawback, they suggested to ensure necessary infrastructure, adequate transport, security, resource and supervision and motivation of the stakeholders.

Murshed H et al. conducted a descriptive type of cross sectional study to explore the views of medical teachers, medical graduates and intern doctors; regarding ability of recent graduates on management of emergency cases. The study was carried out in twelve government, private and army medical colleges across Bangladesh. Sample included total 636 medical teachers, medical graduates and intern doctors. Among 636 participants, majority were intern doctors (39.3%) followed by 33.8% medical graduates and teachers (26.8%). Majority of the respondents were from government medical college i.e. 51.8% followed by 30.1% from private medical college and 18.2% from army medical college.

According to this study more than 50% teacher, medical graduate and interns respondents opined that recent medical graduates are unable to manage unconscious patient (shock, hypo and hyperglycemia, etc.), animal bite/snake bite, drowning, burn and severe injuries, if unsupervised.

None of them had given strongly positive agreement about recent medical graduates' ability on management of emergency cases. Further research needed to generalize this study finding.

This descriptive type of cross-sectional study was carried out by Uddin MN et al. in 4 government and 4 non-government medical colleges of Bangladesh to assess the quality of undergraduate medical education. The total sample size was 576, out of which there were 440 fifth year medical students, 114 clinical teachers and 22 key informants. The study revealed that there was shortage of teaching staffs and infrastructure facilities. The later consisted of capacities of lecture galleries, tutorial and practical classes, audiovisual aids, equipment for practical classes, library and hostel facilities etc. The study also revealed shortage of computer laboratories and number of computers in the computer laboratories. However numbers of hospital beds, indoor and outdoor patients were found to be sufficient except in few non-government medical college hospitals. The study recommended strict adherence to the requirements of Bangladesh Medical and Dental council (BMDC) to ensure proper learning environment in the medical colleges.

Tapu TT et al. conducted a case study on "A large scale training on teaching methodology and assessment: an enthusiastic journey by CME". She mentioned that a three days long residential workshop was conducted outside Dhaka to train focal persons from 34 medical colleges by

CME under guidance of DGME with a view to train up them in ToT (Training of Trainers) process so that they can train their own teachers in their respective colleges & institutes. And happily the programme has created a momentum of change in positive direction in development of teachers through training on teaching methodology & assessment.

In a review article, Alam KK et al. addressed different aspects of Teacher Evaluation (TE). He mentioned that in two studies of Bangladesh 100% Teachers opined that teacher evaluation is necessary. He discussed all key areas related to TE including definition, formats, purpose, types of evaluators, types of instruments, steps of classroom

evaluation, challenges of TE & how to overcome the challenges. He also discussed how to deal with incompetent teachers. Any reader who will go through it, will get a comprehensive idea about TE.

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# Present Teaching Learning Status of 'Allied Subjects of Surgery' in Undergraduate Medical Education of Bangladesh: Fifth- year Students and Intern Doctors' Views

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## Abstract

**Background:** Proper teaching learning is the key component of better outcome in medical education.

**Methods:** This particular section of a cross sectional study was conducted to identify the views of fifth year students and Intern doctors about the present teaching learning status of 'Allied Subjects of Surgery' in undergraduate medical education of Bangladesh. The study was conducted from January 2021 to December 2021. A self-administered semi-structured questionnaire was administered to collect data from conveniently selected 138 fifth year students and 151 Intern doctors from 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 theatre, 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 almost all cases.

**Conclusion:** 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.

## Introduction

Clinical teaching is the teaching and learning focused on

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and usually directly involving patients and their problems.<sup>1</sup> Clinical teaching lies at the heart of medical education.<sup>2</sup> At undergraduate level, medical and dental schools strive to give students as much clinical exposure as possible.<sup>3</sup> Common problems found with clinical teaching were 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 curriculum.<sup>4</sup> 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 teachers.<sup>5</sup> 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 normal 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.<sup>6</sup> 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 Allied Subjects of Surgery 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.

## Methods

This cross-sectional descriptive study was conducted from 01 January 2021 to 31 December 2021 (01 year) among the 5th year students and Intern doctors of eight medical colleges of Bangladesh which were selected conveniently. The sample size was 289 (138 students and 151 intern doctors). Purposive sampling technique was adopted to

collect data. Their views were collected by using a self-administered semi structured questionnaire that contained forty one (41) questions on different aspects of teaching learning about Surgery and its allied subjects in undergraduate medical education of Bangladesh. The questionnaires were distributed to the fifth year students and Intern doctors and were collected with the responses and in some cases these were collected by online (WhatsApp) procedure due to COVID 19 pandemic situation.

Data were computed, processed and analyzed using SPSS software program version 19 and Microsoft Excel Worksheet. This article representing a small section of a thesis work that was conducted from January 2021 to December 2021 for partial fulfilment of 'Masters in Medical Education (MMed)' degree under 'Faculty of Basic and Paraclinical Science' of 'Bangabandhu Sheikh Mujib Medical University (BSMMU)'.<sup>7</sup> This particular section tried to explore fifth- year students and intern doctors' views about the present teaching learning status of 'Allied Subjects of Surgery' in undergraduate medical education of Bangladesh.

## Results

**Table 1:** Level of satisfaction of fifth year students and intern doctors about lecture classes of Surgery and its Allied Subjects in MBBS course (n=289)

Subjects	Level of satisfaction with corresponding grade				Mean(+SD)	P value
	HIAdq=1	IAdq=2	Adq=3	Hadq=4		
Surgery	0(0.0)	9(3.1)	146(50.5)	134(46.4)	3.43(.556)	Act as control
Orthopedics	0(0.0)	32(11.1)	190(65.7)	67(23.2)	3.12(.574)	.000*
Radiology	17(5.9)	120(41.5)	142(49.1)	10(3.5)	2.50(.662)	.000**
Radiotherapy	73(25.3)	167(57.8)	46(15.9)	3(1.0)	1.93(.670)	.000**
Transfusion Medicine	82(28.4)	124(42.9)	79(27.3)	4(1.4)	2.02(.784)	.000**
Anesthesia	7(2.4)	108(37.4)	163(56.4)	11(3.8)	2.62(.602)	.000*
Neurosurgery	7(2.4)	61(21.1)	176(60.9)	45(15.6)	2.90(.674)	.000**
Pediatric Surgery	6(2.1)	44(15.2)	164(56.7)	75(26.0)	3.07(.702)	.000**
Urology	14(4.8)	70(24.2)	162(56.1)	42(14.5)	2.81(.750)	.000**
Burn Plastic Surgery	15(5.2)	118(40.8)	122(42.2)	34(11.8)	2.61(.762)	.000**
Emergency & casualty	41(14.2)	169(58.5)	38(13.1)	41(14.2)	2.27(.877)	.000**
Ophthalmology	2(.7)	12(4.2)	128(44.3)	146(50.5)	3.45(.612)	.698*
Otolaryngology	1(.3)	14(4.8)	104(36.0)	170(58.8)	3.53(.606)	.039*

\*Unpaired t test done due to homogeneity of the variance \*\*Welch t test done due to heterogeneity of the variance

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

Table 1 shows level of satisfaction of 5th year students and intern doctors about lecture classes of Surgery with other Allied Subjects in MBBS course. It was found that the mean scores were higher in 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.

**Table 2:** Level of satisfaction of fifth year students and intern doctors about tutorial classes of Surgery and its Allied Subjects in MBBS course (n=289)

Subjects	Level of satisfaction with corresponding grade Number (%)				Mean(+SD)	P value
	HIAdq=1	IAdq=2	Adq=3	Hadq=4		
Surgery	0(0.0)	14(4.8)	199(68.9)	76(26.3)	3.21(.516)	Act as control
Orthopedics	0(0.0)	65(22.5)	181(62.6)	41(14.2)	2.93(.625)	.000**
Radiology	54(18.7)	179(61.9)	55(19.0)	1(.3)	2.01(.626)	.000**
Radiotherapy	162(56.1)	124(42.9)	2(.7)	1(.3)	1.45(.532)	.000*
Transfusion Medicine	157(54.3)	103(35.6)	27(9.3)	1(.3)	1.57(.704)	.000**
Anesthesia	29(10.0)	179(61.9)	75(26.0)	6(2.1)	2.20(.636)	.000**
Neurosurgery	35(12.1)	141(48.8)	106(36.7)	7(2.4)	2.29(.707)	.000**
Pediatric Surgery	29(10.0)	119(41.2)	101(34.9)	40(13.8)	2.53(.854)	.000**
Urology	19(6.6)	120(41.5)	142(49.1)	7(2.4)	2.48(.672)	.000**
Burn Plastic Surgery	39(13.5)	139(48.1)	105(36.3)	6(2.1)	2.27(.714)	.000**
Emergency & casualty	59(20.4)	158(54.7)	36(12.5)	36(12.5)	2.17(.895)	.000**
Ophthalmology	0(0.0)	24(8.3)	124(42.9)	141(48.8)	3.40(.639)	.579**
Otolaryngology	0(0.0)	21(7.3)	121(41.9)	147(50.9)	3.44(.627)	.944**

\*Unpaired t test done due to homogeneity of the variance \*\*Welch t test done due to heterogeneity of the variance

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

Table 2 shows level of satisfaction of 5th year students and intern doctors about tutorial classes of Surgery and its Allied Subjects in MBBS course. It was found that the mean scores were higher in 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.

**Table 3:** Level of satisfaction of fifth year students and intern doctors about outdoor classes of Surgery and its Allied Subjects in MBBS course (n=289)

Subjects	Level of satisfaction with corresponding grade Number (%)				Mean(+SD)	P value
	HIAdq=1	IAdq=2	Adq=3	Hadq=4		
Surgery	7(2.4)	99(34.3)	142(49.1)	41(14.2)	2.75(.722)	Act as control
Orthopedics	6(2.1)	160(55.4)	111(38.4)	12(4.2)	2.45(.611)	.000**
Radiology	100(34.6)	159(55.0)	30(10.4)	0(0.0)	1.76(.627)	.000**
Radiotherapy	209(72.3)	77(26.6)	3(1.0)	0(0.0)	1.29(.476)	.000**
Transfusion Medicine	206(71.3)	72(24.9)	10(3.5)	0(0.0)	1.33(.578)	.000**
Anesthesia	60(20.8)	206(71.3)	17(5.9)	5(1.7)	1.90(.598)	.000**
Neurosurgery	76(26.3)	159(55.0)	47(16.3)	7(2.4)	1.95(.722)	.000*
Pediatric Surgery	69(23.9)	176(60.9)	38(13.1)	6(2.1)	1.93(.671)	.000*
Urology	45(15.6)	172(59.5)	66(22.8)	6(2.1)	2.11(.675)	.000*
Burn Plastic Surgery	74(25.6)	161(55.7)	47(16.3)	6(2.1)	1.96(.730)	.000**
Emergency & casualty	76(26.3)	162(56.1)	24(8.3)	27(9.3)	2.01(.850)	.000**
Ophthalmology	4(1.4)	45(15.6)	122(42.2)	118(40.8)	3.22(.755)	.000*
Otolaryngology	4(1.4)	43(14.9)	121(41.9)	121(41.9)	3.24(.752)	.000*

\*Unpaired t test done due to homogeneity of the variance \*\*Welch t test done due to heterogeneity of the variance

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



Table 3 shows level of satisfaction of 5th year students and intern doctors about outdoor classes of Surgery and its Allied Subjects in MBBS course. It was found that the mean scores were higher in case of Surgery than all Allied Subjects except Ophthalmology and Otolaryngology and the differences were statistically highly significant in case of all Allied Subjects of Surgery.

**Table 4:** Level of satisfaction of fifth year students and intern doctors about bed side teaching of Surgery and its Allied Subjects in MBBS course (n=289)

Subjects	Level of satisfaction with corresponding grade				Mean(+SD)	P value
	HIAdq=1	IAdq=2	Adq=3	Hadq=4		
Surgery	0(0.0)	20(6.9)	107(37.0)	162(56.1)	3.49(.624)	Act as control
Orthopedics	5(1.7)	44(15.2)	126(43.6)	114(39.4)	3.21(.758)	.000**
Radiology	60(20.8)	184(63.7)	44(15.2)	1(.3)	1.95(.610)	.000*
Radiotherapy	152(52.6)	117(40.5)	18(6.2)	2(.7)	1.55(.644)	.000*
Transfusion Medicine	171(59.2)	110(38.1)	5(1.7)	3(1.0)	1.45(.588)	.000*
Anesthesia	17(5.9)	142(49.1)	122(42.2)	8(2.8)	2.42(.646)	.000*
Neurosurgery	27(9.3)	113(39.1)	43(49.5)	6(2.1)	2.44(.690)	.000*
Pediatric Surgery	8(2.8)	109(37.7)	156(54.0)	16(5.5)	2.62(.634)	.000*
Urology	18(6.2)	103(35.6)	154(53.3)	13(4.5)	2.57(.694)	.000*
Burn Plastic Surgery	32(11.1)	145(50.2)	82(28.4)	30(10.4)	2.38(.817)	.000**
Emergency & casualty	39(13.5)	172(59.5)	58(20.1)	20(6.9)	2.20(.757)	.000**
Ophthalmology	3(1.0)	11(3.8)	28(44.3)	147(50.9)	3.45(.622)	.424*
Otolaryngology	1(.3)	7(2.4)	124(42.9)	156(54.0)	3.52(.572)	.627*

\*Unpaired t test done due to homogeneity of the variance \*\*Welch t test done due to heterogeneity of the variance

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

Table 4 shows level of satisfaction of fifth year students and intern doctors about bed side teaching of Surgery and its Allied Subjects in MBBS course. It was found that the mean scores were higher in case of Surgery than all Allied Subjects except Otolaryngology and the differences were statistically highly significant in case of all Allied Subjects except Ophthalmology and Otolaryngology.

**Table 5:** Level of satisfaction of fifth year students and intern doctors about availability of teacher of Surgery and its Allied Subjects in MBBS course (n=289)

Subjects	Level of satisfaction with corresponding grade				Mean(+SD)	P value
	HIAdq=1	IAdq=2	Adq=3	Hadq=4		
Surgery	0(0.0)	18(6.2)	100(34.6)	171(59.2)	3.53(.612)	Act as control
Orthopedics	0(0.0)	31(10.7)	94(32.5)	163(56.4)	3.46(.682)	.188*
Radiology	28(9.7)	84(29.1)	82(28.4)	95(32.9)	2.84(.993)	.000**
Radiotherapy	88(30.4)	70(24.2)	41(14.2)	90(31.1)	2.46(1.219)	.000**
Transfusion Medicine	103(35.6)	59(20.4)	40(13.8)	86(29.8)	2.38(1.246)	.000**
Anesthesia	9(3.1)	101(34.9)	110(38.1)	69(23.9)	2.83(.828)	.000**
Neurosurgery	38(13.1)	97(33.6)	87(30.1)	66(22.8)	2.63(.979)	.000**
Pediatric Surgery	26(9.0)	77(26.6)	110(38.1)	76(26.3)	2.82(.927)	.000**
Urology	16(5.5)	88(30.4)	104(36.0)	81(28.0)	2.87(.889)	.000**
Burn Plastic Surgery	27(9.3)	127(43.9)	61(21.1)	74(25.6)	2.63(.967)	.000**
Emergency & casualty	12(4.2)	138(47.8)	54(18.7)	85(29.4)	2.73(.933)	.000**
Ophthalmology	2(.7)	13(4.5)	82(28.4)	192(66.4)	3.61(.610)	.135*
Otolaryngology	1(.3)	11(3.8)	77(26.6)	199(68.9)	3.65(.576)	.015*

\*Unpaired t test done due to homogeneity of the variance \*\*Welch t test done due to heterogeneity of the variance

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

Table 5 shows level of satisfaction of fifth year students and intern doctors about availability of teacher of Surgery and its Allied Subjects in MBBS course. It was found that the mean scores were higher in 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 Orthopedics and Ophthalmology.

**Table 6:** Level of satisfaction of fifth year students and intern doctors about evening shift classes of Surgery and its Allied Subjects in MBBS course (n=289)

Subjects	Level of satisfaction with corresponding grade				Mean(+SD)	P value
	HIAdq=1	IAdq=2	Adq=3	HAdq=4		
Surgery	0(0.0)	20(6.9)	107(37.0)	162(56.1)	3.49(.624)	Act as control
Orthopedics	5(1.7)	44(15.2)	126(43.6)	114(39.4)	3.21(.758)	.000**
Radiology	60(20.8)	184(63.7)	44(15.2)	1(.3)	1.95(.610)	.000*
Radiotherapy	152(52.6)	117(40.5)	18(6.2)	2(.7)	1.55(.644)	.000*
Transfusion Medicine	171(59.2)	110(38.1)	5(1.7)	3(1.0)	1.45(.588)	.000*
Anesthesia	17(5.9)	142(49.1)	122(42.2)	8(2.8)	2.42(.646)	.000*
Neurosurgery	27(9.3)	113(39.1)	43(49.5)	6(2.1)	2.44(.690)	.000*
Pediatric Surgery	8(2.8)	109(37.7)	156(54.0)	16(5.5)	2.62(.634)	.000*
Urology	18(6.2)	103(35.6)	154(53.3)	13(4.5)	2.57(.694)	.000*
Burn Plastic Surgery	32(11.1)	145(50.2)	82(28.4)	30(10.4)	2.38(.817)	.000**
Emergency & casualty	39(13.5)	172(59.5)	58(20.1)	20(6.9)	2.20(.757)	.000**
Ophthalmology	3(1.0)	11(3.8)	28(44.3)	147(50.9)	3.45(.622)	.424*
Otolaryngology	1(.3)	7(2.4)	124(42.9)	156(54.0)	3.52(.572)	.627*

\*Unpaired t test done due to homogeneity of the variance \*\*Welch t test done due to heterogeneity of the variance

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

Table 6 level of satisfaction of fifth year students and intern doctors about evening shift classes of Surgery and its Allied Subjects in MBBS course. It was found that the mean scores were higher in case of Surgery than all Allied Subjects and the differences were statistically highly significant in case of all Allied Subjects except Ophthalmology and Otolaryngology.

