

How were the Online Classes in Undergraduate Medical Teaching during COVID Pandemic? Students' Views of a Non-Government Medical College in Bangladesh

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Abstract

Abrupt closure of educational institutions due to COVID pandemic had created historical impact on educational system all over the world, the situation had been more challenging in undergraduate medical teaching. Moving smoothly from an environment of conventional education to virtual platform could not happen overnight. The current paper presents results of a cross-sectional study conducted from 13th July to 20th July, 2020 on MBBS students of Chattagram International Medical College, a non-Government Medical College of Bangladesh, exploring students' views on online classes. A total of 217 students participated in the study, the response rate of survey was 87%. Among pre-clinical students, 47.6% \pm 1.1% and among clinical students 48.3% \pm 0.8% 'sometimes' felt interested in the class. Though majority of both pre-clinical and clinical students mentioned having appropriate device; there had been a wide range of variations in responses regarding their own internet connectivity. The most striking finding came out with the question if online class would be felt as a good substitute of 'face-to-face' class; it was 'never' response in more than 70% students in both pre-clinical and clinical groups. To take challenge of creating real-life picture in online class, there is necessity of a shift of traditional 'lecture-based' classes to more interactive, simulation-based classes; specially for clinical students. Institutional support needs to be strengthened for ensuring sound and visibility during the classes.

Key words: Online class, Medical students' view, education in COVID 19

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Introduction:

COVID-19 pandemic had created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents. Abrupt closure of educational institutions has impacted 94 per cent of the world's student population, up to 99 percent in low and lower-middle income countries¹. Online education is an educational system where the information technologies and communications are used for acquisition of knowledge from remote locations².

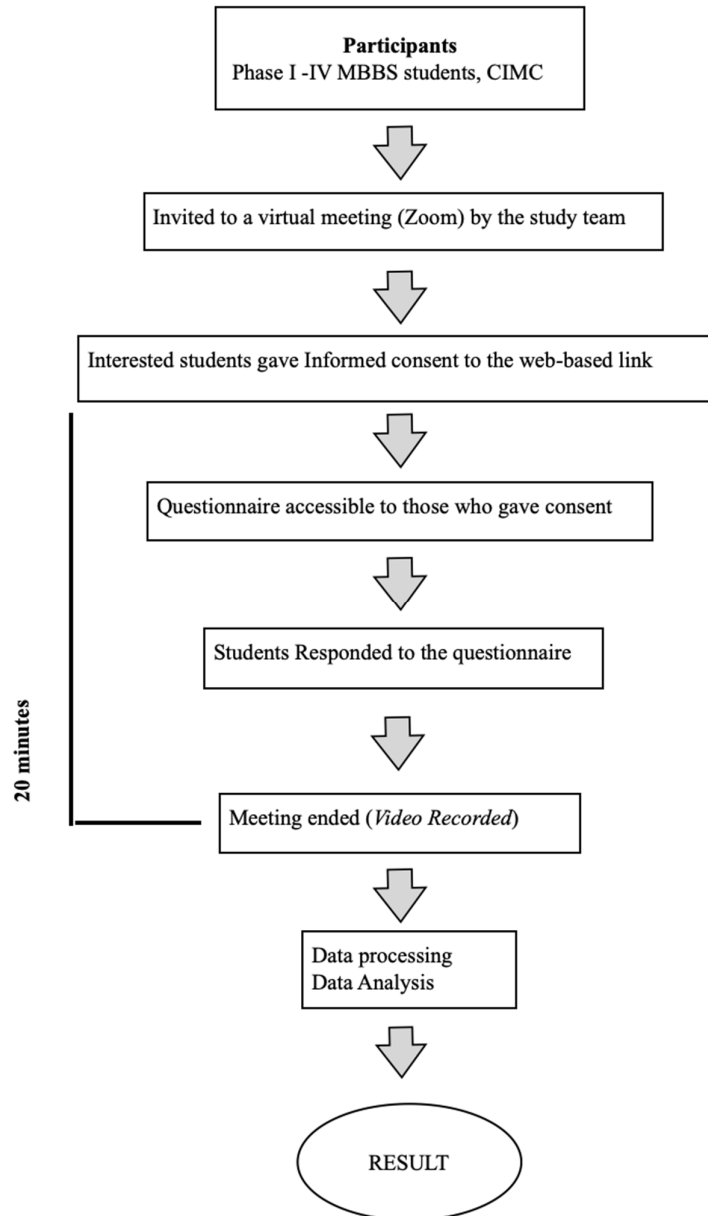
It uses internet and video, audio, text communications as well as software to create the learning environment. The synonyms of online classes are virtual class, e-learning, distance learning etc. The online classroom replaces traditional classroom of blackboard, whiteboard, projectors of an educational institute with a virtual environment³. Moving smoothly from an environment of conventional education to virtual platform could not happen overnight. However, the massive efforts made by many institutions in a short time proved that change is possible.⁴⁻⁷

