ORIGINAL ARTICLE

Perception of Online Teaching during Covid-19 Pandemic among Medical Students of Nepal

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Abstract

Introduction: The education received by medical students plays an important role in their future practice. Online classes have been introduced to ease the mode of education during pandemic. This study aims to evaluate the effectiveness of online teaching among medical students from different medical colleges in Nepal.

Methods: A total of 384 medical students for different medical colleges were included in the study conducted from November 2021 to May 2022.Online questionnaire was distributed to the students via google form with set of questions to evaluate the perception of online teaching among medical students. The link to the online form was sent to the medical students through their representatives.

Results: Among 384 students, 245 (63.8%) were male and 139 (38.2%) were female participants. Maximum participants in the study were from 2nd year (30.2%). Among the participants, 75% of the study participants were unhappy with online teaching. Whereas 51.3% thought that the interaction with teachers were good during online classes. The cause of not being able to attend online classwas poor internet connection (49.5%). Most respondents (85.7%) thought that online classes were safe during the pandemic. The ability to increase knowledge, clinical skill and social skill was better with traditional teaching. More students enjoyed traditional classes.

Conclusion: Medical students in Nepal generally perceived online teaching during the COVID-19 pandemic as less effective compared to traditional methods. Despite recognizing the safety and convenience of online classes, most students reported dissatisfaction, citing poor internet connectivity and limited clinical skill development. Traditional teaching was preferred for better knowledge acquisition and interaction. Enhancing infrastructure and faculty training could improve online education quality in the future.

Keywords: Medical education; Medical students; Online class; Perception; Traditional class.

Introduction

Most countries around the world are fighting against the Coronavirus disease 2019 (COVID 19) and has been declared a pandemic by the World Health Organization (WHO).[1] With the increase in duration of lockdown teaching institutions started to look for alternatives. The concept of online teaching in Nepal was new but was implemented by different institution. Preliminary training was given to teachers in how to use the online platforms for classes. Which was published by the

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Tribhuvan University (TU) as a guideline to online teaching.[2] This guideline was also followed by Institute of Medicine (IOM) and all the affiliated colleges of IOM.The education received by medical studentsplaysan important role in their future practice. Some studies have been done to see the knowledge, attitude and perception of COVID 19 among medical students.[3–5] Very less studies have been done to see the perception of online learning among them. Some studies have been done in different part of the world [6–9] education, entertainment, and government policies. Regarding education, the priority was to ensure the safety and progress of the educational process. Thus, new methods of teaching had to be applied using the online learning at Jordan University of Science and Technology (JUST but no data is available for the students of Nepal. There is very little data to see the effectiveness of online classes among the medical students. As the course of medical studies is the foundation of medical personals in the future, it is our duty to strengthen their foundation. This study aims to evaluate the effectiveness of online teaching among medical students from different medical colleges in Nepal.

Methods

A descriptive quantitative cross-sectional online based study was conducted among medical students from different medical colleges of Nepal. The ethical approval for the study was obtained from ethical review board of NHRC (regd no: 589/2021 P). Google form was used as the mode of online study. Students from Maharajgunj Medical Campus, Chitwan Medical College, KIST medical college and National Medical college were included in the study. The survey link was sent to the respective representatives of different medical colleges and was requested to distribute the link to all the medical students from 1st to 5th year medical students who are willing to take part in the study. The sample size was calculated using the formula

$N= Z^2pq/e^2$

Where,

N= sample size

Z= 1.96 (at 5% type 1 error, $p<0.05$)

p = 0.5 (the to get better result 50% chance of response was used in this study to calculate the sample size)

q = 1-p = 0.5

e = margin of error = 5%

The sample size obtained is 384.

A structured questionnaire was designed in English after evaluating different studies done to evaluate the perception of online teaching. Likert scale questionnaire was prepared to observe the response of the participants on their preferred mode of teaching, the interaction with faculties, attending the classes, advantages and disadvantages faced by the students during online classes and their perception on development of clinical and social skills during this period.

The developed questionnaire was subsequently distributed to the pre-clinical faculties for content validationwith the objective of assessing its internal consistency and construct validity. The questionnaire was distributed to 10% of the study population. The collected data was then tested for reliability and validity by using Cronbach alpha. The value obtained was 0.712. After that the google form was distributed to all the participants. The response was accepted until the sample size number was fulfilled. The link was distributed from 21st November 2021 and after the fulfilment of sample size the link was disabled. The duration of study was six months.

The response was downloaded in Excel Spreadsheet and the data was coded accordingly. The data were thenanalyzed using SPSS version 16 and the results were expressed in frequency and percentage. The data were expressed in a tabulated form; graph and charts were used where applicable.

Results

A total of 384 students were included in the study among which 245 (63.8%) were male and 139 (38.2%) were female participants. The mean age of the study participants was 21.46±1.831 years. The mean age of participants in different year of study and the gender distribution is shown in table 1.

The year wise distribution of the study participants where maximum participants in 2nd year of medical school (30.2%).