## Discussion

In case of lecture classes (Table 1) and tutorial classes (Table 2) 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 ( $P = .698$ ) in lecture classes, except Ophthalmology ( $P = .579$ ) and Otolaryngology ( $P = .944$ ) in tutorial classes.

In case of outdoor classes (Table 3) it was found that the mean scores were higher in case of Surgery than all Allied Subjects except Ophthalmology and Otolaryngology and the differences were statistically highly significant in case of all Allied Subjects of Surgery ( $P < .05\%$ ).

About bed side teaching (Table 4) it was found that the mean

scores were higher in case of Surgery than all Allied Subjects except Otolaryngology and the differences were statistically highly significant in case of all Allied Subjects except Ophthalmology ( $P = .424$ ) and Otolaryngology ( $P = .627$ ).

About availability of teacher (Table 5) it was found that the mean scores were higher in 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 Orthopedics ( $P = .188$ ) and Ophthalmology ( $P = .135$ ).

In case of evening shift classes (Table 6) it was found that the mean scores were higher in case of Surgery than all Allied Subjects and the differences were statistically highly significant ( $P < .05\%$ ) in case of all Allied Subjects except Ophthalmology ( $P = .157$ ) and Otolaryngology ( $P = .407$ ).

So from the above discussion according to the opinion of the fifth year students and intern doctors General Surgery, Ophthalmology and Otolaryngology getting the main priority in all aspect of teaching learning except outdoor classes where it was equal and neglected in all Allied Subjects of Surgery. This findings are probably due to Surgery, Ophthalmology, and Otolaryngology have been being recognized as separate subjects from beginning of MBBS course in Bangladesh whereas the newer subjects getting relatively less priority till date. In another study it was shown that provision of Trauma and Orthopedics training varies between universities, with significant proportion of students reporting their undergraduate Trauma and Orthopedics training were inadequate or poor.<sup>8</sup> 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 training.<sup>9</sup> The current European exposure to urology at undergraduate level is heterogeneous, with various factors influencing future decisions regarding training and specialization. A uniform undergraduate curriculum would eliminate such heterogeneous exposure and facilitate a workforce to fit the longer term urological needs.<sup>10</sup> It was also found that availability of teacher was satisfactory in case of General Surgery, Orthopedics, Ophthalmology and Otolaryngology than other branches of Surgery (mean <3).

## 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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# Current Practices of ‘Community Based Medical Education’ Related Activities in Undergraduate Medical Education of Bangladesh: Students’ View

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## Abstract

**Background:** Community based medical education (CBME) related activities enhance learning in undergraduate medical education. It was aimed to explore the current practices of CBME related activities like residential field site training (RFST), day visit and study tour in undergraduate medical education of Bangladesh

**Methods:** This cross-sectional study was conducted from 1<sup>st</sup> January 2021 to 31<sup>st</sup> December, 2021 after approval of Institutional Review Board (IRB) of Centre for Medical Education (CME), Dhaka. Data were collected from 617 medical students of eight medical colleges of Bangladesh using online based pretested self-administered questionnaire during pandemic COVID-19 situation after taking informed consent. Convenience sampling technique was adopted to collect data from them. Data were analyzed by SPSS version 16.

**Results:** In this study, most of the students were agreed that CBME related activities motivate students to serve at community settings and orient them for community involvement (78% and 77.6% respectively). Female as well as non-government medical college students showed the statistically higher mean scores of views regarding infrastructure, transport, security and accommodation for CBME related activities like RFST, day visit and study tour. Less participation of community people, poor set up of CBME sites and inadequate supervision were important constraints for effective CBME related activities. Involving more community people, orienting students with the local ongoing government programs, providing feedback to the students and acquainting students with the local health system were mostly suggested to overcome the constraints of CBME related activities.

**Conclusion:** The study revealed some drawback in current practices of CBME related activities like less community involvement, inadequate supervision of these activities and poor setup of CBME sites. It is recommended to ensure necessary infrastructures, adequate transport, security, resource and supervision, motivate the stakeholders for effective CBME related activities.

**Keywords:** Community-based medical education, Residential field site training, Undergraduate medical education.

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## Introduction

Community based medical education (CBME) enhance learning in undergraduate medical education to fulfill the community health needs<sup>1</sup>. It is an important strategy of the World Health Organization (WHO) for fostering the health professional education to achieve the goal of health for all.<sup>2</sup> It provides opportunities for the students to interact with community people.<sup>3</sup> CBME helps the students in understanding of social dynamics of health promotion and disease prevention and to impart a sense of social justice in the health professions through the education process.<sup>4</sup>

There are various challenges for the implication of CBME related activities in undergraduate medical education. Many of them included high degree of variability of learning experiences at community sites, the time required to travel community sites and dealing with negative attitudes. The biggest challenge is to generalize successful aspects of CBME experiences.<sup>5</sup>

The contents of the CBME related activities are directly relevant to the community needs and to the population-based methods in which the students are trained.<sup>4</sup> In

response to the diverse changes to the medical practice and the reorganization of health care systems, the curriculum of undergraduate medical education in many countries has undergone extensive revision<sup>5</sup>. In Bangladesh, CBME related activities were included in the curriculum of undergraduate medical education since 2008 in the form of residential field site training (RFST) programme for the duration of two weeks. The duration of CBME related activities was increased to 30 days since 2012 (10 days for RFST, 10 days for day visit and 10 days for study tour)<sup>6,7</sup>. A few small-scale studies were done to evaluate the current situation of CBME related activities in Bangladesh. Results of those small-scale studies could not be generalized. So, considering the curriculum, large scale study should be conducted to evaluate the current situation of CBME related activities in undergraduate medical education of Bangladesh.

In this study, it was aimed to explore the current contents, extent of practices, challenges of CBME as well as to have suggestions to overcome the challenges for CBME in undergraduate medical education of Bangladesh. The research work might be helpful for policy makers to take necessary actions in improvement of the CBME related activities in undergraduate medical education of Bangladesh.

## Methods

This cross-sectional study was conducted from 1<sup>st</sup> January 2021 to 31<sup>st</sup> December, 2021 after approval of Institutional Review Board (IRB) of Centre for Medical Education (CME) of Bangladesh as a part of thesis of Masters in Medical Education (MMed) under Bangabandhu Sheikh Mujib Medical University (BSMMU). Data were collected from 617 medical students who passed 2<sup>nd</sup> professional examination and studied in 3<sup>rd</sup> phase of MBBS course in selected eight medical colleges of Bangladesh after taking informed consent from them.

Out of eight, two government medical colleges and two non-government medical colleges were located in Dhaka and another two government medical colleges and two non-government medical colleges were located outside Dhaka. Medical colleges were enrolled following purposive sampling technique and convenience sampling technique was adopted to collect data from the students. Students' views were noted using a pretested, semi-structured questionnaire on different aspects of CBME related activities. Due to pandemic situation of COVID-19, data were collected from students by providing questionnaire to them by adopting online procedures (E-mail and Google forms). Students' participation was voluntary. Students' Confidentiality and anonymity were strictly maintained. The necessary permission was taken from respected medical colleges before the data collection.

After collection, data were manually checked and edited then verified and analyzed by using Statistical Package for Social Science (SPSS) computer software version 16. Calculation of mean and standard deviation (SD) were done when necessary.  $P < 0.05$  was considered as statistically significant. Data were presented by tables and graphs with necessary description for easy understanding and interpretation.

## Results

Out of total 617 participants, 360 (58.3%) were female and 257 (41.7%) were male students. The CBME related activities develop students' positive attitude to community people were agreed by 78% students and orient students for community involvement were agreed by 77.6% students. According to student's opinion, the mean scores of 'development of positive attitude to community people', 'community orientation of students' and 'team work' were above 4 out of 5-point scores. In case of 'motivating students for future rural retention as serving doctors', the mean score was in between 3.5 to 4 (Table 1).

**Table 1:** Views of the medical students regarding the benefits of CBME related activities in undergraduate medical education of Bangladesh (n = 617).

Statement	Number (%) of agreement with corresponding score					Mean(±SD)
	SDA 1	DA 2	NAND 3	A 4	SA 5	
CBME helps to motivate students for future rural retention as serving doctors	8(1.3)	25(4.1)	60(9.7)	451(73.1)	73(11.8)	3.9(0.697)
CBME helps to develop student's positive attitude to community people	3(0.5)	14(2.3)	30(4.9)	482(78.1)	88(14.3)	4.03(0.570)
CBME helps to orient students with community involvement	3(0.5)	11(1.8)	39(6.3)	479(77.6)	85(13.8)	4.02(0.562)
CBME helps students to work in a team	5(0.8)	8(1.3)	32(5.2)	442(71.6)	130(21.1)	4.11(0.613)

**NB.** CBME = Community based medical education; SDA= Strongly disagree, DA= Disagree, NAND = Neither agree nor disagree, A=Agree, SA=Strongly agree.

The study showed the statistically higher mean scores among female students than that of male students regarding infrastructure, transport, security and accommodation for CBME related activities like residential field site training (RFST), day visit and study tour (Table 2). The mean scores

of student's views of non-government medical colleges than that of government medical colleges were statistically higher regarding requirements of CBME related activities like infrastructure, transport and security except accommodation for RFST (Table 3).

**Table 2:** Comparison of the views between the male and female medical students on the practical situation of CBME related activities in undergraduate medical education of Bangladesh

Issue	Mean( $\pm$ SD) of the level of agreement of the groups		p value
	Male students (n=257)	Female students (n=360)	
Infrastructure of RFST sites	3.33(0.894)	3.54(0.885)	0.003*
Accommodation for RFST	3.13(1.080)	3.27(0.969)	0.096**
Transport for RFST	3.45(0.995)	3.66(0.954)	0.008*
Security for RFST	3.68(0.880)	3.84(0.796)	0.022**
Transport for day visit	3.25(1.108)	3.63(0.958)	0.000**
Accommodation for study tour	3.58(1.062)	3.64(0.963)	0.451**
Transport for study tour	3.58(1.013)	3.61(1.001)	0.718*
Security for study tour	3.69(0.891)	3.78(0.930)	0.233*

**NB:** \*Independent sample t test done, \*\* Welch's t test done due to unequal variances ( $p < 0.05$  considered as significant).

CBME= Community based medical education, RFST= Residential field site training.

**Table 3:** Comparison of the views of medical students of government and non-government medical colleges on the practical situation of CBME related activities in undergraduate medical education of Bangladesh.

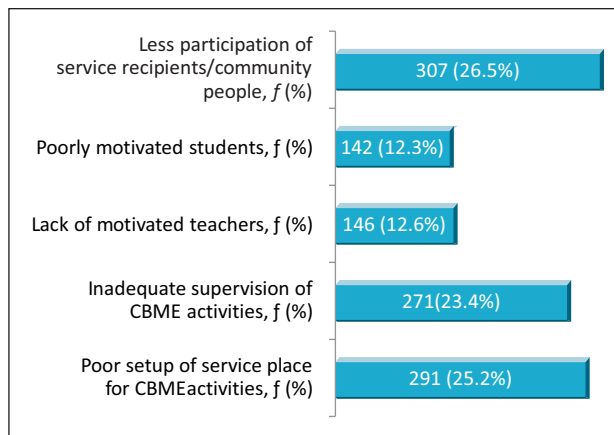
Issue	Mean( $\pm$ SD) of the level of agreement of the groups		p value
	Government medical college (n=369)	Non-government medical college (n=248)	
Infrastructure of RFST sites	3.40(0.798)	3.54(1.017)	0.068**
Accommodation for RFST	3.22(1.008)	3.19(1.035)	0.732*
Transport for RFST	3.39(0.938)	3.84(0.971)	0.000**
Security for RFST	3.72(0.813)	3.85(0.862)	0.048*
Transport for day visit	3.32(1.048)	3.70(0.986)	0.000**
Accommodation for study tour	3.54(0.980)	3.72(1.033)	0.027*
Transport for study tour	3.41(1.034)	3.87(0.897)	0.000**
Security for study tour	3.60(0.930)	3.94(0.852)	0.000**

**NB:** \*Independent sample t test done, \*\* Welch's t test done due to unequal variances ( $p < 0.05$  considered as significant).

CBME= Community based medical education, RFST = Residential field site training.

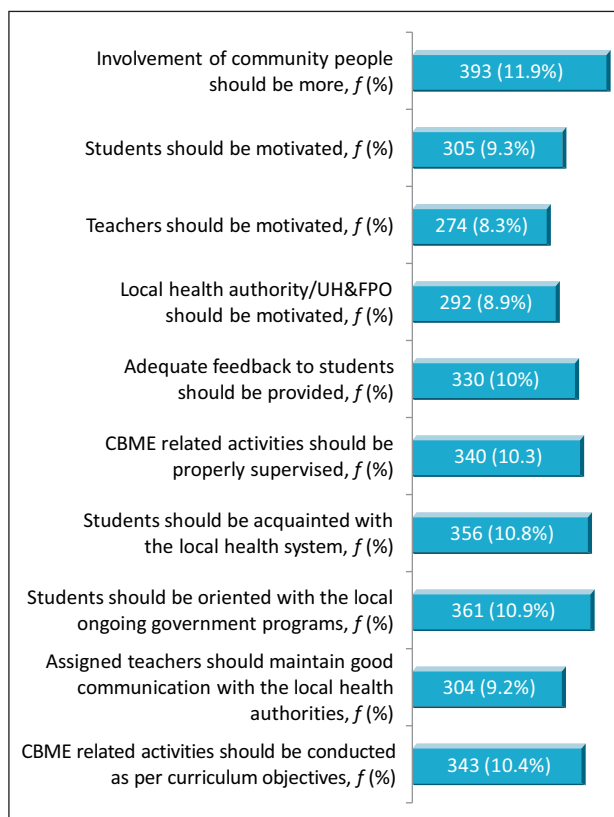
In this study, less participation of community people, poor set up of CBME sites and inadequate supervision were important constraints for effective CBME related activities were mentioned by 26.5%, 25.2% and 23.4% students respectively (Figure 1). To overcome the constraints of CBME related activities, about 12% students mentioned

that community people should be more involved in these activities. Other important suggestions were orienting students with the local ongoing government programs, acquainting students with the local health system and providing adequate feedback to them mentioned by 10.9%, 10.8% and 10% students respectively (Figure 2).



\*Multiple Responses, **NB.** CBME= Community based medical education.

**Figure 1:** Opinions of the medical students on the constraints of CBME related activities in undergraduate medical education of Bangladesh (n = 617).



\*Multiple Responses, **NB.** CBME= Community based medical education. UH&FPO= Upazila health and family planning officer.

**Figure 2:** Responses of the medical students regarding the suggestions to overcome the constraints of CBME related activities in undergraduate medical education of Bangladesh (n = 617).

## Discussion

Community based medical education (CBME) provides the background for students to study clinical medicine based on community health needs through scientific and logical way.<sup>8</sup>

In this study, majority of the students were agreed that CBME related activities help students in orientation for community involvement and development of positive attitude to community people. They also mentioned that these activities are helpful in utilization of limited resources for the best health services of the community and learning by doing in a team. These findings were almost similar to the studies conducted by Mahrous<sup>9</sup> in KSA, Amalba et al.<sup>10</sup> in Ghana, Salam and Yousuf<sup>11</sup> in Bangladesh and Mudey et al<sup>12</sup> in India, revealing that majority students were agreed on enhancement of CBME related activities to increase the student's ability to work in the rural area in near future in a team.

Most of the students were satisfied on infrastructure, accommodation, transport and security for effective CBME related activities. The study findings were supported by the study conducted by Asaduzzaman et al<sup>13</sup> and Ahmed et al<sup>14</sup> in Bangladesh revealing that majority students were satisfied to different activities of RFST and activities of study tour respectively.

The mean scores of views regarding requirements of CBME related activities among female students than that of male students were statistically higher. This might be due to more studiousness and seriousness among female students on their learning than that of male students. The mean scores of views regarding requirements of CBME related activities among students of non-government medical colleges than that of government medical colleges were statistically higher except accommodation for RFST which might be due to easy and prompt process of non-government medical college authority than that of government medical college authority to provide the necessary requirements of CBME related activities.

Most of the students identified less participation of community people in CBME activities, poor set up of CBME sites and inadequate supervision as important constraints for effective CBME related activities. In a study conducted by Adefuye et al in South Africa revealed different dimensions of the CBME challenges like learning in a new environment, clinical practice context, poor organization of CBME programme, insufficient pre-requisite knowledge, lack of group dynamics, limited hospital resources etc.<sup>1</sup>

Majority of the students suggested more involvement of community people in CBME related activities, orienting students with the local ongoing government programs, proving adequate feedback to them and acquainting students with the local health system to overcome the constraints of CBME related activities. These findings

were almost similar to the study conducted by Salam and Yousuf at Bangladesh, revealed the respondent's opinion as necessity of close collaboration between field and administration for an effective CBME related activities.<sup>11</sup> Adefuye et al revealed the participants' suggestions to overcome the challenges of effective practice of CBME related activities were increased duration of training, improved organization of CBME, reviewed clinic visit, reviewed log book, providing more hands-on experiences to the student's etc.<sup>1</sup>

## Conclusion

The study revealed some drawback in current practices of CBME related activities like less community involvement, inadequate supervision of these activities and poor setup of CBME sites in the form of infrastructure, transport, security, accommodation. Based on the study findings, following recommendations were made for effective CBME related activities in undergraduate medical education of Bangladesh. Establishment of necessary infrastructure, transport, security, improved accommodation should be ensured and adequate fund should be allocated. Continuous monitoring and providing feedback to the students is essential. The stakeholders including community people should be motivated for effective practice of CBME related activities.