Government of Bangladesh closed all in-campus educational activities due to COVID-19 pandemic since 18th March, 2020 and that clicked a sudden pause of teaching-learning activities. As like in other countries, online class came into a major focus than ever before in education system of Bangladesh. However, virtual teaching had been a new experience in almost all medical colleges; sudden closures of face-to-class gave least opportunity to both the faculty and students to get adopted with the new option of virtual class and classroom. The current paper presents results of a web-based survey exploring own views of pre-clinical and clinical MBBS students of Chattagram International Medical College regarding the online classes attended by them. Perspectives of students may also bring out recommendations for further development in this field for the same study site.

Materials & Methods:

It was a questionnaire-based observational study conducted on MBBS students of phase I, II, III and IV from Chattagram International Medical College from 13th July to 20th July, 2020. The total procedural plan is explained in figure 1.

Figure 1: Flow Chart



Since professional examination was withheld due to COVID-19 pandemic, the candidates were directed to next year according to carry on system. In this report,

students of phase I, II and III have been considered pre-clinical and those of phase IV (two batches) were considered clinical

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students. After taking ethical clearance from institutional review board, all pre-clinical and clinical students were notified to attend virtual meeting on the fixed date and time with the team of investigators. In the meeting, the purpose and detailed procedure of the study was explained to the students by the investigators. Students were given opportunity to interact by video/voice/text chat to clarify any issue. Students were informed that the participation in the study would be voluntary and the identity of respondents would remain anonymous. After proper explanation, the link of web-based consent form was provided in the chat box of zoom meeting. Students who gave consent got access to the link of web-based questionnaire; the questionnaire was pre-tested, included nine questions and all were required fields to answer. In order to eliminate any issue of possible psychological influence on students, an investigator who was not classroom teacher of any phases remained with them during their response to the questionnaire; other investigators left the meeting after giving the link of web-based consent form. The questionnaire was in google form, it did not

accept double response from same participant and the time allocated for responding to the questionnaire was 20 minutes starting from giving the link. The whole meeting was video recorded for documentation.

Result:

A total of 217 students participated in the study; 60.83% from pre-clinical and 39.17% from clinical phase. Table I shows detailed breakdown of number of students from each phase. It is worth to mention that the total number of students in each year in the study centre is 50. Table II and Table III gives the response of pre-clinical and clinical students to the web-based questionnaire respectively. Among the pre-clinical students, 9.9% \pm 4.7% always felt interested in attending online classes, 15.9% \pm 17.8% never felt interested and 26.6% \pm 13.2% felt interested most of the times. The narrowest SD was for those who sometimes felt interested (47.6% \pm 1.1%). Same question was answered by clinical students with a response of 48.3% \pm 0.8% sometimes felt interested, 9.3% \pm 6.2% always, 25% \pm 12.9% never and 17.4% \pm 7.4% most of the times felt interested.