Table 1: Demography of participants in different year of study

Year of study	Participants (384) n(%)	Age (Mean±SD)	Gender	
			Male n(%)	Female n(%)
1st year	114(29.7)	20.00±1.175	80(70.2)	34(29.8)
2nd year	116(30.2)	21.03±1.305	74(63.8)	42(36.2)
3rd year	83(21.6)	22.08±1.271	57(68.7)	26(31.3)
4th year	40(10.4)	23.30±1.018	21(52.5)	19(47.5)
5th year	31(8.1)	24.39±1.430	13(41.9)	18(58.1)

Among the participants 72.9% preferred PowerPoint presentation (PPT) with board teaching, 79.9% preferred traditional mode of teaching, only 19.8% wanted online teaching to be continued and 75 % of the study participants were unhappy with online teaching. (Table 2)

Table 2: Participants' preferences for online versus traditional teaching methods

Preference	Frequency (n = 384)	Percentage (%)
Preferred mode of online teaching		
PPT presentation in different platforms	104	27.1
PPT with board teaching	280	72.9
Prefer online learning thantraditional classroom teaching		
Yes	77	20.1
No	307	79.9
Continue online learning even after the pandemic is over		
Yes	76	19.8
No	308	80.2
Happy with online teaching method		
Yes	96	25.0
No	288	75.0

Out of total participants 51.3% thought that the interaction with teachers were good during online classes. (Figure 1)

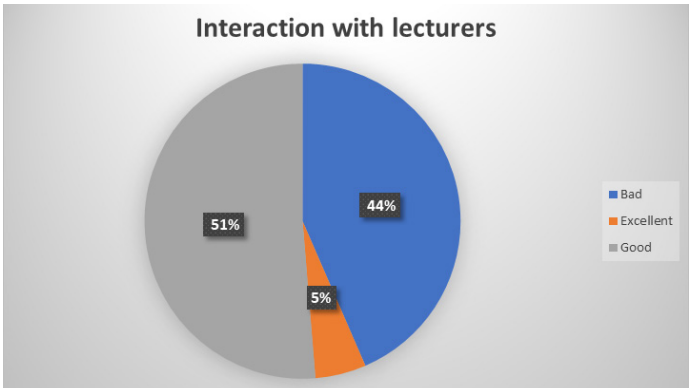

Fig 1: Interaction with the lecturers

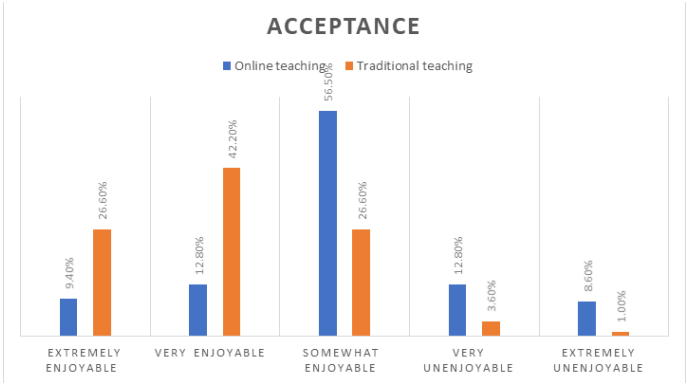

Fig 2: Level of acceptance by stating whether the students enjoyed learning via online classes or traditional classroom teaching

Almost half of the participants (49.7%) were able to attend more than half of the online classes allocated to them. The main reason for them to not being able to attend the online classes was due to poor internet connection (49.5%). (Table 3)

Table 3: Trends in attendance of participants during online classes

	Frequency (n=384)	Percentage (%)
Able to attend		
All the online classes	109	28.4
Half the online classes	38	9.9
More than half the online classes	191	49.7
Less than half the online classes	46	12.0
Was not able to attend as		
I attended all the classes	90	23.4
I was uncomfortable	48	12.5
The classes were not important	16	4.2
Internet connection was poor	190	49.5
The timing of the classes was not appropriate	40	10.4

The advantages and disadvantages of online teaching were analyzed which showed that 85.7% respondents thought online teaching were safe during the pandemic. Similarly, 76.3% respondents faced connection problems during the online classes.(Table 4)

Table 4: Participants' perception of advantagesand disadvantages of online classes

Statement	Frequency (n=384)	Percentage (%)
Advantages of online classes		
Access to online materials	147	38.3
Learning at your own pace	229	59.6
Safe during pandemic	329	85.7
More interaction in class	15	3.9
Ability to record for further	192	50
Comfortable surrounding	97	25.3
Better academic performance	26	6.8
Disadvantages of online classes		
Interaction was less	255	66.4
Connection problem	293	76.3
Home environment for learning was poor	131	34.1
Lack of self-discipline	153	39.8
More absentee in the class	123	32
Poor academic performance	123	32
No clinical access	255	66.4

The perception of students on the ability to increase knowledge, clinical skills and social skills from online teaching and traditional classroom teaching. The response of the students showed that traditional classroom teaching had better ability to increase knowledge (55.7%), clinical skills (62.2%) and social skills (44%). (Table 5)

