

## Original Research Article

# Perspectives of medical students on attributes of bedside teaching

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## ABSTRACT

**Background:** Bedside teaching forms an integral part of medical education which is declining recently. The aim of this study is to evaluate the perception of undergraduate medical students about the attributes of bedside teaching.

**Methods:** This cross-sectional study was carried out among the undergraduate medical students of Dr. Sirajul Islam Medical College, Dhaka, from September to November 2016. One hundred and forty medical students were included in this study. Ethical clearance had taken and a pre-designed and pre-tested questionnaire comprising of closed ended questions was used.

**Results:** Majority of the study group, 64.3% absolutely agree that bedside teaching is a useful method for learning medical skills and 28.6% just agree. Regarding learning correct physical examination, mostly 41.4% absolutely agree that it is helpful and 37.1% only agree. It helps in rapid improvement of medical skills within limited time as absolutely agreed and just agreed by 48.6% and 45.7%, respectively. Half (50%) absolutely agree, 40% only agree that problem-based learning is possible, while evidence-based medicine can also be learned as 51.4% participants absolutely agree than 38.6% only agree. Majority 42.9% agree and 34.3% absolutely agree that allotted time is inadequate. More than half 54.3% and 40% absolutely agree and just agree, respectively, that maximum medical knowledge can be achieved by means of bedside teaching.

**Conclusions:** Positive opinion about bedside teaching exists among the future doctors. But unfortunately they are deprived due to time limitation. The barrier must be removed to restore this imperative element of medical education.

**Keywords:** Attributes, Bedside teaching, Medical students, Bangladesh

## INTRODUCTION

Bedside teaching is a particulate form of small group teaching that takes place in the presence of the patient.<sup>1</sup> Teaching starts with a lecture or discussion away from the ward followed by more interactive sessions by the patient's bedside, making bedside rounds the most patient centered of all teaching venues. Although it is known to enhance a student's learning experience and improve patient care, the use of this type of teaching is unfortunately in steady

decline. In order to master the art of clinical skill, these students should be competent in handling patients.

Bedside teaching remained a strong tradition in medical education in the previous century. El-Bagir and Ahmed report a decline from '75% of teaching time 30 years ago to just 16% by 1978' and note that it is much lower now.<sup>2</sup> Bedside teaching can improve students' history taking, examination skills, and knowledge of clinical ethics, can teach them professionalism, foster good communication

and allow the students to develop empathy with the patients as they proceed through different clinical units.<sup>3</sup> Its role in developing future doctors with knowledge, skills and attitudes towards good-clinical practice is immense.<sup>4</sup>

A healthcare professional who has the ability and willingness to model his/her behavior according to the patient's needs can develop a better doctor-patient relationship, and thus obtain more information and superior compliance from a trusting patient, that ultimately lead to better diagnosis and treatment outcomes.<sup>5</sup> By providing a chance for asking relevant question to obtain history and develop physical examination skills in a sympathetic manner, teaching at the bedside presents an excellent opportunity for the modeling of professional behaviors. It provides active learning in real context, observes students' skills, increases learners' motivation and professional thinking, integrates clinical, communication, problem solving, decision making and ethical skills, and improves patients' understandings.<sup>6-9</sup>

In clinical medicine, 56% of patients' problems can be diagnosed after taking a comprehensive history, and this rises to 73% by the end of a physical examination.<sup>10</sup> Bangladesh is a developing nation where maximum population represents a low-income category, where patients prefer cost effective treatment strategies. Therefore, health experts must know how to diagnose as precisely as possible by real patient contact to cut down unnecessary expenditure. The purpose of this study was to evaluate the opinion of undergraduate medical students about the attributes of bedside teaching.

## METHODS

This study was carried out among the undergraduate medical students of Dr. Sirajul Islam Medical College, Dhaka, from September to November 2016. The participants in this study were students of third and fourth year (preclinical) and final year (clinical) MBBS who attended different wards in hospital for bedside teaching classes and comprised a sample size of 140. The study had a cross-sectional design and was of descriptive type. A pre-designed and pre-tested questionnaire comprising of closed ended questions was used. Students were informed briefly about the procedure of completing the questionnaire and were assured about the confidentiality of all information. After taking informed consent, the students voluntarily participated in the study. The questionnaire included two sections: one contained student's demographic data and the other consisted of 12 items related to students' perception where responses varied as strongly agree, agree, disagree, strongly disagree and no comments. Only completed questionnaires were finally included in the study. The data was handled and stored in accordance with the tenets of the Declaration of Helsinki.<sup>11</sup> Data were analyzed using Microsoft Excel and results were expressed in frequency distribution tables, bar graphs and pie charts, where appropriate.