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# Satisfactions of Medical Interns and Clinical Teachers on Duration of Internship in Bangladesh

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## Abstract

**Background:** The internship is one of the most important periods for all recent medical graduates throughout the globe; where interns get practical experiences and develop on job knowledge, skills and attitude towards gaining some confidence through supervised training.

**Methods:** To explore satisfactions of interns and clinical teachers on the duration of internship in Bangladesh, two almost similar pretested semi-structured self-administered questionnaires were administered upon 400 interns and 50 clinical teachers of conveniently selected eight medical colleges of Bangladesh.

**Result:** It was found that out of 5-point Likert scale the mean scores of the level of satisfactions of the options that were ranged from 1 to 5 of the interns and clinical teachers regarding duration of placement in different departments of 'Medicine and allied subjects', 'Surgery and allied subjects' and 'Gynaecology and allied subjects' during the internship were within 3.6 to 4.4. It was also observed that there was no significant difference in opinion among the interns and clinical teachers except in few areas.

**Conclusions:** The interns and clinical teachers had high (74% - 88%) level of satisfaction with the durations of placement in different departments during their internship.

**Keywords:** 'Competencies of medical graduates', 'Logbook for medical interns', 'Medical internship in Bangladesh', 'Rotatory medical internship', and 'Undergraduate medical education'.

## Introduction

After reviewing 92 articles Zhao et al. defined the medical internship as 'The period where doctors in training gain supervised experience working in accredited positions in

hospital settings before they are fully licensed and registered to practice unsupervised'.<sup>1</sup> The internship definitely bridges theory and practice, it also improves trainees' skills, professional growth, and experience<sup>2</sup>. The internship creates an opportunity for the interns to become confident and to grow as doctors.<sup>3</sup> The interns become more satisfied with their training if they get experiences of positive learning environment and if the patients are treated properly.<sup>4</sup>

After completion of 4 to 6 years duration bachelor degree from one of the 44 medical schools of United Kingdom (UK) and also some overseas graduates can enter into the Foundation Program (FP) for two years supervised training (F1: Foundation Year One, then F2: Foundation Year Two) at different health care setting with the provisional registrations from the General Medical Council (GMC) before progressing to specialty training for 5 to 8 years or General Practitioner (GP) training for 3 years, or work in other healthcare settings.<sup>5</sup> The medical graduates who have completed 4 to 6 years course from one of the 24 Australian medical schools must complete 12 months (10 weeks in Medicine and 10 weeks in Surgery) internship training in accredited intern positions with provisional registration to become eligible for general registration.<sup>6</sup> The United States (US) medical education system including the internship is very different from the UK system. In US, 4 years duration medical degrees are only available at post-graduate level after completion of three to four years of 'pre-med' undergraduate courses. Then the US medical doctors enroll in to residency and the first year of the residency is usually considered as internship, called preliminary or transitional

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programs. It is the minimum requirement for them to obtain general license to practice medicine. Then they may continue for 3 to 7 years working as a resident in the hospitals or medical centers to specialize in a chosen field called advanced positions.<sup>7</sup>

In India after completion of 5.5 years duration Bachelor of Medicine and Bachelor of Surgery (MBBS) degree under the 'Competency Based Undergraduate Curriculum' from any of the 650 medical colleges, the medical graduates have to enroll in to the one-year duration Compulsory 'Rotatory Residential Internship (CRRI)' for acquiring permanent registration. The Internship program is designed as follows: Exclusively in community health centers and rural health centers for 2 months, in General Medicine for 1.5 months, in Psychiatry for 2 weeks, in Paediatrics for 1 month, in General Surgery for 1.5 months, in Anaesthesiology & Critical care for 2 weeks, in Obstetrics & Gynaecology, Family welfare & Planning for 1.5 months, in Emergency/Trauma/Casualty for 4 weeks, in Forensic Medicine & Toxicology for 1 week, in Dermatology, Venereology & Leprology for 1 week. Concurrently they have to enroll in Orthopaedics (with Physical Medicine & Rehabilitation) for 2 weeks, in Otolaryngology (with Hospital support service) for 2 weeks, in Ophthalmology (with Hospital support service) for 2 weeks, Laboratory science and Hospital support service (with Otolaryngology and Ophthalmology) for 2 weeks, Hospital management and Microbiology (with Otolaryngology and Ophthalmology) for 2 weeks. Electively in any one /two broad specialties for 2 weeks, one super specialty for 1 week and Indian system of medicine for 1 week (National Medical Council of India, 2021).<sup>8</sup>

In Bangladesh after completion of 5 years duration MBBS course<sup>9</sup> from one of the 114 medical colleges (37 Government, 71 Non-Government and 6 Army)<sup>10</sup> the medical graduates have to enroll in one-year duration supervised Rotatory Residential Internship with a

provisional registration for getting the permanent registrations. The interns have to enroll in Medicine for 19 weeks (in Internal Medicine for 12 weeks+Paediatrics for 4 weeks+any 4 disciplines for 5 days each as elective depending on availability of Dermatology and Venereology, Psychiatry, Cardiology, Nephrology, Neuromedicine, Gastroenterology and any other allied subject), in Surgery for 19 weeks (in General Surgery for 12 weeks+Orthopaedics and Casualty for 2 weeks+ Anaesthesia for 1 week+Ophthalmology for 1 week+ Otolaryngorhinology for 1 week+any 2 disciplines for 1 week each as elective depending on availability of Paediatric Surgery, Neurosurgery, Urology, Radiology, Radiotherapy, Blood Transfusion and any other allied subject), and in Gynaecology and Obstetrics for 14 weeks (in Indoor Gynaecology and Obstetrics for 10 weeks+ Family Planning for 1 week+Obstetrics Emergency for 1 week+Community/Placement at Upazila Health Complex for 2 weeks).<sup>11</sup>

## Methods

This article representing a small section of a thesis work that was conducted from July 2021 to June 2022 for partial fulfillment of 'Masters in Medical Education (MMED)' degree under 'Faculty of Basic and Para clinical Science' of 'Bangabandhu Sheikh Mujib Medical University (BSMMU)'.<sup>12</sup> This particular section tried to explore the satisfactions of interns and clinical teachers on the duration of internship in Bangladesh. Data were collected using two similar pretested semi-structured self-administered questionnaires from conveniently selected 400 intern doctors and 50 clinical teachers of eight medical colleges of Bangladesh. The medical colleges had equal number of public and private ownership and equally located at capital city Dhaka and outside of Dhaka. All data were analyzed using SPSS software version 19.

## Results

**Table 1:** Distribution of the respondents by their level of satisfaction regarding the duration of placement in different departments of Medicine and allied subjects in the internship

Departments	Category of respondents	Level of satisfaction with corresponding score (In percentage)					Mean (±SD)	p value (Two sided)
		Hd 1	D 2	NSND 3	S 4	Hs 5		
Internal Medicine	Interns (n=303)	1.3	.7	4.6	81.8	11.60	4.0 (.555)	.462 <sup>a</sup>
	Teachers (n=17)	0	0	5.9	76.5	17.6	4.1 (.485)	
Paediatrics	Interns (n=303)	.3	0	3.3	82.8	13.5	4.1 (.436)	.236 <sup>b</sup>
	Teachers (n=21)	0	5.8	0	57.1	38.1	4.3 (.717)	
Elective	Interns (n=298)	.3	.7	4.0	87.9	7.0	4.0 (.410)	.407 <sup>b</sup>
	Teachers (n=17)	0	5.9	29.4	41.2	23.5	3.8 (.883)	

a: Independent sample t-test done due to homogeneity of the variances among the groups.

b: Welch t-test done due to heterogeneity of the variances among the groups.

1= HD= Highly dissatisfied, 2= D= Dissatisfied, 3= NSND= Neither satisfied nor dissatisfied, 4= S= Satisfied, 5= HS= Highly satisfied.

Table 1 shows out of 5-point scales the mean scores of the distribution of the level of satisfaction of interns and clinical teachers regarding duration of placement in different departments of 'Medicine and allied subjects' in the internship were within 3.8 to 4.3. It was also observed that there was no significant difference in opinion among the interns and clinical teachers.

**Table 2:** Distribution of the respondents by their level of satisfaction regarding the duration of placement in different departments of Surgery and allied subjects in the internship

Departments	Category of respondents	Percentage of the level of satisfaction with the corresponding score					Mean ( $\pm$ SD)	p value (Two sided)
		Hd 1	D 2	NSND 3	S 4	Hs 5		
General Surgery	Interns (n=283)	1.4	2.1	3.2	61.8	31.4	4.2 (.722)	.920 <sup>a</sup>
	Teachers (n=22)	0	0	13.6	54.5	31.8	4.2 (.665)	
Orthopaedics and Traumatology	Interns (n=279)	0.7	0	3.9	52	43.4	4.4 (.633)	.000 <sup>a</sup>
	Teachers (n=18)	0	16.7	5.6	61.1	16.7	3.8 (.943)	
Anaesthesiology	Interns (n=281)	0	3.2	6.8	52.7	37.4	4.2 (.724)	.265 <sup>a</sup>
	Teachers (n=19)	0	5.3	5.3	68.4	21.1	4.1 (.705)	
Ophthalmology	Interns (n=280)	0	1.4	6.4	53.9	38.2	4.3 (.649)	.546 <sup>a</sup>
	Teachers (n=16)	0	6.3	0	62.5	31.3	4.2 (.750)	
Otorhinolaryngology	Interns (n=280)	0	0.4	5	55.7	38.9	4.3 (.587)	.129 <sup>b</sup>
	Teachers (n=16)	0	0	6.3	75	18.8	4.1 (.500)	
Elective	Interns (n=272)	0.4	1.8	8.8	54	34.9	4.2 (.707)	.010 <sup>b</sup>
	Teachers (n=22)	18.2	9.1	9.1	45.5	18.2	3.4 (1.34)	

Table 2 shows out of 5-point Likert's scale the mean scores of the distribution of the level of satisfaction of interns and clinical teachers regarding duration of placement in different departments of 'Surgery and allied subjects' in the internship were within 3.4 to 4.4. It was also observed that there was no significant difference in opinion among the interns and clinical teachers except the opinions about 'Elective subject', and 'Orthopaedics and Traumatology'.

**Table 3:** Distribution of the respondents by their level of satisfaction regarding the duration of placement in different departments of 'Gynaecology and allied subjects' in the internship.

Departments	Category of respondents	Percentage of the level of satisfaction with the corresponding score					Mean ( $\pm$ SD)	p value (Two sided)
		HD 1	D 2	NSND 3	S 4	HS 5		
Gynaecology & Obstetrics indoors	Interns (n=281)	0	0.7	8.9	63	27.4	4.2 (.603)	.008 <sup>a</sup>
	Teachers (n=18)	0	0	13.6	54.5	31.8	3.8 (.647)	
Family Planning	Interns (n=285)	1.4	18.6	58.2	21.8	1.4	4.0 (.679)	.294 <sup>a</sup>
	Teachers (n=18)	0	16.7	5.6	61.1	16.7	3.8 (.383)	
Obstetrics & Emergency	Interns (n=285)	0	1.4	16.5	59.3	22.8	4.0 (.670)	.010 <sup>a</sup>
	Teachers (n=18)	0	5.3	5.3	68.4	21.1	3.6 (.698)	
Community placement	Interns (n=276)	0.7	0.4	21	56.2	21.7	4.0 (.649)	.603 <sup>a</sup>
	Teachers (n=18)	0	6.3	0	62.5	31.3	3.9 (.583)	

Table 3 shows out of 5-point Likert's scale the mean scores of the distribution of the level of satisfaction of interns and clinical teachers regarding duration of placement in different departments of 'Gynaecology and allied subjects' in the internship were within 3.6 to 4.2. It was also found that there was no significant difference in opinion among the interns and clinical teachers except the opinions about 'Indoor', and 'Obstetrics and Emergency'.

## Discussion

From table 1 it was observed that the interns and clinical teachers had high (76% to 86%) level of satisfaction with the durations of placement in different departments of 'Medicine and allied subjects' in the internship. Similarly, from table 2 it was revealed that the interns and clinical teachers had also high (76% to 88%) level of satisfaction regarding the durations of placement in different departments of 'Surgery and allied subjects' in the internship. From table 3, it was also suggested that the respondents had also high (72% to 84%) level of satisfaction regarding the durations of placement in different departments of 'Gynaecology and allied subjects'. From these tables it was observed that there were no significant differences in opinion among the interns and clinical teachers regarding the duration of placement in different departments except the means of the opinions of the teachers were significantly lower than the interns regarding the duration of placement in 'Elective subject of Surgery', and 'Orthopaedics and Traumatology', 'Indoor Gynaecology and Obstetrics', and 'Obstetrics Emergency'.

A similar study in the medical colleges of Bangladesh by Noman (2016)<sup>13</sup> found that out of 5-point Likert scales the mean scores of the level of satisfaction of interns and clinical teachers regarding duration of placement in different departments of 'Medicine and allied subjects', 'Surgery and allied subjects' and 'Gynaecology and allied subjects' during the internship were within 3.40 to 3.87.

Rahim (2017)<sup>14</sup> in a study put a question to interns and teachers to respond on the barriers to implement the performance appraisal system of internship training in Bangladesh. It was found that 18.2% of the interns and 8% of the teachers agreed with the 'time constrain' for the appraisal of the internship. The study also found 55.8% of the teachers agreed that the 'total duration of the internship should be increased' and 28.8% agreed that the 'duration of community placement should be increased' during their internship training.

In a study at Kingdom of Saudi Arabia (KSA) on 85 interns those enrolled in the Jazan University internship program during 2015 found that 77.8 %, 76.4%, 55.6% and 44.5% were 'highly satisfied' or 'extremely satisfied' with training at department of Paediatrics, General Surgery, Internal Medicine and Obstetrics and Gynaecology respectively.<sup>15</sup> Another study in the hospital emergency department of Mazandaran University of Medical Sciences of Iran found that about 61% and 27% Intern either completely agreed or agreed with the overall performance of the professors and nurses respectively; but 50% of them either completely agreed or agreed with the educational facilities and equipment of the department during their training.<sup>16</sup> An exploratory study was conducted at four medical schools of Saudi Arabia upon the interns of the 2017–2018 academic year. It was found that out of 5-point Likert scale the overall mean satisfactions on the 10 different dimensions was 3.6.<sup>17</sup> An Evaluation on Medical Interns' Satisfaction in

Internship Course in Shahid Beheshti University of Medical Sciences (SBMU) of Iran, revealed that out of nine-point scale the opinion of 141 interns the overall mean score on five different dimensions of internship was 2.84 which indicates the interns of SBMU were not satisfied with their internship.<sup>18</sup>

**Conflict of Interest:** Nil

## Conclusion

From this study area it can be concluded that the medical interns and clinical teachers of Bangladesh had high level of satisfaction with the durations of placement in different departments during their internship. Therefore, no need to change the department wise placement of the intern at present rather should investigate the ways and means to obtain their complete satisfactions regarding this issue.

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# Reviewing the Quality of Structural and Logistic Support in under-Graduate Medical Education in Bangladesh- Views of Stakeholders

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## Abstract

**Background:** At present there are 111 medical colleges in Bangladesh of which 37 are government and the rest 74 are private medical colleges. Adequate teachers libraries, laboratories, accommodation, hospital facilities are necessary for quality of teaching and learning in undergraduate medical education of Bangladesh.

**Methods:** This descriptive type of cross-sectional study was carried out in 4 government and 4 non-government medical colleges of Bangladesh to assess the quality of undergraduate medical education. The study was conducted during the period of July 2018 to June 2019. The total sample size was 576, out of which there were 440 fifth year medical students, 114 clinical teachers and 22 Key informants. Convenience sampling technique was adopted. Two self-administered semi-structured questionnaires and one in-depth-interview schedule were utilized for the study.

**Results:** The study revealed that there was shortage of teaching staffs and infrastructure facilities. The later consisted of capacities of lecture galleries, tutorial and practical classes, audiovisual aids, equipments for practical classes, library and hostel facilities etc. The study also revealed shortage of computer laboratories and number of computers in the computer laboratories. However numbers of hospital beds, indoor and outdoor patients were found to be sufficient except in few non-government medical college hospitals.

**Conclusion:** The study recommended strict adherence to the requirements of Bangladesh Medical and Dental Council (BMDC) to ensure proper learning environment in the medical colleges. Further largescale study with definite checklists for each requirement is desired to explore a detailed picture of present situation.

**Keywords:** Reviewing, quality of structural and logistic support, undergraduate medical education, Stakeholder.

## Introduction

Medical education is the course of study directed towards imparting to persons seeking to become physicians, the knowledge and skills required for the prevention and treatment of disease. It also develops the methods and objectives appropriate to the study of the still unknown factors that produce disease or favour well-being. Among the goals of medical education is the production of physicians sensitive to the health needs of their country, capable of ministering to those needs, and aware of the necessity of continuing their own education.<sup>1</sup> First formal medical

curriculum was published in Bangladesh in 1988<sup>2</sup>. But after evaluation it was revealed that there was room for much improvement. There is a growing concern regarding the overall quality of teaching, learning and assessment.<sup>3</sup> The quality of medical education is getting compromised in Bangladesh due to inadequate hospital facilities and shortage of teachers, libraries and laboratories. Many medical colleges have none to teach the basic and para-clinical subjects for the MBBS students.<sup>4</sup> The majority of students faced institutional related problems, particularly accommodation, food and nutrition, library facilities, financial assistance, and teacher-student relationship.<sup>5</sup> Most medical colleges do not have standard. According to the Directorate General of Medical Education, 49.7% posts for assistant professors are vacant in government medical colleges.<sup>6</sup>

Health experts and senior doctors said that sponsors “profit motive hindered quality education to provide in non-government medical colleges”.<sup>4</sup> Most of the medical colleges failed to comply with the requirements of BMDC<sup>7</sup> in regards to the structural and logistic supports in medical education.

Very few articles so far published on structural and logistic support in undergraduate medical education in Bangladesh. In view of the above, this study made an attempt to assess the overall infrastructural and logistic support in undergraduate medical education in Bangladesh by analyzing the views of stakeholders namely policy makers, teachers and students.

