

# Online classes in undergraduate medical teaching: recommendations from perspectives of teachers and students in a non-government medical college of Bangladesh

## *Tıp eğitiminde çevrimiçi sınıflar: Bangladeş'te özel bir tıp fakültesindeki öğretmenlerin ve öğrencilerin bakış açısından öneriler*

Mehrunnissa Khanom<sup>1</sup>, Afroza Hoque<sup>2</sup>, Mohammed Parvez Iqbal Sharif<sup>3</sup>, Muslimuddin Sabuj<sup>4</sup>, Amir Hossain<sup>5</sup>

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### ABSTRACT

**Introduction:** Due to the COVID-19 pandemic, educational systems all over the world faced the challenge of an abrupt switch from traditional to virtual classroom; undergraduate medical teaching has been one of the most affected area. There are some qualitative differences between teaching face-to-face and teaching online, and these are easily understandable to both the teacher and the learner. The current paper explores the views of teachers and bachelor of medicine and surgery (MBBS) students at a non-Government Medical College of Bangladesh, regarding their experience in online classes during the COVID-19 lockdown.

**Methods:** All teachers and MBBS students of Chattagram International Medical College who were involved in online teaching-learning activities from June 2020 to November 2020 and gave informed written consent, were included in this study. It was a cross-sectional study, and a pre-tested questionnaire in Google form was used for data collection. This study was approved by the institutional review board of Chattagram International Medical College (CIMC/IRB/02/20-4 and CIMC/IRB/03/20-6).

**Results:** Among all participants, 85% of teachers and 87% of students responded to the study. Among the students, 20% never felt interest in the online class. Remarkably, 58% of teachers and 74% of students never felt online class as a substitute for a face-to-face class.

**Conclusion:** The current study found similarities with other studies in terms of a lack of appropriate interaction in the classroom, a lower effectiveness of online classes for clinical students, a lack of preparedness among teachers, and a refusal to accept online classes as a complete replacement for face-to-face classes.

**Keywords:** Medical education in COVID pandemic, online class, students' views, teachers' views

### Öz

**Giriş:** COVID-19 pandemisi nedeniyle tüm dünyadaki eğitim sistemi, yüz yüze öğretimden çevrimiçi öğretime ani geçiş zorunluluğuyla karşı karşıya kalmıştır. Tıp öğretimi bundan en çok etkilenen alanlardan biri olmuştur. Yüz yüze öğretim ile çevrimiçi öğretim arasında bazı niteliksel farklılıklar vardır, bunlar hem öğretmen hem de öğrenci tarafından kolayca anlaşılabilir. Bu makalede Bangladeş'te özel bir tıp fakültesindeki öğretim üyeleri ve öğrencilerin COVID-19 karantinası sırasında çevrimiçi sınıflardaki deneyimleriyle ilgili durumları ve görüşleri araştırılmıştır.

**Yöntem ve Gereçler:** Bu çalışma yerel etik kurul tarafından onay sonrası gerçekleştirilmiştir. Kurumumuzda Haziran 2020'den Kasım 2020'ye kadar çevrimiçi eğitim-öğretim etkinliklerine katılan ve bilgilendirilmiş yazılı onam veren tüm öğretim üyeleri ve öğrenciler bu çalışmaya dahil edildi. Bu kesitsel çalışmada veri toplamak için Google formunda önceden test edilmiş bir anket kullanıldı.

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**Corresponding Author:**

**M. Khanom**

**ORCID:** 0000-0002-1187-6548

Chattagram International Medical College, Department of Internal Medicine, Chittagong, Bangladesh

✉ drmehrun.k@gmail.com

**A. Hoque**

**ORCID:** 0000-0003-0287-410X

Chattagram International Medical College, Department of Medical Education, Chittagong, Bangladesh

**M. P. Iqbal Sharif**

**ORCID:** 0000-0001-7753-9002

Chattagram International Medical College, Department of Community Medicine, Chittagong, Bangladesh

**M. Sabuj**

**ORCID:** 0000-0001-7306-4329

Chattagram International Dental College, Chittagong, Bangladesh

**A. Hossain**

**ORCID:** 0000-0002-8655-3997

Chattagram International Medical College, Chittagong, Bangladesh

**Bulgular:** Çalışmaya öğretim üyelerinin %85'i ve öğrencilerin %87'si katılmıştır. Öğrencilerin %20'si çevrimiçi derse hiç ilgi duymadığını ifade etmiştir. Dikkat çekici bir şekilde, öğretim üyelerinin %58'i ve öğrencilerin %74'ü çevrimiçi dersi hiçbir zaman yüz yüze dersin tam bir ikamesi olarak görmediklerini belirtmiştir.