Table 1: Distribution of participants among phases

Phase		No of students	
Pre-clinical	Phase I	45	132 (60.83%)
	Phase II	43	
	Phase III	44	
Clinical	Phase IV	85	85 (39.17%)

Table II: Response of Pre-clinical students to the web-based questionnaire

Question	Response							
	Pre-clinical Phase							
	Always		Never		Sometimes		Most of the times	
	Mean (In %)	SD	Mean (In %)	SD	Mean (In %)	SD	Mean (In %)	SD
Are you feeling interest in attending online classes?	9.9%	4.7	15.9%	17.8	47.6%	1.1	26.6%	13.2
Are the timings well maintained in the online classes ?	15.2%	10.6	11.4%	12.6	35.8%	22.2	37%	23.5
Are the topic selections of online classes appropriate for you?	16.7%	15.4	13%	11.3	36.9%	0.99	33.4%	15.5
Are the sound and visibility clear during the class?	2.3%	2.4	21%	17.6	47.7%	6.2	29%	22.7
Could you interact with the teacher in the class?	25.2%	8.7	10.7%	7.5	40%	10.5	24.1%	10.9
Do you have appropriate device for online classes?	42.7%	15.4	21.1%	15.1	18.1%	5.5	18%	9.4
Do you face difficulty in your own internet connectivity?	30.3%	9.6	5.4%	5.7	50.7%	8.8	13.6%	6.6
Do you find online classes effective for your study?	5.4%	7.5	38%	18.4	40.9%	10.7	15.7%	12.4
Do you feel online class as a good substitute of face-to-face class?	2.3%	4	73.5%	7.2	19.6%	4.3	4.6%	4

Table III: Response of Clinical students to the web-based questionnaire

Question	Response							
	Clinical Phase							
	Always		Never		Sometimes		Most of the times	
	Mean (In %)	SD	Mean (In %)	SD	Mean (In %)	SD	Mean (In %)	SD
Are you feeling interest in attending online classes?	9.3%	6.2	25%	12.9	48.3%	0.8	17.4%	7.4
Are the timings well maintained in the online classes ?	14.1%	2.6	19.2%	14.3	46.8%	7.6	19.9%	4
Are the topic selections of online classes appropriate for you?	15%	10.9	17.8%	5.9	45%	12.2	22.2%	7.2
Are the sound and visibility clear during the class?	1.2%	1.7	36.1%	6.5	42.5%	1.2	20.2%	6
Could you interact with the teacher in the class?	17.6%	4.2	16.3%	9.1	54.4%	9.4	11.8%	3.9
Do you have appropriate device for online classes?	43.9%	13.9	14%	2.6	26.8%	10.3	15.3%	0.9
Do you face difficulty in your own internet connectivity?	25.2%	19.5	7.3%	7	28.1%	5.2	17.9%	9.2
Do you find online classes effective for your study?	6.9%	6.4	35.8%	18.5	38.6%	9.8	18.7%	2.4
Do you feel online class as a good substitute of face-to-face class?	6.8%	4.8	71%	13.1	20.8%	12.2	4.8%	3.5

Figure 2 to Figure 5 gives graphical illustrations of selective question-wise responses of pre-clinical and clinical students.