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### Methods

This descriptive cross sectional study was conducted with the objective to assess the quality of structural and logistic support in 4 government and 4 non-government medical colleges in Bangladesh. The study was conducted during

the period of July 2018 to June 2019. The total sample size was 576, out of which there were 114 clinical teachers, 440 fifth year students of selected medical colleges and 22 key informants. Two self-administered semi structured questionnaire and one In-depth interview schedule were utilized for the study.

### Results

The results of this cross sectional study are organized into two parts. Part-1 contains the results of two self-administered semi-structured questionnaire from 5th year medical students and clinical teachers respectively. Part-2 contains the results of in-depth interview with the policymakers and senior clinical medical teachers.

**Table 1:** Distribution of the students as per their views in relation to the structural and logistic support for quality teaching and learning (n=440)

Statement related to the structural and logistic support	Level of agreement of the views of students					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
The capacities of lecture galleries are sufficient.	60(13.6)	69(15.7)	13(3.0)	180(40.9)	118(26.8)	440
The lecture galleries have sufficient lighting, ventilation and seating arrangement.	94(21.4)	89(20.2)	23(5.2)	149(33.9)	85(19.3)	440
Audio-visual aids used in lecture galleries are of appropriate quality and quantity.	83(18.9)	111(25.2)	111(25.2)	129(29.3)	129(29.3)	440
The physical space for tutorial class is appropriate.	75(17.0)	75(17.0)	54(12.3)	144(32.7)	144(32.7)	440
Audio-visual aids in tutorial class are of appropriate quality and quantity.	116(26.4)	144(32.7)	144(32.7)	144(32.7)	144(32.7)	440
The physical space available for practical class is appropriate.	83(18.9)	122(27.7)	59(13.4)	142(32.3)	34(7.7)	440
The practical appliances are of good quality and quantity.	74(16.8)	127(28.9)	72(16.4)	134(30.5)	33(7.5)	440

Table 1 shows the views of the students in relation to the structural and logistic support for quality teaching and learning. It shows that total 66.7% students (40.9% agreed and 26.8% strongly agreed) stated that the capacities of lecture galleries were sufficient. A total of 41.6% opined that lecture galleries had insufficient lighting, ventilation and seating arrangement. Audio-visual aids used in lecture galleries were inappropriate according to 44.1 % students. The physical space for tutorial class was appropriate (Strongly disagreed- 17.0%; disagreed-17.0%). Audio-visual aids in tutorial class were inappropriate as per 59.1% students. The physical space for practical class was inappropriate to 46.6 % students.

**Table 2:** Distribution of the medical teachers as per their views in relation to the structural and logistic support (n=114)

Statement related to the structural and logistic support	Level of agreement of the views of teachers					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
The capacities of lecture galleries are sufficient.	8(7.0)	23(20.2)	13(11.4)	49(43.0)	21(18.4)	114
The lecture galleries have sufficient lighting, ventilation and seating arrangement.	7(6.1)	31(27.2)	21(18.4)	44(38.6)	11(9.6)	114
Audio-visual aids used in lecture galleries are of appropriate quality and quantity.	7(6.1)	22(19.3)	20(17.5)	49(43.0)	16(14.0)	114
The physical space for tutorial class is appropriate.	10(8.8)	29(25.4)	14(12.3)	47(41.2)	14(12.3)	114
Audio-visual aids used in tutorial class are of appropriate quality and quantity.	8(7.0)	33(28.9)	14(12.3)	49(43.0)	10(8.8)	114
Tutorial classes are mostly taken by the senior teachers.	12(10.5)	30(26.3)	24(21.1)	43(37.7)	5(4.4)	114
The physical space available for practical class is appropriate.	9(7.9)	27(23.7)	19(16.7)	49(43.0)	10(8.8)	114
The practical appliances are of good quality and quantity.	13(11.4)	25(21.9)	23(20.2)	44(38.6)	9(7.9)	114

Table 2 shows that total 61.4% teachers agreed that the capacities of lecture galleries were sufficient. The lecture galleries had sufficient lighting, ventilation and seating arrangement (38.6% agreed; 9.6% strongly agreed). The physical space for tutorial

**Table 3:** Distribution of the students as per their views in relation to the library facilities (n=440)

Statement related to the quality of library facilities	Level of agreement of the views of students					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
There is sufficient number of books in the library.	58(13.2)	62(14.1)	53(12.0)	187(42.5)	80(18.2)	440
We can always borrow books from library.	80(18.2)	46(10.5)	31(7.0)	198(45.0)	85(19.3)	440
The library has a good reading room.	55(12.5)	76(17.3)	59(13.4)	184(41.8)	66(15.0)	440
The students can photocopy materials whenever required.	171(38.9)	111(25.2)	35(8.0)	88(20.0)	35(8.0)	440

Table 3 shows that the students were satisfied with the number of books in the library (42.5% agreed;18.2% strongly agreed), scope of borrowing books (45% agreed;19.3% strongly agreed) and the condition of reading room (41.8% agreed;15.0% strongly agreed) but most of them (total 64.1%; strongly disagreed-38.9% & disagreed-25.2%) could not photocopy materials when required.

**Table 4:** Distribution of the medical teachers as per their views in relation to the library facilities (n=114)

Statement related to the library facilities	Level of agreement of the views of teachers					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
There is sufficient number of books in the library.	7 (6.1)	11(9.6)	13(11.4)	59(51.8)	24(21.1)	114
The students can always borrow books from library.	10(8.8)	6(5.3)	22(19.3)	55(48.2)	21(18.4)	114
The library has a good reading room.	9(7.9)	13(11.4)	15(13.2)	57(50.0)	20(17.5)	114
The students can photocopy materials whenever required.	18(15.8)	37(32.5)	19(16.7)	33(28.9)	7(6.1)	114

Table 4 shows that 72.9% teachers (51.8% agreed; 21.1% strongly agreed) stated that the library facilities were sufficient. Total 66.6% teachers stated (48.2% agreed; 18.4% strongly agreed) that the students could always borrow books from library, 67.5% teachers (50% agreed; 17.5% strongly agreed) informed that the library had a good reading room. The students could photocopy materials whenever required (15.8% strongly disagreed; 32.5% disagreed)

**Table 5:** Distribution of the students as per their views in relation to the computer laboratory (n=245)

Statement related to the computer laboratory	Level of agreement of the views of students					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
There is sufficient number of computers in our computer lab.	89(36.3)	74(30.2)	20(8.2)	50(20.4)	12(4.9)	245
We can use the computers and internet facility whenever required.	105(42.9)	85(34.7)	16(6.5)	30(12.2)	9(3.7)	245

Table 5 shows that total 66.5% students disagreed (36.3% strongly disagreed; 30.2% disagreed) with the sufficient number of computers and total 77.6% disagreed (42.9% strongly disagreed; 34.7% disagreed) that they could use the computer and internet facility when required.

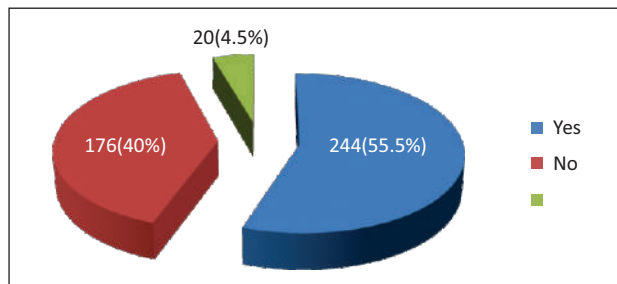


Figure 1 shows that 55.5% students informed the presence of computer lab. Remaining 40% stated that there was no computer lab and 4.5% did not know about the presence of computer lab.

**Figure 1:** Distribution of medical students regarding their awareness about the presence of computer lab (n=440)



**Table 6:** Distribution of the medical teachers as per their views in relation to the computer laboratory (n=66)

Statement related to the quality of hostel facilities	Level of agreement of the views of students					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
There is enough number of seats in our students' hostel.	134(30.5)	84(19.1)	37(8.4)	131(29.8)	54(12.3)	440
The living standard of hostel is maintained properly.	198(45.0)	103(23.4)	49(11.1)	66(15.0)	24(5.5)	440
The learning environment in the hostel is appropriate.	123(28.0)	108(24.5)	61(13.9)	125(28.4)	23(5.2)	440
Quality foods are supplied to the students from the canteen.	239(54.3)	114(25.9)	44(10.0)	36(8.2)	7(1.6)	440
The price of the food is within the reach of the students.	177(40.2)	92(20.9)	64(14.5)	97(22.0)	10(2.3)	440

Table 6 shows that total 49.97% teachers disagreed (3.0% strongly disagreed; 46.97% disagreed) that there was sufficient number of computers in computer lab. Most of the students could use the computers and internet facility whenever required (7.58% strongly disagreed; 30.3% disagreed). All teachers (100%) informed that the computer labs had Wi-Fi facility.

**Table 7:** Distribution of the students as per their views in relation to the hostel facilities (n=440)

Statement related to the hostel facilities	Level of agreement of the views of teachers					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
There is enough number of seats in the students' hostel.	16(14.0)	34(29.8)	14(12.3)	39(34.2)	11(9.6)	114
The living standard of hostel is maintained properly.	16(14.0)	37(32.5)	25(21.9)	28(24.6)	8(7.0)	114
The learning environment in the hostel is appropriate.	13(11.4)	28(24.6)	28(24.6)	37(32.5)	8(7.0)	114
Quality foods are supplied to the students from the canteen.	17(14.9)	27(23.7)	19(16.7)	47(41.2)	4(3.5)	114
The price of the food is within the reach of the students.	9(7.9)	18(15.8)	25(21.9)	55(48.2)	7(6.1)	114

Table 7 shows that students were dissatisfied with hostel facilities. There was enough seats (strongly disagreed=30.5%; disagreed-19.1%), living standard maintained (strongly disagreed = 45.0%; disagreed-23.4%), the learning environment in the hostel was appropriate (strongly disagreed-28.0%; disagreed-24.5%), quality foods were supplied to the students (strongly disagreed-54.3%; disagreed-25.9%) and the price of the food was within the reach of the students (strongly disagreed-40.2%; disagreed-20.9%)

**Table 8:** Distribution of the medical teachers as per their views in relation to the hostel facilities (n=114)

Statement related to the computer laboratory	Level of agreement of the views of teachers					Total
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)	
There is sufficient number of computers in computer lab.	2(3.0)	31(46.97)	18(27.27)	14(21.21)	1(1.52)	66
Most of the students can use the computers and internet facility whenever required.	5(7.58)	20(30.3)	13(19.7)	24(36.4)	4(6.1)	66
Are there Wi-Fi facilities in the computer lab?	Yes: <b>66 (100)</b> No: 0 (0)					

Table 8 shows that the teachers opined that there was enough number of seats in the students' hostel (14.0% strongly disagreed; 29.8% disagreed); the living standard of hostel was maintained properly (14.0% strongly disagreed; 32.5% disagreed); the learning environment in the hostel was appropriate (11.4% strongly disagreed; 24.6% disagreed); quality foods were supplied to the students from the canteen (14.9% strongly disagreed; 23.7% disagreed); the price of the food was within the reach of the students (7.9% strongly disagreed; 15.8% disagreed)

### Summary of in-depth-interview:

Private medical colleges must increase the number of hospital beds and indoor patients for effective clinical teaching.

Resources of medical colleges should be reviewed and strict control should be applied on medical colleges which failed to meet the national standards to ensure quality teaching and learning.

## Discussion

In this study the researcher made an attempt to assess the current situation of undergraduate medical education in Bangladesh in terms of quality of structural and logistic support. In regards to the quality of structural and logistic support, the students' and teachers' opinions were divided. But both the students and teachers agreed that the physical space for practical class and the quantity and quality of practical appliances used were not appropriate (Table 1 and Table 2). Only 42.1% teachers mentioned that tutorial classes are mostly taken by senior teachers (Table 2). In a recent report, it was mentioned that newly formed government medical colleges and many private medical colleges lacked adequate support system for proper medical education.<sup>3</sup>

In regards to library facilities students' and teachers' opinions differed (Table 3 and Table 4). Although there were sufficient number of books in the library but photocopying materials by the students was difficult. A survey on different Private medical colleges on Dhaka city stated that only 30% libraries were able to provide sufficient information materials.<sup>10</sup>

The present study revealed that the majority of the medical colleges had computer laboratory and Wi-Fi facilities (Figure 1, Table 5 and Table 6). But 66.5% students informed that number of computers was insufficient and 42.9% of them strongly disagreed that they could use the computers and internet facilities when required (Table 6). The college authority should ensure maximum utilization of available facilities. In a recent report, most of the medical colleges in Bangladesh did not have sufficient number of computers in computer laboratory.<sup>3</sup> Shaheen et al (2016) reported that the majority of medical students used computer and internet more for non-academic activities and only 42.3% students searched internet for academic literature.<sup>8</sup>

In the present study, teachers and students expressed mixed opinion in regards to the hostel facilities for students (Table 7 and Table 8). However majority of both the students and teachers were not satisfied with the number of seats in students' hostel, living standard and learning environment prevailing in the hostel. But students differed with teachers on issues namely quality of food supplied, affordable price of the food, poor quality canteen and poor games facilities (Table 7). Haque F *et al* in a study reported insufficient hostel accommodation 669 (65.2%), unclean hostel 652 (63.5%), insufficient recreation facilities in hostel 702 (68.5%) and irregular hostel supervision by the authority 590 (57.6%).<sup>9</sup>

## Conclusion

This paper attempted to identify the impact of structural and logistic support in undergraduate education in Bangladesh. The present study noticed that although the lecture galleries had sufficient space, there was insufficient lighting, ventilation and seating arrangement. In this study, students highlighted the difficulties with space of tutorial and practical classes, practical appliances, scarcity of information materials and photocopier in library. They also

expressed dissatisfaction with computer library, internet service. Majority of both the students and teachers were not satisfied with hostel facilities like insufficient hostel accommodation, quality of food supplied, price of the food, poor quality canteen and overall learning environment in the hostel. The existing situation denotes the overall inappropriate supervision by the authority and failure to underscore the importance of proper hostel environment in undergraduate medical education. To generalize the study findings, further large scale quantitative research along with specific checklist and focus group discussion is recommended which would assist the higher authority to take deliberate steps to overcome the difficulties.

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# Recent Medical Graduates' Abilities in Management of Emergency Cases: Views of Interns, Medical teachers and Medical Graduates

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## Abstract

**Background:** Over the past few years a number of medical colleges have emerged, raising the number to 113 till 2022. Several studies have pointed to a gap between medical education and preparedness for medical practice as a medical practitioner. There is concern raised over the quality of healthcare services in Bangladesh; main barriers identified are many, one of which is poor levels of competence. Although the number of doctors available for patient care has increased, scientific evidence on their effective role as medical practitioners is not enough.

**Methods:** This descriptive type cross sectional study was carried out in twelve government, private and army medical colleges across Bangladesh. Study period was from January 2021 to December 2021. Sample includes total 636 medical teachers, medical graduates and intern doctors. Convenience sampling technique adopted in selecting medical college and purposive sampling technique is adopted for respondent in this study. Data were collected by self administered structured and semi structured questionnaire and data were then compiled and analyzed using SPSS version 26.

**Results:** Our study result revealed that more than 50% teacher and medical graduate respondents opined that recent medical graduates are unable to manage unconscious patients (shock, hypo and hyperglycemia, etc.), animal bite/snake bite, drowning, burn and severe injuries, if unsupervised. Similarly more than 50% intern doctors also express their confidence not above average on management of similar cases. In our study wide range of respondents (Medical teachers ranges from 56.7% to 92.9% and medical graduates ranges from 52.1% to 77.6%) are not on agreement about ability of recent medical graduates' to manage different emergency cases. Similarly wide range of intern doctors (ranges from 39.6% to 81.2%) also on negative agreement about confidence to manage different emergency cases.

**Conclusion:** None of them had given strongly positive agreement about recent medical graduates' ability on management of emergency cases. Further research needed to generalize this study finding.

**Keywords:** Emergency cases, recent medical graduates, drowning, burn, injuries.

## Introduction

Over the past few years a number of medical colleges have

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emerged, raising the number to 113 (47 Govt and 66 Non Govt) till 2022. Proficiency in clinical skills is an important training objective for medical students. Education process should produce doctors who can be able to demonstrate essential competence in rendering comprehensive health care. Competencies that all doctors must obtain in management of emergency cases listed in Appendix IV of Curriculum for Undergraduate Medical Education in Bangladesh.<sup>1</sup> Some of these are management of acute abdomen, acute chest pain, unconscious patient, drowning, burn, injuries etc.

Several studies have pointed to a gap between medical education or preparation for practice and the actual requirements of medical practice as a medical practitioner. Many studies have concentrated on the self-reported procedural competence of graduating medical students.<sup>2,3</sup> Some have included semi-structured interview, audio diary approach, some have included the views of clinical supervisor, doctors and stakeholders view.<sup>4,5,6,7</sup> Respondents of different studies have rated themselves having deficiencies in undergraduate practical skills training.

There is concern raised over the quality of healthcare services in Bangladesh; main barriers identified were many, one of which was poor levels of competence.<sup>8</sup> It has resulted in increased outflows of patients from Bangladesh to hospitals abroad, failures of patient care are also frequently reported in the print media. In an editorial, Sayeed MA, expressed his concern on our medical education stating that Bangladesh has failed to produce efficient professionals considering the need of the people and time.<sup>9</sup> In another editorial, Talukder, MHK also emphasized on improving quality of medical education in Bangladesh.<sup>10</sup>

At the time of present studies, thousands of medical students are graduating every year from different Govt and Non-Govt medical colleges of Bangladesh. Although the number of doctors available for patient care has increased, scientific evidence on their effective role as medical practitioners is not enough. There is no formal evaluation on views of stakeholders about the ability of medical graduates' level of performance in medical emergency cases management.