**Sonuç:** Mevcut çalışma, çevrimiçi sınıflarda uygun etkileşimin olmaması, klinik öğrenciler için çevrimiçi dersin daha az etkili olması, öğretim üyelerinin daha az hazırlıklı olmaları ve çevrimiçi sınıfın yüz yüze eğitimin tamamen yerine geçememesi gibi konularda diğer çalışmalarla benzerlik göstermiştir.

**Anahtar kelimeler:** COVID pandemisinde tıp eğitimi, çevrimiçi sınıf, öğrencilerin görüşleri, öğretmenlerin görüşleri

## INTRODUCTION

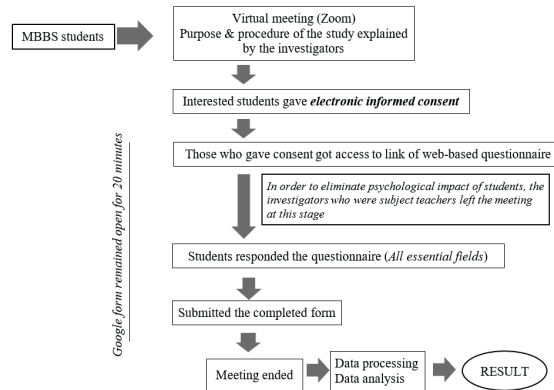
The COVID-19 pandemic has introduced an unplanned innovation in the massive shift of the education system from a traditional classroom to a virtual background. Virtual learning is one of the major contributors to meeting the educational demands of the 21st century. Virtual learning means learning through utilizing devices and the internet, whereby teachers and learners are physically separated in terms of place, and it may or may not be in real-time set-up (1-3). Online learning activities have some unique differences from face-to-face teaching; the differences are qualitatively distinct to teachers and learners. Online teaching in medical education requires not only the simulations to substitute real-life scenarios, but also appropriate logistic support, device, and internet connectivity. Without proper teacher guidance, online classes can make students feel isolated, confused or discouraged and make learning a harder job. An effective teacher should make intentional efforts to communicate online to send encouraging messages to each learner and the group as a whole (4-5). As per the instructions of the Government, online classes for bachelor of medicine and surgery (MBBS) students started at Chattagram International Medical College on 8th May 2020 following a structured schedule endorsed by the academic council of this institution. However, the transition from face-to-face to virtual classroom was abrupt and without prior experience of teachers or students about the situation. The current paper presents results of a web-based survey exploring own views of teachers and students of Chattagram International Medical College regarding virtual classes. The purpose of the study was to assess teachers' and students' interest in online classes, to determine if the topics of online classes were appropriate for

the participants, to identify any gaps in technical expertise or logistical support, and to provide recommendations for enhancing online medical education.

## MATERIALS AND METHODS

It was an observational study conducted from June 2020 to November 2020 on teachers and students of Chattagram International Medical College who took online classes and consented to be included in the study. It was approved by the institutional review board of Chattagram International Medical College (CIMC/IRB/02/20-4 and CIMC/IRB/03/20-6). The procedural plan has been explained below:

**Procedure of data collection** (Similar pattern was used for students and teachers):



During the COVID-19 pandemic, all MBBS students were invited to a Zoom meeting where the researchers explained the study's objectives and methodology. Students were given opportunity to interact and ask any question by voice chat or text chat. After clarification of all queries, the students were provided with a link of electronic consent form, those who gave electronic consent got access to the link of web-based pre-tested questionnaire in google form. At this stage, the

subject teachers' investigators left the meeting to eliminate students' psychological impact. In the google form, the identity of students remained anonymous while responding and it accepted only one response from each participant. Similar pattern was used for students and teachers.