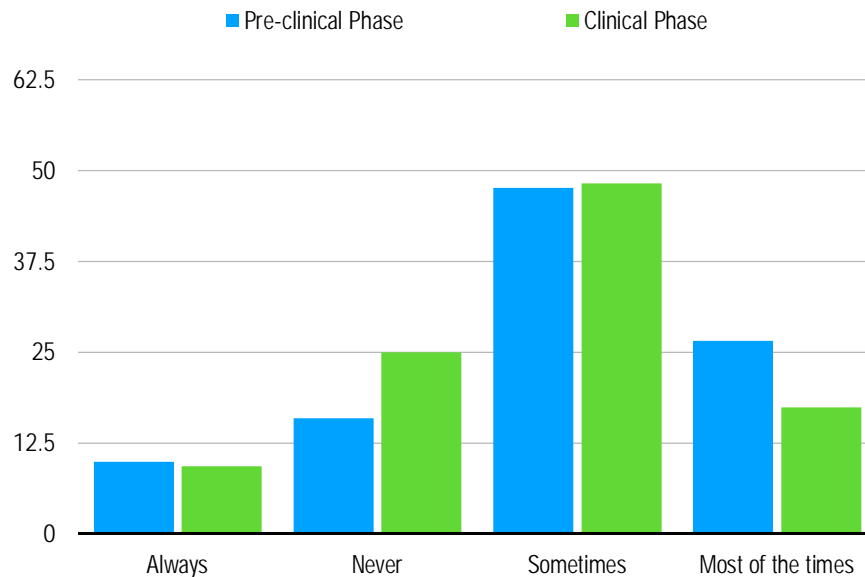


Figure 2: Response to Question 1- Are you feeling interest in attending online classes?

Regarding timing of class, 37% \pm 23.5% pre-clinical students felt timing was well-maintained in most of the classes, 46.8% \pm 7.6% clinical students felt timing was well maintained sometimes. When asked about appropriateness of topic selection, 36.9% \pm 0.99% pre-clinical and 45% \pm 12.2% clinical students felt the topic was appropriate sometimes for them. Sound and visibility of class was clear sometimes, stated by 47.7% \pm 6.2% pre-clinical and

42.5% \pm 1.2% clinical students. Among pre-clinical respondents, 40% \pm 10.5% and among the clinical respondents, 54.4% \pm 9.4% clinical students sometimes interacted with the teacher in the online class. Students were asked if they owned appropriate device for online class; 42.7% \pm 15.4% pre-clinical and 43.9% \pm 13.9% clinical students stated that they always had appropriate device.

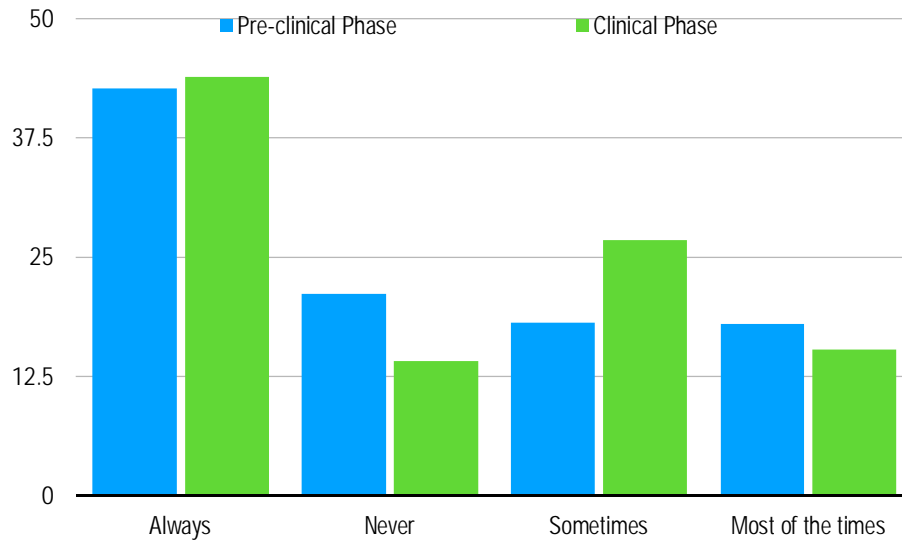


Figure 3: Response to Question 6- Do you have appropriate device for online classes?

Internet connectivity on student's side was sometimes difficult in $50.7\% \pm 8.8\%$ pre-clinical and $28.1\% \pm 5.2\%$ clinical students.