Thus, the primary goal of the study was to find out the views of stakeholders about the ability of medical graduates' level of performance in management of medical emergency cases.

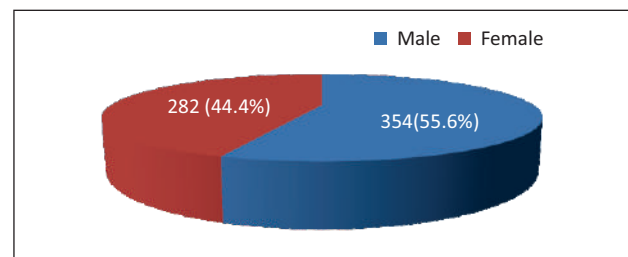
## Methods

This was a descriptive type of cross sectional study. The study was conducted for one year from January 2021 to December 2021. A total of 636 teachers, medical graduates and intern doctors were the respondents of the study. Two self-administered semi-structured questionnaires constructed on a five point Likert scale were used for data collection. In addition to standard demographic questions, we queried on nine procedures outlined in undergraduate medical curriculum 2012, Appendix IV. Teachers' and medical graduates' rated their views on performance of each procedure by recent medical graduates' on a five-point Likert scale (1= Did not try, 2= Cannot perform, 3= Can perform if supervised, 4= Can perform unsupervised, 5= Mastered). Intern doctors' rated their confidence to perform each skill on a five-point Likert scale (1= Not at all confident, 2= Minimally confident, 3= Average confidence, 4= Above average confidence, and 5=Very confident). Convenience sampling technique adopted in selecting medical college and purposive sampling technique was adopted for respondents in this study. This study was conducted at twelve medical colleges of Bangladesh. Questionnaires were administered among medical teachers (171), medical graduates (215) and intern doctors (250).

For each variable, frequency distribution and mean score were calculated. Interpretation of the mean score is as follows: 5-strong positive agreement for the statement, 4 to <5-moderate positive agreement for the statement, 3 to <4-mild positive agreement for the statement, 2 to <3-negative agreement for the statement, 1 to <2-strong negative agreement for the statement. Stakeholders views revealed

through open ended questions: All the respondent's responses were coded, recoded, categorized and finally thematic analysis was done. Main themes were categorized into six groups-Theme one: Educational system, Theme two: Organizational responsibility, Theme three: Clinical skill, Theme four: Communication skill, Theme five: Professionalism, Theme six: Training. Qualitative data was expressed in the form of number and percentage (No and %). Quantitative data appeared as mean and standard deviations (Mean  $\pm$  SD). Data was computed and processed using SPSS software version 26. Welch ANOVA done to compare means. Differences were considered significant at p-value <0.05

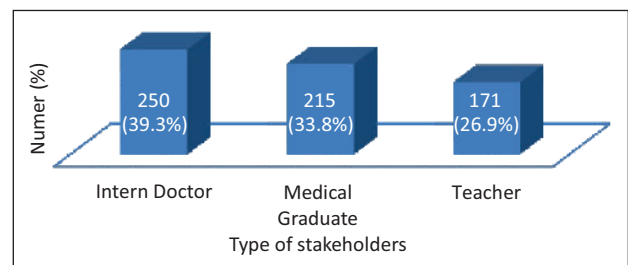
## Results



### Socio-demographic characteristics of the respondents

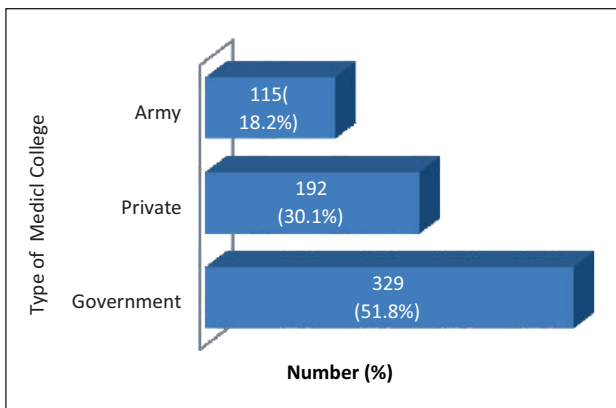
**Figure 1:** Distribution of the respondents by their gender (n=636)

The pie chart (Figure 1) shows distribution of the respondents by their gender, where among 636 respondents 354 (55.6%) were male and 282 (44.4%) were female.



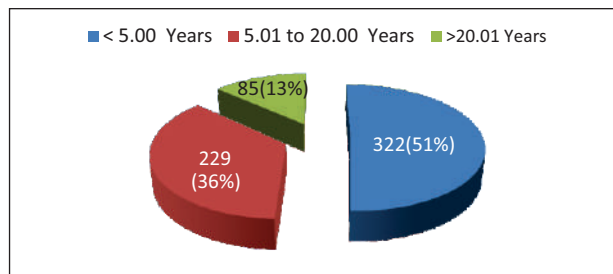
**Figure 2:** Distribution of the respondents by the type of stakeholder (n=636)

The vertical bar diagram (Figure 2) illustrated that majority of the respondents were intern doctors i.e., 39.3% followed by 33.8% were Medical graduates and rest of them (26.9%) were teachers.



**Figure 3:** Distribution of the respondents according to the type of medical college (n=636)

The horizontal bar diagram (Figure 3) shows majority of the respondents were from government medical college i.e., 51.8% followed by 30.1% from private medical college and 18.2 % from army medical college.



**Figure 4:** Distribution of the respondents according to their duration of passing MBBS (n=636)

The pie chart (Figure 4) illustrated that the duration after passing MBBS among respondents were less or equal to 5.00 years which was 51%. 36.0% of the respondents passed MBBS within 5.01-20.00 years and rest of them i.e., only 13% passed MBBS 20.01 or more years ago.

**Table 1:** Distribution of the teachers' opinion on ability to manage emergency cases by recent medical graduates (n=171)

Statements on ability to manage emergency cases	Level of Agreement with corresponding score Number (%)					Mean(±SD)
	NT=1	CP=2	PS=3	PUS=4	M=5	
Acute chest pain	8(4.7)	14(8.2)	99(57.9)	49(28.7)	1(0.6)	3.12(0.75)
Acute respiratory distress	6(3.5)	7(4.1)	100(58.5)	56(32.7)	2(1.2)	3.24(0.71)
Acute abdomen	5(2.9)	7(4.1)	85(49.7)	70(40.9)	4(2.3)	3.36(0.73)
Unconscious patient (shock, hypo and hyperglycemia, etc.)	6(3.5)	14(8.2)	107(62.6)	43(25.1)	1(0.6)	3.11(0.70)
Animal bite/snake bite	10(5.8)	29(17)	100(58.5)	31(18.1)	1(0.6)	2.91(0.78)
Drowning	13(7.6)	27(15.8)	109(63.7)	21(12.3)	1(0.6)	2.82(0.76)
Burn	8(4.7)	14(8.2)	105(61.4)	40(23.4)	4(2.3)	3.11(0.77)
Minor injuries	4(2.3)	8(4.7)	51(29.8)	96(56.1)	12(7)	3.16(0.78)
Severe injuries	21(12.8)	44(25.7)	93(54.4)	13(7.6)	0	2.57(0.80)

NT=Did not try, CP= Cannot perform, PS= Can perform if supervised, PUS= Can perform unsupervised, M= Mastered

The table 1 shows the negative agreements (Did not try, Cannot perform, Can perform if supervised) of teachers on management of emergency cases by the recent medical graduates were between 56.7% to 92.9%. Out of 5-point Likert scale the mean scores were 2.57 to 3.36.

**Table 2:** Distribution of the medical graduates' opinion on ability to manage emergency cases by recent medical graduates (n=215)

Statements on ability to manage emergency cases	Level of agreement with corresponding score Number (%)					Mean( $\pm$ SD)
	NT=1	CP=2	PS=3	PUS=4	M=5	
Acute chest pain	3(1.4)	17(7.9)	78(36.3)	112(52.1)	5(2.3)	3.46(0.73)
Acute respiratory distress	2(0.9)	14(6.5)	66(30.7)	127(59.1)	6(2.8)	3.56(0.70)
Acute abdomen	1(0.5)	10(4.7)	58(27)	134(62)	12(5.6)	3.68(0.67)
Unconscious patient (shock, hypo and hyperglycemia, etc.)	6(2.8)	21(9.8)	85(39.5)	95(44.2)	8(3.7)	3.87(7.59)
Animal bite/snake bite	15(7)	28(13)	103(47.9)	65(30.2)	4(1.9)	3.07(0.89)
Drowning	17(7.9)	24(11.2)	124(57.7)	45(20.9)	5(2.3)	2.99(0.86)
Burn	10(4.7)	15(7)	107(49.8)	76(35.3)	7(3.3)	3.26(0.82)
Minor injuries	1(0.5)	2(0.9)	45(20.9)	150(69.8)	17(7.9)	3.84(0.58)
Severe injuries	11(5.1)	39(18.1)	17(54.4)	47(21.9)	1(0.5)	2.94(0.79)

NT=Did not try, CP= Cannot perform, PS= Can perform if supervised, PUS= Can perform unsupervised, M= Mastered

The table 2 shows the negative agreements (Did not try, Cannot perform, Can perform if supervised) of medical graduates on management of emergency cases by the recent medical graduates were between 52.1% to 77.6%. Out of 5-point Likert scale the mean scores were 2.94 to 3.87.

**Table 3:** Distribution of the intern doctors' opinion on ability to manage emergency cases by recent medical graduates (n=250)

Statements on ability to manage emergency cases	Level of agreement with corresponding score Number (%)					Mean( $\pm$ SD)
	NC=1	MC=2	AC=3	AA=4	VC=5	
Acute chest pain	9(3.6)	30(12)	97(38.8)	82(32.8)	32(12.8)	3.39(0.98)
Acute respiratory distress	10(4)	27(10.8)	92(36.8)	75(30)	46(18.4)	3.48(1.04)
Acute abdomen	4(1.6)	20(8)	75(30)	84(33.6)	67(26.8)	3.76(1.00)
Unconscious patient (shock, hypo and hyperglycemia, etc.)	13(5.2)	33(13.2)	106(42.4)	65(26)	33(13.2)	3.29(1.02)
Animal bite/snake bite	38(15.2)	60(24)	92(36.8)	38(15.2)	22(8.8)	2.78(1.14)
Drowning	50(20)	66(26.4)	87(34.8)	33(13.2)	14(5.6)	2.58(1.12)
Burn	34(13.6)	57(22.8)	92(36.8)	41(16.4)	26(10.4)	2.87(1.16)
Minor injuries	8(3.2)	22(8.8)	78(31.2)	78(31.2)	64(25.6)	3.67(1.05)
Severe injuries	27(10.8)	61(24.4)	100(40)	38(15.2)	24(9.6)	2.88(1.10)

NC= Not at all confident, MC= Minimally confident, AC= Average confidence, AA= Above average confidence, VC= Very confident

The table 3 shows the negative agreements (not at all confident, minimally confident and average confident) of intern doctors regarding level of confidence on management of emergency cases by the recent medical graduates were between 39.6% to 81.2%. Out of 5-point Likert scale the mean scores were 2.58 to 3.76.

**Table 4:** Comparison of teachers, medical graduates and intern doctors opinion on management of emergency cases

Statements on management of emergency cases	Level of agreement			p value
	Teacher views	Medical graduate views	Inter doctors Views	
	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	
Acute chest pain	3.12(0.75)	3.46(0.73)	3.39(0.98)	.000**
Acute respiratory distress	3.24(0.71)	3.56(0.70)	3.48(1.04)	.000**
Acute abdomen	3.36(0.73)	3.68(0.67)	3.76(0.99)	.000**
Unconscious patient (e. g. Shock, Hemorrhage, Hypo and hyperglycemia etc.)	3.11(0.70)	3.87(7.59)	3.29(1.02)	.004**
Animal bite/Snake bite	2.91(0.78)	3.07(0.89)	2.78(1.14)	.009**
Drowning	2.82(0.76)	2.99(0.86)	2.58(1.12)	.000**
Burn	3.11(0.77)	3.26(0.82)	2.87(1.16)	.000**
Minor injures	3.16(0.78)	3.84(0.58)	3.67(1.05)	.003**
Severe injures	2.57(0.80)	2.94(0.79)	2.88(1.10)	.000**

\*\*Welch ANOVA done to compare means due to heterogeneity of the variances among the groups

Table 4 shows that there are significant differences ( $P < 0.05$ ) in opinions among the stakeholders regarding management of emergency cases by the recent medical graduates.

**Table 5:** Distribution of the respondents open ended opinion on ability to manage emergency cases by recent medical graduates

Theme	Specific opinion	Categories of respondent							
		Teacher (n=171)		Medical Graduate (n=215)		Intern doctor (n=250)		Total (n=636)	
		No.	%	No.	%	No.	%	No.	%
<b>One</b>	Committed teachers requirement	00	0	00	0	00	0	0	0
	More integration between basic sciences and clinical subjects	00	0	00	0	00	0	0	0
	Practice oriented examination	00	0	00	0	00	0	0	0
	Expansion of outreach area	00	0	00	0	00	0	0	0
<b>Two</b>	Better academic environment	00	0	00	0	00	0	0	0
	More supervising and mentoring for clinical skill development	09	5.26	13	6	24	9.6	46	7.2
	Improvement of feedback system	00	0	00	0	00	0	0	0
	More bed side teaching	00	0	00	0	00	0	0	0
	Teacher's salary	00	0	00	0	00	0	0	0
<b>Three</b>	Improvement of history taking and physical examination skill	00	0	00	0	00	0	0	0
	Improvement of selection and interpretation of investigation	00	0	00	0	00	0	0	0
	Improvement of prescription writing	00	0	00	0	00	0	0	0
	Inadequate opportunity to practice clinical skill	14	8.19	14	6.5	18	7.2	46	7.2
	Inadequate exposure to emergency case management	27	15.8	25	12	37	14.8	89	14
<b>Four</b>	Improvement of Doctor-patient relationship	00	0	00	0	00	0	0	0
	Improvement of Teacher-student relationship	00	0	00	0	00	0	0	0
<b>Five</b>	Awareness on BMDC, ICD and Medico legal and ethical issues	00	0	00	0	00	0	0	0
	More on multidisciplinary approach	00	0	00	0	00	0	0	0
	Role model	00	0	00	0	00	0	0	0
<b>Six</b>	Inadequate seminar, workshop, hands on training and dummy	25	14.6	23	11	07	2.8	55	8.6
	<b>Total response</b>	<b>75</b>	<b>43.9</b>	<b>75</b>	<b>35</b>	<b>86</b>	<b>34.4</b>	<b>236</b>	<b>37.1</b>

Table 5 shows that out of 636 respondents, a total of 236 different opinions have been given in the open ended question, on management of emergency cases by recent medical graduates. Among them the most common response (14%) was “Inadequate exposure to emergency case management” in medical institutions. Next common responses (8.6%) was “Inadequate seminar, workshop, hands on training and dummy” in medical colleges.

## Discussion

The studies revealed that among 636 participants, the majorities were intern doctors (39.3%) followed by 33.8% medical graduates and teachers (26.8%). It was found that the duration after passing MBBS of maximum respondents (50.6%) 5 years. Our study result has revealed that more than 50% teacher and medical graduate respondents opined that recent medical graduates are unable to manage unconscious patients (shock, hypo and hyperglycemia, etc.), animal bite/snake bite, drowning, burn and severe injuries, if unsupervised. Similarly more than 50% intern doctors also express their confidence not above average on management of similar cases.

In this study, a wide range of respondents (Medical teachers ranges from 56.7% to 92.9% and medical graduates ranges from 52.1% to 77.6%) disagreed about the ability of recent medical graduates' to manage different emergency cases. Similarly a wide range of intern doctors (ranges from 39.6% to 81.2%) also gave negative agreement about confidence to manage different emergency cases. All respondent's mean score out of 5 point Likert scale were mildly negative (mean value 2 to <3), on management of drowning and severe injuries. None of them had given strongly positive agreement about recent medical graduates' ability on management of emergency cases.

In study at Kingdom of Saudi Arabia (KSA) by Manal Ahmad Al-Batanony et al found most of the studied medical students (82.5%) had an average level of perception about burn management, which is in contrast to our study.<sup>11</sup> In another study by Animesh Biswas et al. to explore the gaps and challenges in managing burn injuries in Bangladesh, doctors and nurses emphasized the need for mass awareness and training on the emergency management of burn injury.<sup>12</sup>

Study by Afsheen Zafar et al, is broadly similar to ours that has identified perception of the medical graduates of the extent to which they have prepared them for hospital practice; overall mean for the domain of “Practical skills and patient management” was lower due to lower rating in procedural skills and operational management as in our study (A mean of 2.06 corresponds to their ability to perform tasks supervised).<sup>13</sup>

Opinion expressed by respondents in the open ended part of the semi-structured questionnaire, most common response (14%) was “Inadequate exposure to emergency case management” in medical institutions. Next common response (8.6%) were “Inadequate seminar, workshop, hands on training and dummy” in medical colleges. Study by Bryan Burford et al. on newly qualified doctors

completed a questionnaire which asked about their perceptions of their preparedness on their final year experiences of real and simulated acute care.<sup>14</sup> Reported preparedness was relatively high, this contradicts with our finding, but over half of the questionnaire respondents reported limited exposure to hands-on experience of immediate care and 12% reported having none at all. These findings are consistent with our results.

Education, performance, and acquisition of competence with basic medical procedures remain significant components of clinical undergraduate medical education. A focused training to ensure adequate numbers of procedure attempts would be one possible solution for preparing students to function confidently in medical practice. Operational definitions of competence should be developed for common procedures, and a study of the minimum number of attempts required to approach competence need to be conducted. Most importantly, standardized strategies for assessing student competence should be developed and consistently implemented. Preparedness for emergency case management has been linked to be limited by a number of reasons: Inadequate exposure to emergency case management, inadequate seminar, workshop, hands on training and dummy. A balance is needed between what is taught in medical school and immediate relevance to the first job.