**RESULT**

Altogether, 217 students and 52 teachers participated in the study. Among all participants, 85% teachers and 87% students responded to the study (Table I & II). The response of the teachers and students to the online questionnaire has been demonstrated in Table III.

**Table 1. Distribution of participants (Teachers).**

Phase	Number of participants	Response rate of survey
Phase I	18	
Phase II	02	
Phase III	10	85%
Phase IV	22	
Total	52	

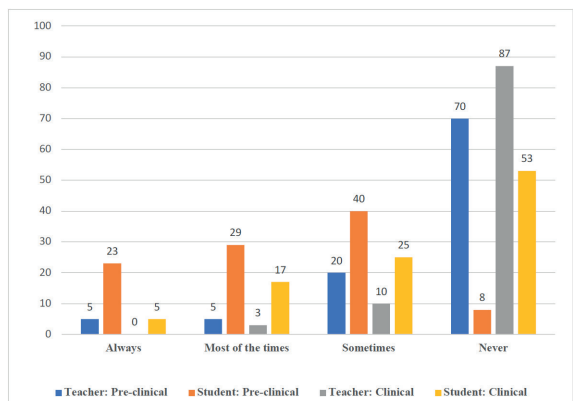
**Table 2. Distribution of participants (Students).**

Phase	Number of participants	Response rate of survey
Phase I	45	
Phase II	43	
Phase III	44	87%
Phase IV	85	
Total	217	

**Table 3. Teachers' and students' response to the questionnaire regarding online classes in COVID-19 pandemic.**

Question	Response (%)							
	Always		Most of the times		Sometimes		Never	
	Teacher	Student	Teacher	Student	Teacher	Student	Teacher	Student
1. Are you feeling interest in online classes?	24	10	40	22	29	48	8	20
2. Are timings well maintained in online classes?	21	15	58	38	19	36	2	11
3. Are topic selections of online class appropriate for you?	40	17	54	33	6	37	0	37
4. Are sound and visibility clear during the class?	0	2	79	29	21	48	0	21
5. Do you have appropriate device for online class?	46	43	37	18	15	18	2	21
6. Could you interact in the class?	6	25	21	24	73	40	0	11
7. Do you face difficulty in your own internet connectivity?	02	30	42	14	44	51	12	05
8. Do you find online class effective?	04	05	06	16	48	41	42	38
9. Do you feel online class as a complete substitute of face-to-face class?	02	02	19	05	21	20	58	74
10. Do you prefer online class as an option even after resuming face-to-face class?	08	06	15	11	42	56	35	27

Comparing the teachers' and students' responses showed that 20% of students never felt interest in online classes, whereas 64% of teachers always felt interest in online classes or most of the time. As per institutional policy in Chattagarm International Medical College, teachers were instructed to take online classes from campus, so the timings were well maintained in most classes. Regarding the appropriateness of topic for online class, there has been a reverse response from teachers and students. Ownership of device for classes was not



**Figure 1. Response to the question: Do you find online class effective?**

a major issue for students; however, 21% students never had appropriate device for online class. Both teachers and students frequently experienced problems with internet connectivity. Figure 1 showed a sub-group analysis that revealed how the pre-clinical and clinical teachers and students demonstrated a difference in opinions regarding the effectiveness of online classes for their study.

## DISCUSSION

In a systematic review on the effectiveness of online teaching on medical students, there had been suggestions to improve the security and technology of virtual platforms to provide a more adaptive and holistic approach to online teaching methodology (6). In an online questionnaire-based study on 2721 UK medical students, 15.8% thought online classes were comfortable, and 14.2% thought online classes were cost-effective (7). In a survey of 2378 medical students in China regarding online classes, 76% of students were satisfied with online classes, about 88% thought that online classes could not meet the necessity of practical classes, the least satisfying aspect was interaction and online assessment (8). In another study performed on 600 students of six medical colleges in Riyadh, Saudi Arabia, there was highest students' satisfaction with the availability of e-resources ( $3.55 \pm 1.2$ ) and assistance ( $3.53 \pm 1.3$ ) and lowest for the balance between practical and theoretical knowledge ( $2.51 \pm 1$ ) (9). In an observational study conducted in Morocco in March 2020 on students of Pharmacy and Medicine, students were generally satisfied (52.3% satisfied and 20.7% very satisfied) with the virtual teaching (10). Similarities were found between the current study and other studies regarding the problems of insufficient interaction in the classroom, diminished effectiveness of online classes for clinical students, inadequate preparation among teachers, and resistance to the use of online classes as a replacement for face-to-face classes.