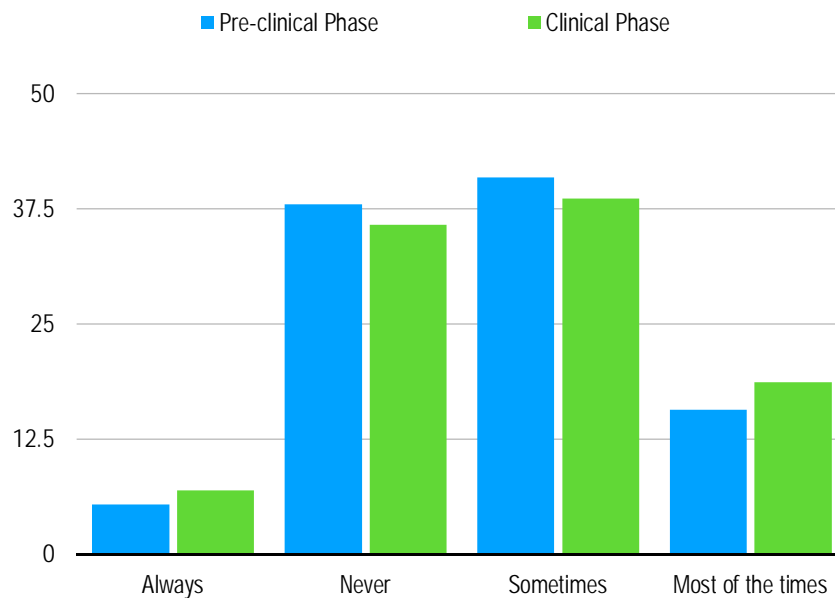


Figure 4: Response to Question 8- Do you find online classes effective for your study?

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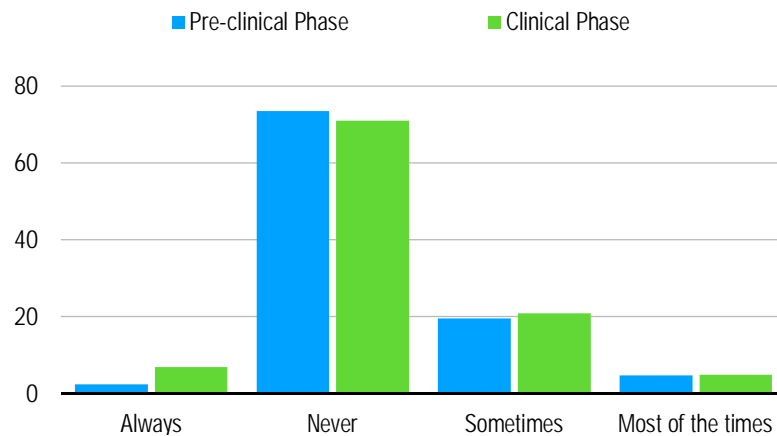


Figure 5: Response to Question 9 - Do you feel online class as a good substitute of face-to-face' class?

When asked if online class was effective for them, $40.9 \pm 10.7\%$ pre-clinical students found online class sometimes effective and $38\% \pm 18.4\%$ found 'never' effective. The response was $38.6\% \pm 9.8\%$ 'sometimes' and $35.8\% \pm 18.5\%$ 'never' for clinical students.

While asked if online class could be felt as a good substitute of 'front-to-front' class for pre-clinical study, $73.5\% \pm 7.2\%$ never felt $19.6\% \pm 4.3\%$ sometimes felt so. In clinical phase, $71\% \pm 13.1\%$ never felt and $12.2\% \pm 4.8\%$ sometimes felt online class as a good substitute of 'face-to-face' class.