## Conclusion

Majorities of the all three participants' teachers, medical graduates and intern doctors did not agree that recent medical graduates were able to manage emergency cases. There were significant differences ( $P < 0.05$ ) in opinions among the stakeholders regarding management of emergency cases by the recent medical graduates. Further research is needed to find the reason for the difference and ways to improve the ability of emergency case management by recent medical graduates in our country. It is important to understand more about whether the lacks of ability to manage emergency cases are related to the medical school or to the quality of supervision by regulatory bodies.

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# Teachers Perception about the Present Resources and Future Scope of e-Learning and Assessment in Medical Colleges of Bangladesh

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## Abstract

**Background:** At present the term 'e-learning' or 'electronic learning' is used in a variety of ways. Sometimes it refers to learning in which content or activity is delivered via computers, internet, sometimes to learning content from the world wide web (www) and sometimes to the use of a virtual learning environment (VLE) or digital social network (DSN). On the one hand, e-assessment along with e-learning, offers a range of benefits in improving the process of teaching, learning, and reduced workload for the teachers, students and administrators.

**Objectives:** The study was driven to explore teachers' view about present resources and future scope of e-learning and e-assessment in medical colleges of Bangladesh.

**Methods:** In this descriptive type of cross sectional survey, from all four phases, total 172 teachers of randomly selected eight medical colleges of Bangladesh were respondents of this study to seek information regarding the current situation of e-learning practice in undergraduate medical education, between the period of July 2018 to June 2019 with a pretested self-administered questionnaire.

**Results:** In this study all of the teachers stated that there were no e-library and only 9.3% teachers assured about the presence of established IT Lab in their medical colleges. In this study 40.7% teachers agreed that the authority of institute was motivated for implementing e-learning and e-assessment and 47.7% teachers agreed that the authority of their institutions agreed to establish e-administration in their institutions. 47.7% teachers were agreed about the need for regular organizing of CME or CPD on information and communication technology (ICT) for teachers. 45.3% teachers agreed and strongly agreed that there were required more fund or budget then present and also 40.7% teachers agreed along with 44.8% teachers strongly agreed about the requirement of more manpower then present; for implementing of e-learning and e-assessment in their medical colleges.

**Conclusion:** Teachers are aware of present facility and future implementation of e-learning and e-assessment facility in their medical colleges. They also express that the authority should take necessary steps for implementing e-learning and e-assessment facility in their institutions that will improve the quality of undergraduate medical education in future.

**Keywords:** E-learning, Teachers' View, Undergraduate medical education, ICT.

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## Introduction

Information technology (IT) is rapidly developing and it provides learners easier and more effective access to a wider variety and greater quantity of information.<sup>1</sup> With rapid development in computer technology and the wide availability of the personal computers together with the internet and various medical literature retrieval applications, there is a positive impact on health care delivery system worldwide, particularly in the areas of disease control, diagnosis, patient management, teaching, research and training.<sup>2,3</sup> At present with the help of information technology (IT) e-learning and e-assessment is gradually extensively used in the field of medical education.<sup>4</sup>

Now a days being e-learning and e-assessment are essential innovation and have expanded the boundaries of learning

beyond national and regional borders to global frontiers by breaking down the barriers of time and place.<sup>5</sup> E-learning and e-assessment can enhance the quality and accessibility of educational opportunities for different people by providing learning conditions that help them overcome traditional time and place constraints. It enables learners to develop new competencies and to earn valid scientific degrees and certificates. Experts believe that e-learning has become an essential modality in medical education.<sup>6,7</sup>

E-learning accommodates multiple learning styles using a variety of delivery methods. Traditional face-to-face teaching of many disciplines can be a difficult process of mere memorization. Whereas multimedia allows information presentation to be more dynamic and interactive; the same information can be presented in multiple forms.<sup>8</sup>

E-assessment, according to its widest definition (JISC 2006), includes any use of a computer as part of any assessment-related activity, be that summative, formative or diagnostic. E-assessment is a natural partner to e-learning offering alignment of teaching and assessment methods. It offers increased variety and authenticity in the design of assignments and, for example by means of e-portfolios, simulations and interactive games, it enables the assessment of skills that are not easily assessed by other means.<sup>9</sup>

Each constituent in the online education process (policymakers, administrators, faculty, parents, and students) must consider a number of important issues when contemplating creating, adopting, administering, or participating in online courses. In developing the readiness assessment tool for this particular study, various e-learning issues and critical success factors that were introduced by numerous literatures were considered. In terms of e-learning, critical success factors can be viewed as those activities and constituents that must be addressed in order to ensure its successful implementation.<sup>10</sup>

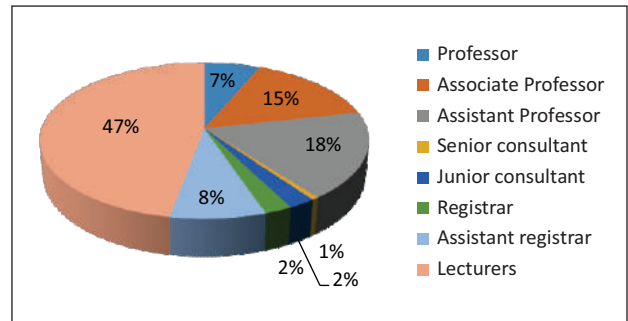
**Methods**

This descriptive cross sectional study was conducted among 172 medical teachers from randomly selected eight medical colleges of Bangladesh. Out of these institutes two government medical colleges and two non-government medical colleges located in Dhaka, and another two government medical colleges and two non-government medical colleges were located outside Dhaka. Data were collected by using a pre-tested self-administered semi-structured questionnaire. The questionnaires were distributed among the teachers and were collected immediately after completion. Teachers' participation were voluntary. Confidentiality and anonymity were strictly maintained. All ethical issues were considered and necessary permission was taken from ethical committee of the Centre for Medical Education (CME) and respective medical colleges before the data collection. Collected data were verified, compiled, tabulated and analyzed by using

SPSS software version 19 and Microsoft software programme.

**Results**

Out of the 172 teachers of the survey, maximum about 47.1% teachers were lecturers, 18% were Assistant Professors, 15.1% were Associate Professors, 8.1% were Assistant registrars, 6.4% were Professors, 2.3% were Junior consultant, 2.3% were Registrars and 0.6% were Senior consultant (Figure 1).



**Figure 1:** Distribution of the medical teachers by their designation (n = 172)

**Table 1:** Distribution of the medical teachers regarding general views by them about the common issues related to e-learning and assessment in their medical colleges (n=172)

Statement relation to the common issues on e-learning and assessment in their medical college	Yes f (%)	No f (%)
Presence of e-library in the medical college.	0	172 (100.0)
Presence of established IT Lab in the medical college.	16 (9.3)	156 (90.7)
Presence of WiFi facility in their medical college.	101 (58.7)	71 (41.3)
Use of social media (Facebook, Google plus, WhatsApp, Viber etc.) for e-learning and assessment in the medical college.	91 (52.9)	81 (47.1)

Table 1 shows that all (100%) of the teachers stated that there are no e-library in their medical colleges. Among the teachers 90.7% stated that there are no established IT Lab in the medical colleges but 58.7% teachers told that there are presence of WiFi facility in their medical colleges and 52.9% teachers said that they used social media like Facebook, Google plus, WhatsApp, Viber etc. for e-learning and assessment in the medical college.

**Table 2:** Distribution of the medical teachers regarding general views by them about the number of computers in IT Lab in their medical colleges (n=16)

Number of computers in IT Lab	Frequency (%)
1 to 5 in number	3 (18.8%)
6 to 10 in number	13 (81.3%)
11 to 15 in number	-
16 to 20 in number	-
21 to onwards in number	-

**Table 3:** Distribution of the medical teachers regarding general views by them about the duration of use of IT Lab for teaching-learning and assessment in every week (n=16)

Use of IT Lab for teaching, learning and assessment in every week	Frequency (%)
1 to 5 hours	7 (43.8%)
6 to 10 hours	4 (25.0%)
11 to 15 hours	4 (25.0%)
16 to 20 hours	1 (6.3%)
21 to onwards hours	-

**Table 4:** Distribution of the medical teachers regarding general views by them about the present status of WiFi/internet facility in medical colleges (n=101)

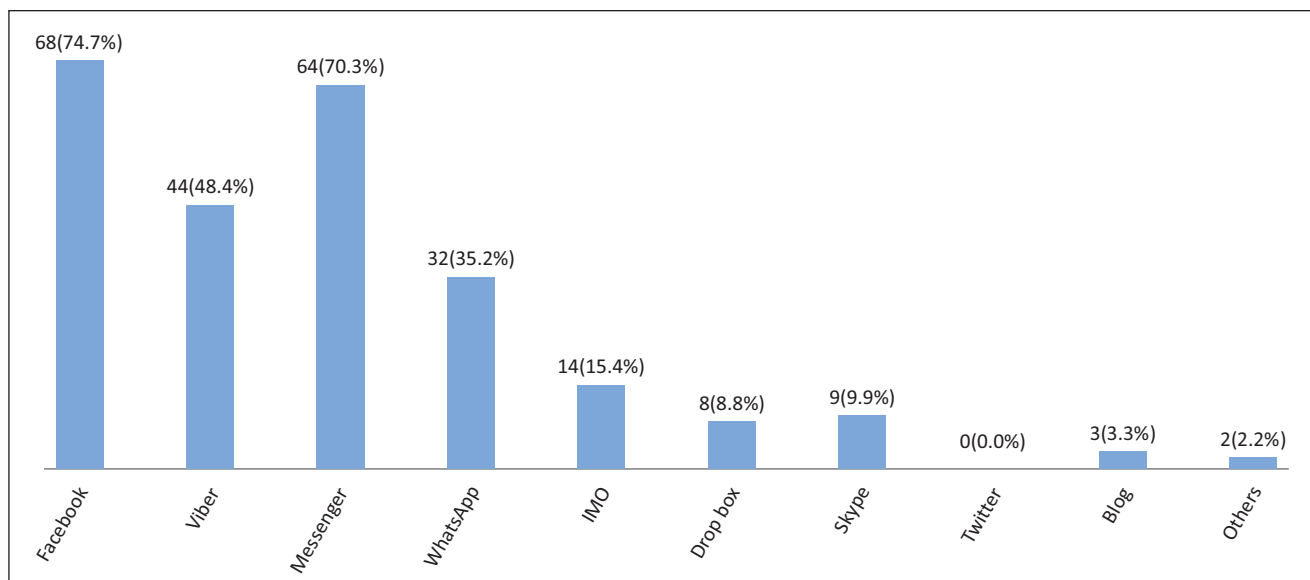
Statements of teachers in relation to present status of WiFi/internet facility in medical colleges	Level of agreement				
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)
The speed of the internet was sufficient.	23 (22.8)	24 (23.8)	17 (16.8)	32 (31.7)	5 (5.0)
They could easily access to internet.	17 (16.8)	17 (16.8)	10 (9.9)	50 (49.5)	7 (6.9)
They could easily connected to internet facility in their personal computer (PC)/laptop/smartphone.	18 (17.8)	15 (14.9)	13 (12.9)	46 (45.5)	9 (8.9)
They could easily access to educational web site of the medical college.	17 (16.8)	22 (21.8)	24 (23.8)	32 (31.7)	6 (5.9)
They were interacting with students by using of email.	23 (22.8)	41 (40.6)	18 (17.8)	16 (15.8)	3 (3.0)
They were interacting with peer and colleague by using of e-mail.	16 (15.8)	31 (30.7)	16 (15.8)	34 (33.7)	4 (4.0)

Table 4 shows out of 101 teachers who agreed about the presence of WiFi facility in their medical colleges, among them 31.7% teachers agreed that the speed of the internet was sufficient, 49.5% teachers agreed that they could easily access to internet and 45.5% teachers agreed that they could easily connected to internet facility in their personal computer (PC)/laptop/smartphone. About 31.7% teachers agreed that they could easily access to educational web site of the medical college but 40.6% teachers disagreed and 22.8% teachers strongly disagreed that; they were interacting with students by using of email. On the other hand 30.7% teachers disagreed and 15.8% teachers strongly disagreed that they were interacting with peer and colleague by using of e-mail.

**Table 5:** Distribution of the medical teachers regarding general views about the use of msocial edia by them to interact with students and peers for e-learning and assessment in medical colleges (n=91)

Statements in relation to the use of social media by teachers to interact with students and peers for e-learning and assessment	Level of agreement				
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)
Most of the time they interacted with students by using of social media.	11 (12.1)	40 (44.0)	20 (22.0)	16 (17.6)	4 (4.4)
Most of the time they interacted with peer and colleague by using of social media.	3 (3.3)	16 (17.6)	15 (16.5)	45 (49.5)	12 (13.2)

Table 5 shows that about 52.9% teachers who agreed about the use of social media by them to interact with students and peers for e-learning and e-assessment in medical colleges, 44% teachers disagreed that most of the time they interacted with students by using of social media but 49.5% teachers agreed that most of the time they interacted with peer and colleague by using of social media, among them maximum 74.7% teachers were using Facebook, 70.3% teachers were using Messenger, 48.4% teachers were using Viber, 35.2% teachers were using WhatsApp, the rest 15.4%, 9.9%, 8.8%, 3.3%, & 2.2% teachers were using IMO, Skype, Drop box, Blog and other social media like Instagram respectively for e-learning and assessment (Figure-4).



**Figure 2:** Distribution of social media preferred most by the medical teachers for e-learning and assessment (n=91)

Figure 2 bar diagram shows that out of 91 teachers, maximum 74.7% teachers were using Facebook for e-learning and assessment, 70.3% teachers were using Messenger, 48.4% teachers were using Viber, 35.2% teachers were using WhatsApp, the rest 15.4%, 9.9%, 8.8%, 3.3%, & 2.2% teachers were using IMO, Skype, Drop box, Blog and other social media like Instagram respectively.

**Table 6:** Distribution of the medical teachers regarding general views about the further scope of e-learning and assessment in medical colleges (n=172)

Statements in relation to the view of teachers for further scope of e-learning and e-assessment	Level of agreement				
	SDA f (%)	DA f (%)	NAND f (%)	A f (%)	SA f (%)
The authority of institute was motivated for implementing of e-learning and assessment.	12 (7.0)	29 (16.9)	45 (26.2)	70 (40.7)	16 (9.3)
The authority of institute was agree to establish of e-administration.	12 (7.0)	23 (13.4)	43 (25.0)	82 (47.7)	12 (7.0)
There was lack of up to date knowledge and skill of all teachers about e-learning and e-assessment.	4 (2.3)	22 (12.8)	38 (22.1)	74 (43.0)	34 (19.8)
There was lack of up to date knowledge and skill of all student about e-learning and assessment.	5 (2.9)	20 (11.6)	38 (22.1)	79 (45.9)	30 (17.4)
There was lack of up to date knowledge and skill of all other staff about e-learning and assessment.	3 (1.7)	15 (8.7)	30 (17.4)	81 (47.1)	43 (25.0)
Course materials were needed to develop for e-learning and assessment.	-	4 (2.3)	12 (7.0)	86 (50.0)	70 (40.7)
Regular CME/CPD were needed to organize on information and communication technology (ICT) for teacher.	1 (0.6)	3 (1.7)	13 (7.6)	82 (47.7)	73 (42.4)
Require more fund/budget then present for implementing of e-learning and assessment.	1 (0.6)	3 (1.7)	12 (7.0)	78 (45.3)	78 (45.3)
Require more manpower then present for implementing of e-learning and assessment.	3 (1.7)	7 (4.1)	15 (8.7)	70 (40.7)	77 (44.8)

Table-6 shows the about the general views among 172 teachers for the further scope of e-learning and e-assessment in medical colleges in this study, about 40.7% teachers agreed that the authority of institute was motivated for implementing e-learning and assessment and 47.7% teachers agreed that the authority agreed to establish of e-administration in their institutions (Table-6). 43%, 45.9% and 47.1% teachers were agreed that there were lack of knowledge and skills of all teachers, students and all other staff about e-learning and assessment respectively. 50% teachers were agreed for need to develop course materials for e-learning and assessment and 47.7% teachers were agreed for need to organize regular CME or CPD on information and communication technology (ICT) for teacher. 45.3% teachers agreed and strongly agreed that there were required more fund or

budget than present and also 40.7% teachers agreed with 44.8% teachers strongly agreed about the requirement of more manpower than present for implementing e-learning and assessment (Table 6).

## Discussion

Information Technology is fast becoming a part of our everyday life. The Internet has given us easy access to information at the click of few buttons. Now-a-days health and medical education have been modified from conventional mean of teaching to modern teaching methodology including information technology.<sup>11</sup> This study showed that all of the teachers stated that there were no e-library and only 9.3% teachers assured about the presence of established IT Lab in their medical colleges among which 81.3% teachers stated that 6 to 10 number of computers were present in their IT Lab and 43% teachers were using the IT Lab 1 to 5 hours per week.