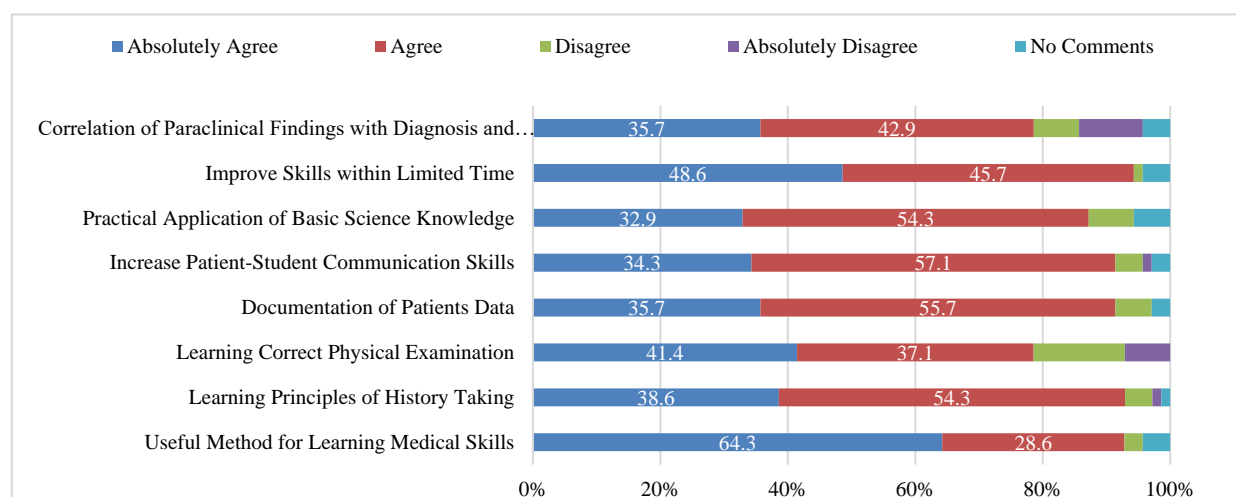
## RESULTS

This study was carried out among 140 students of both preclinical (third and fourth year) and clinical phases (final year). The age range of participants was 21-24 years with mean age  $22.5 \pm 1.3$  years. Majority 95 (67.9%) were female students and all participants 140 (100%) were of Bangladeshi origin as shown in Table 1.

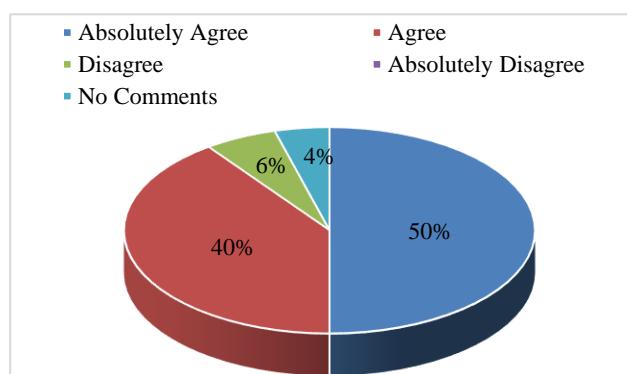
**Table 1: Demographic profile of participants.**

Traits	N (%)
<b>Year of MBBS</b>	
Preclinical	85 (60.7)
Clinical	55 (39.3)
Age (mean $\pm$ SD) in years	22.5 $\pm$ 1.3
<b>Gender</b>	
Female	95 (67.9)
Male	45 (32.1)
Total	140 (100)