Discussion:

Chattagram International Medical College, a non-Government Medical College of Bangladesh, started taking online classes for all phases of MBBS students from 8th May, 2020 following a structured schedule endorsed by the academic council of this institution and had been continuing till further order to resume face-to-face class. The results of this web-based survey revealed own perspectives of 217 pre-clinical and clinical MBBS students of

study centre, the response rate of the students to the questionnaire was 87%; which is acceptable response rate for any survey. While looking at the result closely, the interesting finding here is more acceptability of online classes to pre-clinical students; this observation might also reflect the absence of real-life scenarios as well as ward placements for clinical students while taking class in virtual background. In the study centre, though the topics of online classes were selected following the existing curriculum, there had been gaps in replacing practical classes and clinical placements. Almost similar responses came from majority of both pre-clinical and clinical students regarding sound and visibility; they stated it clear 'sometimes' in the class. Notably, all teachers (both pre-clinical and clinical) used in-campus facilities including laptop and internet for online classes in the institution under study. 'Interaction' demands to be an essential component in virtual communication. Lacking the impact of face-to-face class, online classes need to be more interactive to keep the students awake and to bring out an effective outcome. While majority of both pre-

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clinical and clinical students mentioned having appropriate device; a wide range of variation in responses came in regarding internet connectivity. This issue might be related to the location of the students during class time as well as financial support available to them. The most striking finding came out with the question if online class would be felt as a good substitute of face-to-face class; it was 'never' response in more than 70% students in both pre-clinical and clinical group.

In a similar study performed by Abbasi S, Ayoob T, Malik A and Memon SI on 382 students of a private medical and dental college in Pakistan through e-mail communication, 77% participants had negative perception towards e-learning during the lockdown due to COVID pandemic⁸.

A study on 78 (response rate 60.9%) medical students of Mulungushi University, Livingstone, Zambia performed by Ezeala Christian and Muyenga Akapelwa Tumelo regarding students' perception of online practical exercises using computer simulation in pharmacology practical classes yielded that students were "satisfied" with the exercises, they would "likely" recommend them for future use and majority perceived that the programmes were "somewhat easy" to use. The authors concluded by recommendations of inclusion of formal ICT training in the undergraduate medical education curriculum⁹.

In Poland, a survey was conducted by Michał Bączek, Michalina Zagańczyk-Bączek, Monika Szpringer et al by distributing an online questionnaire to Polish medical students to assess perception of students towards e-learning after eight weeks of online classes in COVID pandemic. In this study, 804 students responded, 70% students felt lack of interaction with patient and 54% felt

technical problem with IT equipments as the main disadvantages of e-learning. learning was considered less effective than face-to-face learning in terms of increasing skills ($p < .001$)¹⁰.

The results of study done on students' perspective might be useful in planning whether adoption to online classes in COVID time might continue to persist post-pandemic. The General Medical Council (GMC) states medical students as tomorrow's doctors, hence it is imperative that clinical students return to placements to ensure the continued development of core clinical competencies, including development of communication skills in hospital set-up. One study in UK found that one third of medical students preferred not to return to the clinical setting during the pandemic, due to a statistically significantly higher level of perceived personal risk, majority of those not preferring to return back were pre-clinical students¹¹.

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Disclosure

There is no conflict of interest among the authors. Partial data of this study has been submitted to the CIMC Journal Vol: 05, issue: 02, July 2020.

Limitation of the study

This study drew sample from a single centre, the results might not be generalised.

Conclusion

To take challenge of creating real-life picture in online class, there is necessity of a shift of traditional 'lecture-based' classes to more interactive, simulation-based classes; specially for clinical students.

Since remote learning is the only option available while pandemic is ongoing; strong and reliable internet connection as well as quality devices and accessories need to be ensured by the institution for clear sound and visibility during the online classes. Communication with students and parents are necessary to ensure logistic support on their side. Above all, online can can 'never' be a substitute of 'front-to-front' class in undergraduate medical teaching. A forthcoming survey on teachers' perspective on virtual classes in the same study centre might be a logical way of reflecting the perception on teaching-learning activities on virtual background.

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