In this study 58.7% teachers told that WiFi facility was available in their medical colleges among them 31.7% teachers agreed that the speed of the internet was sufficient and 45.5% teachers agreed that they could easily connect to internet facility in their personal computer (PC)/laptop/smart phone. 49.5% teachers agreed that they could easily access to internet and 31.7% teachers agreed that they could easily access to educational web site of the medical college. But 40.6% and 30.7% teachers disagreed about interaction with students and colleague respectively by the using of e-mail. Kenyatta University, Kenya, noted “the eGranary Digital Library has helped our students and lecturers in accessing academic materials which were not easily accessible due to limited bandwidth”.<sup>12</sup>

About 52.9% teachers were using social media like Facebook, Google plus, WhatsApp, Viber etc. for e-learning and assessment in their medical colleges, among them maximum 74.7% teachers were using Facebook, 70.3% teachers were using Messenger, 48.4% teachers were using Viber, 35.2% teachers were using WhatsApp, the rest 15.4%, 9.9%, 8.8%, 3.3%, & 2.2% teachers were using IMO, Skype, Drop box, Blog and other social media like Instagram respectively for e-learning and assessment. Bialy & Jalali (2015) reported that the medical teachers used SNSs mainly to post opinions (86%), share videos (81%) etc.<sup>13</sup>

In this study 40.7% teachers agreed that the authority of institute was motivated for implementing e-learning and assessment and 47.7% teachers agreed that the authority agreed to establish e-administration in their institutions. About 43%, 45.9% and 47.1% teachers were agreed that there were lack of knowledge and skills of all teachers, students and all other staff about e-learning and assessment respectively. About 50% teachers were agreed for need to develop course materials for e-learning and assessment, Basak, Wotto, & Belanger (2016)<sup>14</sup>, studied the factors contributing to the success of e-learning from the perspectives of learners and teachers from four universities in the U.S., Mexico, Spain, and China. They concluded that

from the learners’ and instructors’ points of view, essential factors in establishing an effective online program were course design, instruction, learning platform, interaction, learning content, and social presence<sup>7</sup> and 47.7% teachers were agreed for need to organize regular CME or CPD on information and communication technology (ICT) for teacher. About 45.3% teachers agreed and strongly agreed that there were required more fund or budget than present and also 40.7% teachers agreed with 44.8% teachers strongly agreed about the requirement of more manpower than present for implementing e-learning and e-assessment. Haddad & Draxler (2002) outline seven aspects that are necessary for the success of an e-learning system: educational policy, approach, infrastructure, content ware, committed and trained personnel, financial resources, and integration.<sup>15</sup>

## Conclusion

In medical education e-learning and assessment have become major components of teaching, learning and e-assessment in the world. The medical teachers of Bangladesh widely used e-learning and e-assessment during COVID-19 pandemic condition. Now a days most of the medical teachers agreed that there is need of motivation and implementation of IT-Lab, e-library, easy accessible WiFi facility with other infrastructure for successful implementation of e-learning and e-assessment in different medical colleges of Bangladesh by authority. By sustainable implementation of e-learning and assessment in different medical colleges of Bangladesh, it will improve the quality of medical education and fulfill health need of the community.

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# Basic Issues of Health Professional Teachers Evaluation: Context of Bangladesh

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## Abstract

**Background:** Teacher evaluation (TE) is essential for improvement of teaching and other qualities of teachers, for enhancing students' learning and for institutional quality assurance. The medical and dental teachers are already highly motivated for implementation of teacher evaluation in Bangladesh.

**Methods:** This review was done to document the basic conceptual issues as an initial step of TE for the health professional education (HPE) of Bangladesh.

**Results:** It was found that TE mainly covers teaching capability and other capabilities of teachers. It has been found that the TE has two distinctive patterns. The institutes have to face several challenges during implementations of formal TE but there are ways to overcome these challenges. There are different sources of information for TE, types of evaluators, instruments, weightage for evaluation. We have to follow some defined steps for the evaluation and for classroom observation. We must ensure qualities of formal evaluators and the steps of dealing with incompetent teachers.

**Conclusion:** Centre for Medical Education (CME) of Bangladesh has been working for a long duration for faculty development (FD) of health professional institutes. CME already has adequate consultants, alumni and well- developed instruments for implementing TE in the health professional institutes of Bangladesh.

**Keywords:** Teacher evaluation, Health professional institutes of Bangladesh, Medical and dental education of Bangladesh

## Introduction:

Evaluation is an essential component of educational process in health professional education. The health institutes require evaluation of the students, teachers and curriculum and other programme as part of their quality assurance. It provides evidence of how well students are learning, teachers are teaching and the institutes are maintaining set standards<sup>1,2</sup>. The evaluation and feedback about teaching and learning qualities are inexpensive and invaluable way of improving performance of students, teachers and institutes.<sup>1</sup>

One students of CME in his thesis explored views of 51

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dental teachers from one public and two private dental colleges of Dhaka in 2012 regarding different issues of teachers' evaluation (TE) in undergraduate dental

### Box 1: Researches in Bangladesh

All (100%) medical (n=30) and dental (n=17) teachers expressed that the teacher evaluation is necessary in medical education in in-depth interviews in two similar studies.

education of Bangladesh. Their agreement (n=34) regarding different sources of the TE like evaluation of teachers' classroom performances, assessment capability, research works, publications, professional activities and students' result were 100%, 64.7%, 82.4%, 64%, 79.4% and 76.5% respectively. All (100%) teachers of the dental colleges expressed that the teacher evaluation is necessary in dental education in the in-depth interviews (n= 17).

A similar thesis work of another student gathered views of medical teachers and students from two public and three private medical colleges of Dhaka in 2014 regarding different issues of TE in undergraduate medical education of Bangladesh. The agreement of the medical students (n=1400) regarding the need of evaluation of teachers' classroom performances was 73.6%. All (100%) teachers expressed that the teacher evaluation is necessary in medical education of Bangladesh in their opinions in the in-depth interviews (n= 30)<sup>4</sup>.



## Methods

This review was done to document the basic conceptual issues of teacher evaluation considering the context of teachers, students, administration of health professional institutes of Bangladesh. A total 27 very much pertinent articles and printed materials covering these issues were reviewed from a vast list of publications. The basic issues covered in these articles are: present context of TE in Bangladesh, definition, purpose, challenges and means of overcoming the challenges of teacher evaluation. It also addressed source of information for TE, types of evaluators, instruments used in such evaluation, weightage for different areas of evaluation, steps of TE, qualities of an evaluator, steps of formal classroom observation, dealing with incompetent teachers and finally some recommendation from CME.

## Results

### Definitions of teacher evaluation:

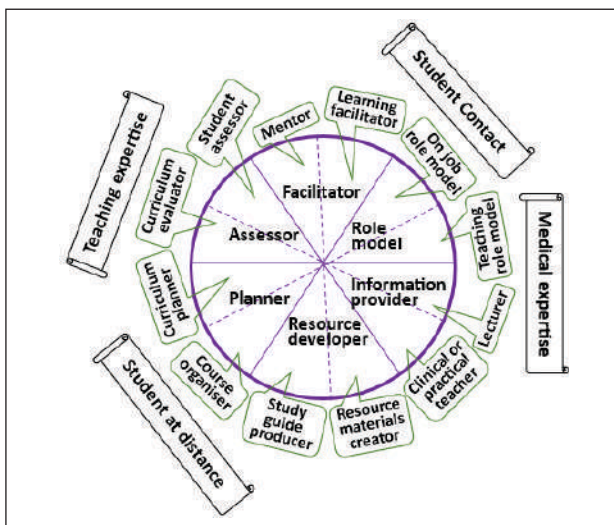
The classical definition of TE includes the process used to review teachers' performance and effectiveness in the classroom<sup>5,6</sup>. But the comprehensive definition of TE covers wider roles of the teachers; hence it can be defined as systematic, periodic evaluation of a teacher with respect to his/her performances on the job and his/her potential for development.<sup>7</sup>

#### Box 2: Definitions of TE

*Classical TE assess teachers' performance in the classroom.*

*Comprehensive TE assess wider roles of the teachers.*

The areas of a comprehensive TE in health professional education may include teaching skills, assessment skills, ability to give feedback to the students, teaching material



**Figure 1:** The twelve roles of a medical teacher

Sources<sup>8,9</sup>

development, research and publication, curriculum development, use of technologies, patient care, leadership quality, management and administration skills, career development activities, professionalism, accountabilities to the concerned authorities, contribution to institutional sports and culture, participation in organizational development, adoption of changes over time and many more issues. Among all the above list most important areas of TE is teaching skills.<sup>3,4,7,8</sup>

### Formats of teacher evaluation:<sup>10</sup>

There are two different formats of TE: formal and informal. The formal TE is mandatory for all teachers, it must be supported by law, hence it is a serious issue, there must have definite guidelines for its implementation and it is used for faculty development with personnel decisions like

#### Box 3: Formats of TE

##### Formal TE:

- Mandatory
- Supported by law
- Serious issue
- Have definite guidelines
- Used for faculty development + personnel decisions

##### Informal TE:

- Optional
- Verbal approval enough
- Relaxed issue
- Have no definite guidelines
- Used for faculty development

promotion, pay raise, transfer and termination. On the other hand, the informal TE is optional for teachers, verbal approval is enough for its practice, it is a relaxed issue, have no definite guidelines, can be done for identifying the strengths and weaknesses of teachers and used only for faculty development.

### Purpose of teacher evaluation:<sup>3,4,11-13</sup>

Through regular practice of TE, teachers can identify their incompetencies through feedback received from peer colleagues, senior colleagues, expert evaluators, external teachers, students and self; and thereby correct their incompetencies by self-directed efforts, peer coaching and administrative supports. In absence of TE+ (Teacher evaluation+self-directed efforts, peer coaching and

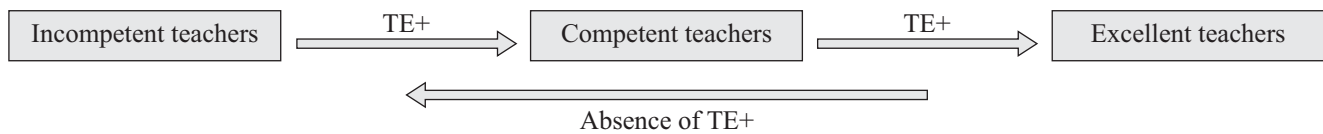
#### Box 4: Purpose of TE+

- To identify teachers' incompetencies
- To correct their incompetencies.
- To protect students from incompetent teachers
- To enhance students' learning
- To ensure accountability

administrative supports) teachers' competencies gradually decline. Hence TE+ protects the students from the incompetent teachers and it enhances students' learning. Besides, TE provides an administrative link between

teachers and administrators; higher authorities can take personnel decisions based upon the result of formal TE. It also helps in determining teachers', students' and

institutional needs, in ranking the teachers and institutes and evaluating the curriculum. Ultimately it ensures accountability to institutes, states and society as a whole.



**Figure 2:** Flow chart of effect of teacher evaluation on teacher's competencies

### Challenges of teacher evaluation:<sup>3,4,14-1</sup>

TE is not well practiced formally among the medical and dental Institutes of Bangladesh. As a new system it may create anxiety among teachers. It may create distance between teachers and administrators and may create

#### **Box 5: Challenges of TE**

- May create anxiety among teachers
- May create distance between teachers and administrators
- May create unhealthy competition between teachers
- Adequate resources and trained evaluators are required
- Requires strong commitments of stakeholders

unhealthy competition between teachers if it is introduced for personnel decision like promotion, pay raise, transfer and dismissal. For implementing effective TE adequate resources are required; especially adequate numbers of trained evaluators are needed. Formal TE must be validated by the country's law to overcome the resistance by pressure groups; hence it requires strong commitments of teachers and policymakers.

### Overcoming the challenges:<sup>3,4,17,18,19</sup>

There are several faculty development activities existing in the medical and dental institutes of the country; now the TE can be easily incorporated as a part of 'faculty development' activities. Policymakers and teachers must be motivated for formal TE through conduction of seminars, panel discussions and workshops. TE should not be forced during its implementation; it should be dialogical with the teachers rather than hierarchical. TE should be initiated as simple as possible and it will be better if it remains

#### **Box 6: Overcoming the challenges of TE**

- TE should be incorporated as a part of 'faculty development' activities
- Stakeholders must be motivated by seminars, panel discussions and workshops etc.
- TE should be dialogical rather than hierarchical
- In TE emphasis should be given on teaching

voluntary/informal at the initial stage so that the teachers can realize its benefits over the years. Though a number of faculty roles can be evaluated in formal TE but emphasis should be given on teaching.

### Sources for the evaluation:<sup>3,4,12,19</sup>

In classical TE classroom performance is the only source of information. In comprehensive TE many faculty roles are included in the evaluation but the classroom performance is also important. Now a day's research and publication, participation in professional development activities like

#### **Box 7: Sources of information for the evaluation**

- Classroom performance of teachers (mainly)
- Number of participations in research
- Number of publications
- Students' performances
- Participation in professional development activities
- Contribution to institute and students' support systems

seminars, panel discussions, conferences and workshops, by contribution to institute and students' support systems get considerable priority in comprehensive TE. Students' performances are considered as a source of teacher evaluation in many institutes though these performances are usually affected by multiple factors like students' prior learning, merits, liking toward the subject, and institutional and sociopolitical determinants.

### Types of evaluators:<sup>3,4,12,19,20</sup>

To evaluate the classroom performances trained evaluators from a different institute (external) having expertise in the respective discipline are the best persons; alternatively, senior trained teachers from respective department can

#### **Box 8: Evaluators for TE**

- External trained evaluators
- Senior trained teachers
- Peer colleague
- Students
- Self
- Assigned authorities

play the role if it is unbiased. Peer colleague teachers can easily participate in the class evaluation and feedback sessions and thus both of them can be highly benefitted, but it requires devotions of the teachers and institutional culture. Students are the best judge of their own understanding from a class and the teachers' cooperation, but there is chance of some subjectivity. The teacher can evaluate themselves after each class, which is the easiest way but no one is bias free of his / her own. To evaluate other faculty roles trained evaluators, department heads, principals and other assigned authorities can play specific roles.

### Instruments for the evaluation:

Checklists are used to evaluate the classroom performances by external evaluators, seniors and peers. These checklists are structured using standardized rubrics to minimize subjectivity of rating. Usually, Likert rating scales are used to evaluate the classes by students. Though,

#### Box 9: Instruments for TE

- Checklists with rubric
- Rating scale
- Oral and written tests
- Portfolios

rating scales can be used for self-evaluation but the checklists are far better option. Different agreed scoring tools are used to evaluate other faculty roles. Oral and written tests are considered as tools for TE especially for novice teachers. Portfolios are excellent means of TE where evidences of all faculty roles can be documented.

### Weightage for the evaluation: <sup>3,4,7,19</sup>

The classroom performance evaluation should get maximum weightage (say 60-89%) for those teachers who

#### Box 10: Weightage for TE

*All responsibilities of the teachers should get optimum weightage based upon their job descriptions.*

mainly have to teach the students. For clinical and administrator teachers who are engaged in other institutional activities weightage for teaching may be 20-40%. All other responsibilities of the teachers should get optimum weightage based upon their job descriptions.

### Steps of the effective evaluation: <sup>20-26</sup>

**Step 1:** We have to establish goals for the evaluation considering institutional resources, stakeholders' views and country laws preferably in an institutional conference with all teachers.

**Step 2:** Then we have to define and set the standards of teachers' performances by developing appropriate instruments against which the teachers will be evaluated.

**Step 3:** Now we should choose evaluation methods. How

the persons will be evaluated, when they will be evaluated.

**Steps 4:** Here we have to select some senior subject teachers and train them as evaluators.

#### Box 11: Steps of effective TE

1. Establish goals
2. Define the standard
3. Choose evaluation methods
4. Select and train evaluators
5. Conduct evaluations
6. Use the evaluation results

**Steps 5:** Now evaluators will conduct evaluations using the instruments as per the prefixed schedules.

**Steps 6:** Evaluators will use result for giving feedback to evaluate teachers and also send the reports of evaluation to concerned authorities.

### Qualities of a formal evaluator:

The evaluators must have sufficient (at least 5 years) and good background in teaching. They should have training on educational methodologies. They should also acquire training on teacher evaluation and faculty development so

#### Box 12: Qualities of formal evaluators

1. Establish goals
2. Training on educational methodologies
3. Training on teacher evaluation and faculty development

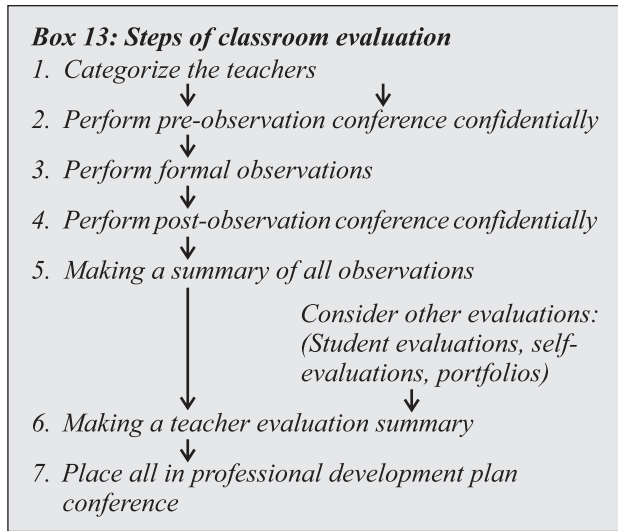
the evaluator can develop instruments for the TE, perform pre-conference, formal evaluation, post-conference and feedback on evaluation and manage the psychological aspects of evaluation. It will be better if they have subject specialty.

### Steps of classroom evaluation: <sup>26, 27</sup>

**Step 1:** Categorize the teachers based upon their teaching experience. Novice teachers (teaching experience less than 2 years) should be evaluated half yearly and the tenured teachers (teaching experience 2 years or more) should be evaluated yearly.

**Step 2:** Perform pre-observation conference confidentially. During pre-observation conference the teachers under evaluation will be well informed about methods, times, instruments of the evaluation. The teacher can change with evaluator, any aspect of the evaluation that does not fit with his/her job description even the teacher can place demand for training and coaching before his/her class observation.

**Step 3:** Perform formal observations of the teacher performances in classroom using checklist. A novice teacher may be observed 3 to 5 times half yearly and tenured teachers 3 to 5 times yearly.



**Steps 4:** Perform post-observation conference once or more after each observation confidentially. Here the teachers under evaluation will receive feedback from the evaluator about his/her strength and weakness and ways of overcoming the weaknesses. The teacher can defend with evaluator about any aspect of the evaluation. The evaluator can place demand to the concerned authorities for training and coaching of the teacher.