## CONCLUSION

For any changed situation, intelligence lies in the ability to adapt to change. Key recommendations from this study:

- Teachers need proper training on online teaching methodology
- Institutional support needs to be strengthened with regard to internet connectivity and logistics
- An online class can never be a complete substitute for face-to-face class; however, this smart adoption of technology can be preserved as an extra option of teaching in selective cases, even when resuming face-to-face classes has been resumed.

**Disclosure:** Partial data of this study was published in the Bangladesh Journal of Medical Education (11).

**Ethics Committee Approval:** The study protocol was approved by the institutional review board of Chattagram International Medical College (CIMC/IRB/02/20-4 and CIMC/IRB/03/20-6).

**Conflict of Interest:** The authors have declared that they have no conflict of interest.

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## REFERENCES

1. B R Raheem, M A Khan. Role of e-learning in COVID-19. *International Journal of Creative Research Thoughts (IJCRT)*. 2020, 8(3); 3135-8.
2. Michael P. A. Murphy (2020) COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy, *Contemporary Security Policy*. <https://doi.org/10.1080/13523260.2020.1761749>
3. Wei Bao. COVID-19 and online teaching in higher education: A case study of Peking University. *Hum Behav & Emerg Tech*. 2020; 2:113-115. <https://doi.org/10.1002/hbe2.191>

4. Huang R.H., D.J., Tlili, A., Yang, Yang, J.F., Wang, H.H., et al. (2020). Handbook on Facilitating Flexible Learning During Educational Disruption; The Chinese Experience in Maintaining Undisrupted Learning in COVID-19 Outbreak. Beijing: Smart Learning Institute of Beijing Normal University.
5. Richard Watson Todd. Teachers' Perceptions of the Shift from the Classroom to Online Teaching. *International Journal of TESOL Studies*. 2020;2(2):4-16. <https://doi.org/10.46451/ijts.2020.09.02>
6. Wilcha R. Effectiveness of Virtual Medical Teaching During the COVID-19 Crisis: Systematic Review. *JMIR Med Educ* 2020;6(2):e20963. <https://doi.org/10.2196/20963>
7. Dost S, Hossain A, Shehab M, et al. Perceptions of medical students towards online teaching during the COVID-19 pandemic: a national cross-sectional survey of 2721 UK medical students. *BMJ Open* 2020;10:e042378. <https://doi.org/10.1136/bmjopen-2020-042378>
8. Yan Wang, Rongbin Yu, Ying Liu, Wenyi Qian. Students' and Teachers' Perspectives on the Implementation of Medical Education in China: A Qualitative Study. *Adv Med Educ Prac* 2021; 12; 895-903. <https://doi.org/10.2147/AMEP.S323397>
9. Al Qhtani, A., AlSwedan, N., Almulhim, A. et al. Online versus classroom teaching for medical students during COVID-19: measuring effectiveness and satisfaction. *BMC Med Educ* 21, 452 (2021). <https://doi.org/10.1186/s12909-021-02888-1>
10. Majda Sebbani, Latifa Adarmouch, Adil Mansouri, Ouassim Mansoury, Sarah Michaud, Ahmed Rhassane ElAdib, Mohamed Bouskraoui, Mohamed Amine, "Implementation of Online Teaching in Medical Education: Lessons Learned from Students' Perspectives during the Health Crisis in Marrakesh, Morocco", *Education Research International*, vol. 2021, Article. ID 5547821, 9 pages, 2021. <https://doi.org/10.1155/2021/5547821>
11. M Khanom, A Hoque, PI Sharif, ATMM Uddin, MA Hossain, MU Sabuj. Teachers' Perception on Virtual Teaching Learning Activities and Assessment: Web-based Study on a Non-Government Medical College in Bangladesh. *Bangladesh Journal of Medical Education*. 2021; 12(1): 3-9. <https://doi.org/10.3329/bjme.v12i1.52303>