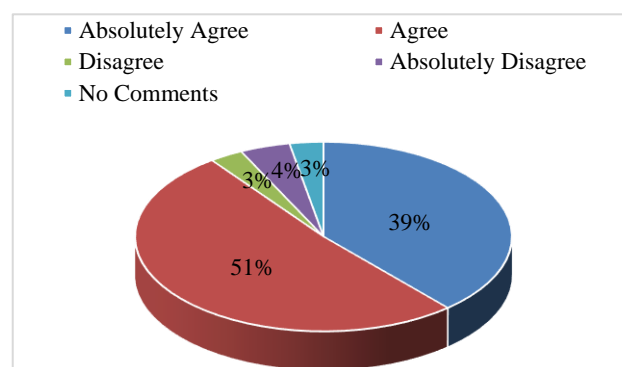
Figure 1 depicts the opinion of participants regarding various attributes of bedside teaching. Majority of the participants 90 (64.3%) absolutely agree that bedside teaching is a useful method for learning medical skills, followed by 40 (28.6%) who just agree to the same. The rest either disagree 4 (2.9%), and 6 (4.3%) had no comments. Authors observed that more participants 76 (54.3%) agree bedside teaching is effective for learning principles of taking patient's history than 54 (38.6%) who absolutely agree to it. Few of them 6 (4.3%) disagree, 2 (1.4%) participants each absolutely disagree. Regarding learning correct physical examination, most of them 58 (41.4%) absolutely agree that bedside teaching is helpful, with another 52 (37.1%) who just agree, while 20 (14.3%) and 10 (7.1%) disagree and absolutely disagree, respectively. This method of teaching can be reliable in documentation of patient's data as mentioned by maximum participants 78 (55.7%) who agree and others 50 (35.7%) who absolutely agree. Some 8 (5.7%) disagree and 4 (2.9%) had no comments. It also enhances student-patient communication skills as 80 (57.1%) agree and 48 (34.3%) absolutely agree. Minority among them 6 (4.3%), 2 (1.4%) and 4 (2.9%) disagree, absolutely disagree and had no comments, respectively. Many participants think, 46 (32.9%) and 76 (54.3%) absolutely agree and just agree, that bedside teaching is helpful for practical application of basic science knowledge. To this, 10 (7.1%) and 8 (5.7%), disagree and absolutely disagree, respectively. Moreover, bedside teaching helps in rapid improvement of medical skills within a limited time as absolutely agreed and just agreed by 68 (48.6%) and 64 (45.7%), respectively. Few of them 2 (1.4%) disagree and 6 (4.3%) gave no comments. More participants 60 (42.9%) agree than 50 (35.7%) who absolutely agree that bedside teaching allows correlation of para clinical findings in the diagnosis and treatment of disease. The rest either absolutely disagree 14 (10%), disagree 10 (7.1%) or gave no comments 6 (4.3%).



**Figure 1: Percentage distribution of students' perception on various attributes of bedside teaching.**



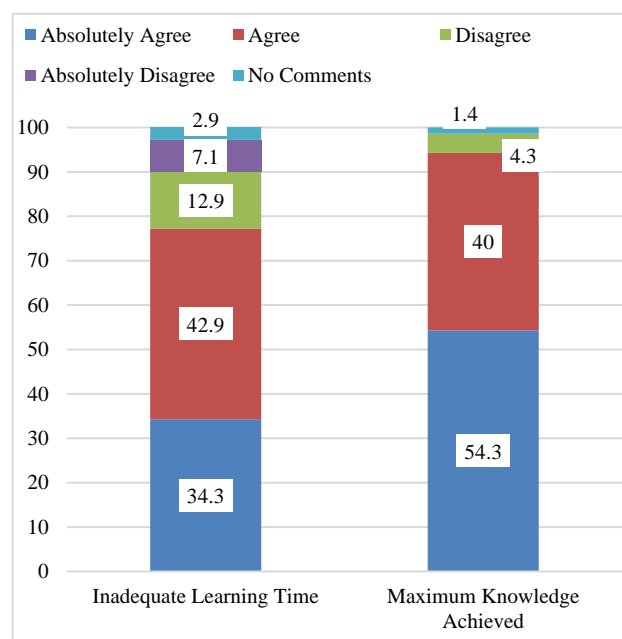
**Figure 2: Pie chart showing whether students find bedside teaching suitable for problem based learning.**



**Figure 3: Pie chart showing whether students find bedside teaching suitable for evidence based medicine.**

Figure 2 displays the distribution of students' opinion about whether bedside teaching is constructive for problem-based learning. Nearly half of the participants 70 (50%) absolutely agree, 56 (40%) agree, some 8 (5.7%) disagree, and others 6 (4.3%) had no comments. This study also revealed that bedside teaching can be an effectual technique to learn evidence-based medicine. More participants 72 (51.4%) absolutely agree than 54 (38.6%) who only agree to it. Among them, some 6 (4.3%) absolutely disagree, others 4 (2.9%) disagree and the same gave no comments as shown in Figure 3.