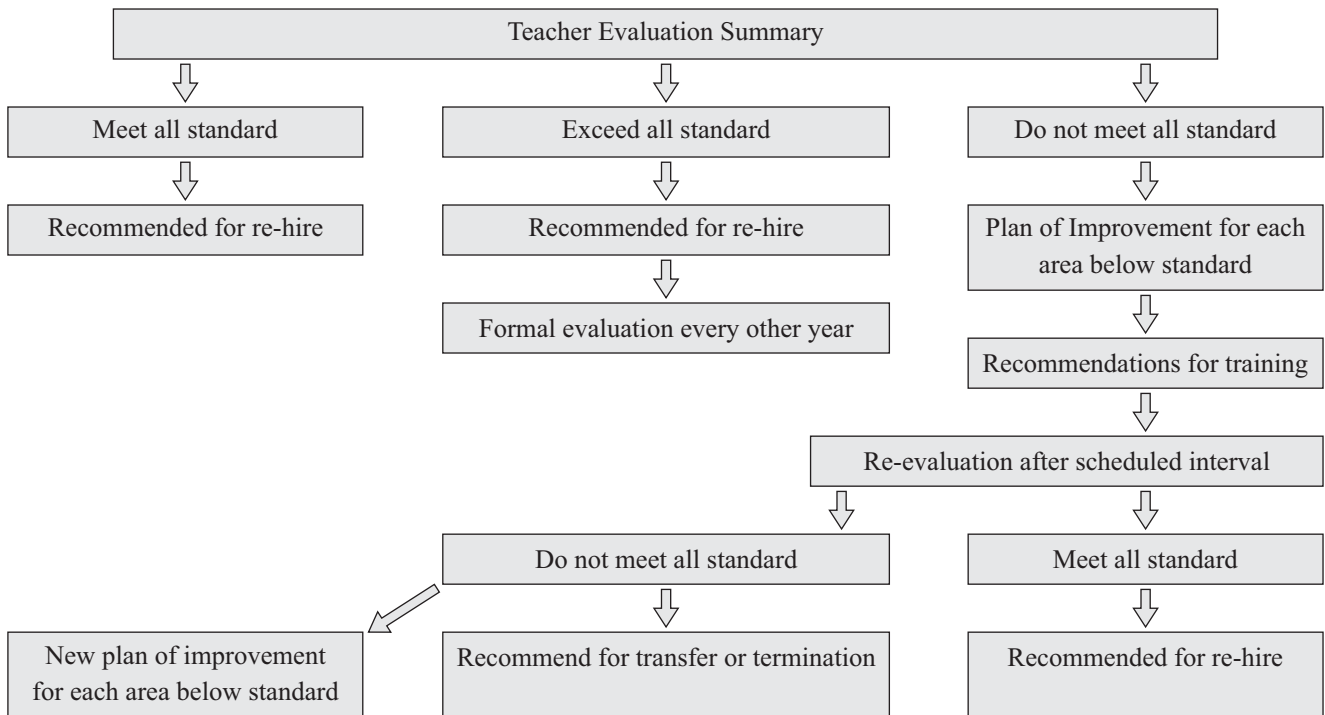
**Steps 5:** Making a summary of all formal observations.

**Steps 6:** Making a teacher evaluation summary. Here evaluator have to consider scores obtained by the teacher from students' ratings, self-ratings, teachers' portfolios, informal observations, written & oral tests.

**Steps 7:** Place the teacher evaluation summary in professional development plan conference where the evaluators place the information in presence of the teacher under evaluation, principal and one or two concerned persons.

**Dealing with incompetent teachers:**<sup>12,19</sup>

If the teacher's performances meet all set standards, then the professional development plan conference recommend for re-hiring the teacher. If the teacher's performances exceed all set standards, then he or she is recommended for re-hire and to perform formal evaluation every other year. If the teacher's performances do not meet all set standards, then a plan is developed for improvement of each area below the set standard. The evaluator and concerned authorities arrange training and coaching for the teacher. If the teacher's performances again do not meet all set standards, then a new plan may be developed for improvement or dismissal or transfer to other job can be taken based upon the evaluation result.



**Figure 3:** Flow chart of process of dealing with incompetent teachers

## Conclusion

Centre for Medical Education (CME) is working for development of health professional education since its establishment in 1983. From the office documents of CME, it is evident that, a total of 267 teachers from different medical and dental institutes got 5 days face to face training in several batches in the financial year 2021-22 on very basic issues of medical educations. Besides, a total of 4090 medical and dental teachers were trained on these issues at their own working place by ToT program in the calendar year 2022. It is hoped that almost all medical and dental

### **Box 14: Proposals from CME for TE**

- *CME is always ready to provide technical support.*
- *We should start piloting as early as possible.*
- *The TE should be easy and simple at the initial stage of its implementation.*
- *Establishment of Medical Education Unit under supervision of a medical educationist in the institutes.*

teachers having post-graduation will be trained up on the essential contents of teaching methodology and assessment by December 2023. We are glad to inform that, up to January 2023 a total 227 medical and dental doctors obtained postgraduation degree on medical education from CME. Besides, more than 100 doctors of Bangladesh obtained post-graduation on this discipline from different foreign countries. CME has already developed different types of teacher evaluation tools for evaluating teachers' classroom performances of lecture classes, tutorial classes, practical classes and clinical classes by observers, by students and by the teacher themselves. CME considered 2024 will be the best time for implementation of a teacher evaluation system in Bangladesh. It can be initially voluntary/informal and pilot basis. Weightage for classroom performance, participation in 10 documented faculty development activities, participation in one research in the last 3 years and having one publication in the last 3 years should have weightage as 80%, 10%, 5% and 5% respectively. The weightage for classroom performance could be given as 50% for evaluation by senior teachers, 20% for evaluation by students and 10% for self-evaluation. For smooth operation of the teacher evaluation and other faculty development activities in every institute, a Medical Education Unit must be established under supervision of a medical educationist. Centre for Medical Education is always ready to maintain continuous link with the Medical Education Units and eager to provide all technical supports to the institutes.

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## A Large Scale Training on Teaching Methodology and Assessment: An Enthusiastic Journey by CME

Tapu TT<sup>1</sup>, Talukder MAS<sup>2</sup>, Flora TA<sup>3</sup>, Miah MA<sup>4</sup>, Barman N<sup>5</sup>

### Abstract

**Background:** Our medical professionals become teacher without any sorts of formal training of “Teaching Methodology and Assessment”. From that point of view the journey was started to train the focal persons as local level trainer of different govt. and non-govt. medical colleges of Bangladesh.

**Methods:** With a view to train medical teachers in a large scale a training programme was planned by Centre for Medical Education (CME) with the collaboration of Directorate General of Medical Education (DGME) where medical teachers would be trained at their own medical institutes on twelve (12) important issues of medical education. A three days long residential workshop was organized outside Dhaka to train the focal persons. Thirty four (34) medical institutions were included in 1<sup>st</sup> Phase, 35 medical institutions in 2<sup>nd</sup> Phase, 39 medical institutions in 3<sup>rd</sup> Phase and rest of the institutions in 4<sup>th</sup> Phase of this programme. Different medical institutions conducted their sessions on the selected twelve topics within the defined time period. Centre for Medical Education monitored the quality of the training programme.

**Results:** Initial number of trainees in 1<sup>st</sup> Phase were 1377. The training became so attractive that final number of trainees raised up to 1461 in first phase. After completion of first phase total 2629 participants from 59 medical institutions completed the training. In third phase 1237 participants are recruited and continuing the training and in fourth phase is planned to cover rest of the medical teachers. Centre for Medical Education (CME) and Directorate General of Medical Education (DGME) were actively involved as consulting and supervising agencies respectively.

**Conclusion:** This initiative highlights the need of training on teaching methodology and assessment as a vehicle for ensuring quality of medical education. Faculty development efforts at local level by the institute should be empowered for the medical teachers to keep the passion of teaching as a lifelong learner, to be a competent teacher.

**Keywords:** Large scale training, Teaching Methodology & Assessment

### Introduction

Teachers are not born, they are made. Few special initiatives can make someone to be able to a good teacher. That's why a professional training is needed to be a teacher. After passing from different institutes doctors are posted as teachers. Those who works as teacher should be trained about teaching methodology & the person concerned should have

a commitment. Centre for Medical Education (CME) was established in 1983 to develop health manpower in medical education. The CME conducts regular courses & workshops both at institutional and national level.<sup>1</sup>

Shortages and poor retention of health workers represent a significant problem of health systems in many developing countries which have a major impact on health care services.<sup>2</sup> Heavy workloads, poor salaries and limited access to training, education, mentoring and continuous professional development (CPD) are affecting the morale and commitment of healthcare workers.<sup>3,4</sup> The World Health Organization forecasts that the healthcare workforce deficit in low and middle income countries (LMICs) will reach 12.9 million skilled health professionals by 2035.<sup>5</sup> For this reason, a strong focus on strengthening the capacity of the healthcare workforce is important.

Global health partnerships (GHP) has strong focus on education and training, a common assumption is that training of trainers (ToT) is a strong predictor of sustainability. ToT is very popular within the development industry because of its potential for up-skilling the workforce rapidly, economically and exponentially. The basic idea of ToT is to initiate a training cascade: skills and knowledge are taught to a small group of trainees who become trainers and go on to transfer those skills to others.<sup>6</sup>

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To improve the quality of medical education in Bangladesh, training on teaching methodology and assessment for medical teachers is essential. In general education there is a scope of training for the teachers like PTI training for primary school teacher, BEd for high school teacher, MEd for college teachers. Compared to those there is less scope to train our medical teachers formally. In Bangladesh medical professionals become teachers without any sorts of formal training of teaching methodology and assessment. From that point of view the journey was started to train the focal persons of different Medical colleges of Bangladesh on Teaching Methodology and Assessment. This write up consistently focuses on the importance of effective teachers' training in medical education and will end with some suggestions to improve the quality of this type of training in Bangladesh.

## Modalities of the Training

### Objective of the training programme:

With a view to train medical teachers in a large scale a training programme was planned by Centre for Medical Education (CME) in collaboration DGME to prepare trainers at local level who will be able to train medical teachers at their own medical colleges.

### Participants of the training:

For this training purpose as per defined focal persons were selected from thirty four (34) medical institutions in 1<sup>st</sup> Phase, 35 medical institutions in 2<sup>nd</sup> Phase and 39 medical institutions in 3<sup>rd</sup> Phase and 4<sup>th</sup> Phase has been planned to cover rest of the institutions. The focal persons were nominated by principal of respective institutions. The focal persons were called upon for 3 days intensive residential workshop on Teaching Methodology and Assessment on Medical Education.

## Methods

Medical institutions were selected for the training of teachers on Teaching Methodology and Assessment. Both Government and Non- Government medical institutions were included for the training. Focal person from each institution was recruited by respective institution as local level trainer of this training programme.

A three days long workshop was organized outside Dhaka to train the focal persons of respective medical colleges and institutions. Centre for Medical Education (CME) conducted the workshop on identified 12 topics and modalities of training at local level in co-ordination with CME. All the focal persons from different institutions participated actively on that occasion.

Twelve (12) important topics of medical education were selected as a module for this training programme, which are as follows-

1. Effective Teaching Learning
2. Educational Objectives & Lesson Plan

3. Effective delivery of lecture
4. Small Group Teaching
5. Assessment: Concept, Principles & Methods
6. SAQ & MCQ: Principles & Construction
7. Objective Structured Practical/Clinical Examination (OSPE/OSCE)
8. Structured Oral Examination (SOE)
9. Integrated Teaching
10. Effective use of teaching materials
11. Integrity In Medical Education: Bangladesh Perspectives
12. Educational Management

Two recorded classes on “Psychological Boost of Medical teachers about their Dignity, Honor and Manage stress during online session” and “e-based Academic Activity Management in Medical Education” were also mailed to all the participant institutions for their personal development.

Different medical institutions conducted their sessions on the selected topics of teaching methodology and assessment during the period from 1<sup>st</sup> January, 2022 to 30<sup>th</sup> June, 2022; in 1<sup>st</sup> Phase, 1<sup>st</sup> July, 2022 to 31<sup>st</sup> December. In 3<sup>rd</sup> Phase the institutions are continuing their sessions. Centre for Medical Education monitored throughout the training programme. CME faculty members were connected through online to monitor and also provided feedback during the sessions.

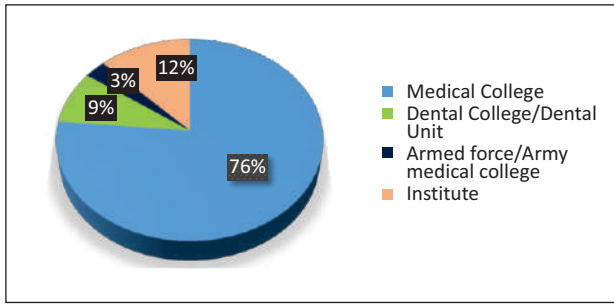
First follow up session was arranged at CME on 1<sup>st</sup> February, 2022 to provide proper direction to the selected institution with the collaboration of CME and DGME. The principals and focal persons of selected medical institutions were connected through Zoom in the meeting. The participants of the meeting shared their experiences of the journey, few problems were identified and solutions were proposed by discussion with all the participants.

The medical institutions were given autonomy to conduct their sessions according to their convenience. CME provided all types of technical and scientific supports to the institutions providing all soft copy of Power Point Presentation of above mentioned twelve topics. In 1<sup>st</sup> Phase to acknowledge the trainees for completion of the training a certificate giving ceremony was arranged by CME where randomly selected ten trainees received their certificate physically. Other participants were connected through Zoom from their own institutions.

After completion of six(6) months long training programme of respective phases the focal persons were awarded with certificates as local level trainer of their own institutions. All the certificates of completion as participants and resource persons were sent to the respective institutions for distribution.



## Results



**Figure 1:** Distribution in accordance of different types of institution

**Table 1:** Distribution of participants according to phases

Name of Phase	No. of Participants
Phase-I	1461
2 <sup>nd</sup> Phase of Phase-I	1029
Phase-II	1600
<b>Total</b>	<b>4090</b>

**Table 2:** Distribution of institutions according to different phases

Name of Phase	No. of Institutions
Phase-I	34
2 <sup>nd</sup> Phase of Phase-I:	25
Phase-II	35
Phase-III	39

**Table 3:** Distribution of participants in Phase-III

Name of Phase	No. of Participants
Phase-III	1237
3 <sup>rd</sup> Phase of Phase-II	529
3 <sup>rd</sup> Phase of Phase-I	1051
<b>Total</b>	<b>2817</b>

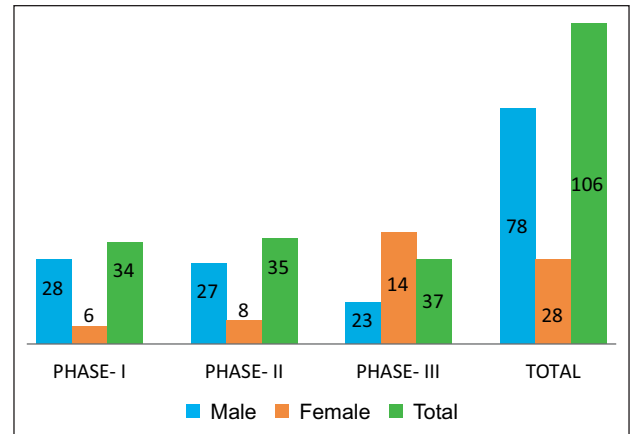
Initial number of trainees in 1<sup>st</sup> Phase of different institutions were 1377. The Training programme became so attractive that final number of trainees raised up to 1461. In 2<sup>nd</sup> Phase Initial number of participant were 2530 and the final number became 2629.

After completion of six months long training programme it was revealed seven (7) institutions in 1<sup>st</sup> phase have trained all of their teachers and remaining 25 institutions joined in 2<sup>nd</sup> phase of this training programme along with newly recruited 35 institutions of Phase-II. The 39 institutions of Phase-III along with institutions of Phase-I and Phase –II

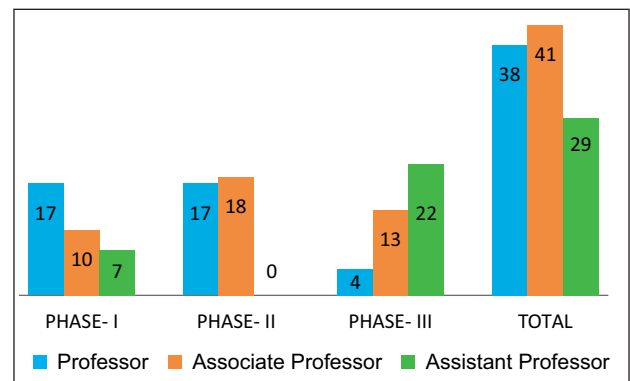
continuing the programme. Rest of the institutions are planned to train in Phase-IV.

### The Focal Persons:

The focal persons were the heart of this training programme. They all were trained and groomed up by CME for organizing the sessions in their own institutions.



**Figure 2:** Distribution of Focal Persons of different Phases by their Gender



**Figure 3:** Distribution of Focal Persons according to Designation

### Challenges, activities to overcome the challenges:

A feedback form was sent to the participant institutions to find out challenges they had faced and activities to overcome them. Lack of motivation among the participants, scheduling the sessions within the prescheduled classes and exams, lack of logistic support & training materials, lack of resource person, sudden transfer of participants as well as resource persons are identified as challenges.

### Suggestions for future training programme:

The participants suggested to establish active medical education unit in every medical college which will collaborate among the participants preferably run by a

Medical Educationist. Running this type of training throughout the year with provision of adequate logistic support and training materials are also suggested for better implementation of this type of training programme for CPD.

## Conclusion

This study highlights the need of training on teaching methodology and assessment as a vehicle for ensuring quality of medical education. There is an evidence, in most countries, educators of health professionals are insufficiently prepared as teachers and trainers, even though their clinical knowledge and skills may be good. Faculty development efforts should be empowered for the medical teachers to keep the passion of teaching to be a lifelong learner.

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