Authors observed that majority of participants 60 (42.9%) agree and 48 (34.3%) absolutely agree that the time allotted for bedside teaching is inadequate. Minority 18 (12.9%) disagree, 10 (7.1%) absolutely disagree and 4 (2.9%) gave no comments as shown in Figure 4. It also displays more than half 76 (54.3%) and 56 (40%) absolutely agree and just agree, respectively, that maximum medical knowledge can be achieved by means of bedside teaching. None absolutely disagree to it but 6 (4.3%) disagree and only 2 (1.4%) had no comments. Moreover, most of the participants agreed that, although maximum medical knowledge was obtained from bedside teaching, it was conducted for a short time duration.



**Figure 4: Percentage distribution of students' perception on achievement of medical knowledge within limited time during bedside teaching.**

## DISCUSSION

Despite the fact that bedside teaching plays a vital role in the medical curriculum, not enough researches have been carried out in Bangladesh to evaluate the current status of its effectivity. In our study, 92.9% state they either agree or strongly agree that bedside teaching is a useful method for learning medical skills, as like in an Australian study.<sup>12</sup> where 100% responded to the same. More than 85% of the participants are in agreement that most of the attributes of bedside teaching are effective which is in accordance to the work of Kianmehr et al.<sup>13</sup> Comparatively, participants in agreement to some aspects such as correct physical examination (78.5%) and correlation of paraclinical findings with diagnosis and treatment of disease (78.6%) are different. This maybe due to environmental barriers which may cause patients to become uncooperative, in turn hampering proper physical examination. Heavy patient load may also impair learning of how to correlate the investigational findings.

This study shows 87.2% participants agree that bedside teaching enables practical implementation of basic science into clinical situations, much likely as the study of Luring et al, stated 92% in their study.<sup>14</sup> Procedure of history taking are improved by bedside teaching is agreed by 92.9% of participants in this study. This maybe due to all participants being Bangladeshi by origin had good knowledge of local language which helped in communicating easily with the patients. This finding was in akin to the study of Holla et al, where the participants found lack of knowledge of local language acting as a barrier to proper history taking.<sup>15</sup>

Maximum (91.4%) of them agree that student – patient communication skills are developed by bedside teaching method. This result is in corroboration with a Bangladeshi research where this attribute was found to be taught to medical students in detail.<sup>16</sup>

This study highlights a high response (90%) related to effectiveness of this teaching method suitable for learning evidence based medicine. However, this finding is not in accordance with the work of Nair et al, where the rate was 65% only.<sup>12</sup> This study included undergraduate medical students who might have thought gaining clinical experience by standing beside the patient would be a more basic requirement, rather than searching journals for current clinical updates. Resident doctors and interns included in the other study may have differentiated at this point of view that has caused a result variation.

Moreover, authors found that only (20%) believed that the time allotted for bedside teaching is enough which is similar to another study where minority (31%) of medical students stated that time duration for bedside teaching is not enough.<sup>13</sup> But it is dissimilar to yet another work where half (50%) of medical faculty believed the same.<sup>17</sup>

Limitations of the study is this study did not include the investigation of factors for deterioration of bedside teaching and steps of improvent of this teaching method due to time constraint. A multicentered study may help to visualise a wider scenario of effectiveness of bedside teaching.

## CONCLUSION

In order to maintain quality education in the medical field, it is essential that this traditional bedside teaching method should be continued at a standard rank. This study reflects the positive opinion of future doctors who value the importance of bedside teaching, but unfortunately are slightly deprived of it due to time limitation. If the obstacles are overpowered, they can become experts in professionalism, resulting in restoration of a significant element of medical education.

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