Table5: Perception of students on ability to increase knowledge, clinical skill and social skill from online teaching and traditional teaching

Perception		Definitelyeffective	Somewhat effective	Effective	Very ineffective	Definitely ineffective
Knowledge	Online teaching	24(6.3)	181(47.1)	104(27.1)	56(14.6)	19(4.9)
	Traditional teaching	214(55.7)	76(19.8)	87(22.7)	7(1.8)	-
Clinical skills	Online teaching	17(4.4)	19(4.9)	87(22.7)	79(20.6)	182(47.4)
	Traditional teaching	239(62.2)	90(23.4)	48(12.5)	4(1.0)	3(0.8)
Social skills	Online teaching	6(1.6)	30(7.8)	164(42.7)	107(27.9)	77(20.1)
	Traditional teaching	169(44.0)	143(37.2)	72(18.8)	-	-

The level of acceptance by stating whether the students enjoyed learning via online classes or traditional classroom teaching. The response showed that students enjoyed traditional classes (42.2%) more than online classes. (Figure 2)

Discussion

In this study we evaluated the perception of online teaching among Nepali medical students. Before the COVID pandemic the only mode of teaching in most of the medical colleges of Nepal was the traditional classroom method. As the country was hit by the wave of COVID-19 all the sectors were affected and the most affected sector was the education sector. Medical colleges were also not spared in this. Most of the lecturers of medical colleges were never exposed to online teaching method.[2] When the online teaching was introduced not just the students but also the teaching faculties were in a dilemma. But after minimum training the online teaching was started in all sectors of education including the medical sector.

This study showed that 72.9% (280) students preferred PPT along with board teaching even during online classes. This result may be due to the influence of classroom teaching where faculty members use PPT, board teaching or both modes of teaching. Only 20.1% students preferred online teaching over traditional teaching.The result of this study was in accordance with the study done by Singh et at where 94.6% students preferred classroom teaching over online teaching.[10]

Only 25% of students were happy with online classes while the remaining 75% preferred traditional classroom teaching. When asked, 80.2% of students did not want to continue online classes after the pandemic was over.

Furthermore 51.3% of students responded that the interaction with faculty during online classes was good while 43.5% students responded that the interaction with faculty was poor. Similarly in the study done by Singh et al, 50.3% students responded that the teaching was one way and interaction with faculty members was poor.[10] This result is also in accordance to study done by Abbasi et at in Pakistani medical students.[11]

This study found that only 28.4% of students were able to attend all the classes while 49.7% were able to attend more than half the online classes. The main reason behind the students not being able to attend online classes was due to poor internet connection (49.5%). Similarly, 12.5% were uncomfortable to take online classes and 10.4% students thought that the timing of the classes were not appropriate. In the study done by Singh et al, 19.1% students were not able to understand the content taught while 4.5% responded that they were not able to learn anything from online class.[10] Study done by Dost et al in 40 medical colleges of UK showed that the use of online portal increased significantly (7.35 to 23.56%). The commonly seen barriers to using online teaching methods included family distraction (26.76%) and poor internet connection (21.53%) which was also similar to our study.[9]

In this study the main advantage stated by the students was that 85.7% of students felt safe while attending online classes. On further evaluation 59.6% of students said that they were able to learn at their own pace, 38.3% students said that access to online learning materials was easy when attending online classes. The main disadvantage of online teaching was the connection problem which was stated by 76.3% of students. Other disadvantages included that 66.4% of students thought that the interaction during lecture was less and also 66.4% felt that there was no clinical access during online class. Sindiani et al found that social distancing was the most advantage, while poor technical setup and no direct interaction were the most disadvantage of online classes. Furthermore among the clinical students not having real clinical access was a significant problem ($p < .001$)6 which was similar to the result of this study where 47.4% participants mentioned that online teaching method in definitively ineffective. In the survey done byBączek et al,[8] easy access to learning materials and to determine the time and place to study were found to be the advantages of online learning among respondents, which was also similar to our study.

The perception of students on the ability to increase knowledge, clinical skills and social skills from online teaching and traditional classroom teaching were also evaluated in this study. The aim of the faculty members was to provide the students with class materials that helped them to increase their skill. However, the response obtained from the students showed that the preferred traditional teaching over online teaching. The response of the students showed that traditional classroom teaching had better ability to increase knowledge (55.7%), clinical skills (62.2%) and social skills (44%). Similar response was seen in the study done by Bączek et al.[8]

The finding of the study also showed that 56.5% of studentsresponded that online classes were somewhat enjoyable where as 68.8% of students enjoyed traditional classes more. This finding was in accordance with the study done by Bączek et al,[8] and Singh et al.[10]

Many disadvantages can be found with online classes. The most

addressed problem in this study, especially by the students who are in 3rd, 4th and 5th year of study, was the lack of direct interaction with the patients which helps them to improve their clinical skill. Our finding is consistent with many studies that have been published recently which evaluates the perception of online classes during this pandemic.[12–15]In many countries the duration assistantship and internship has been reduced which has negative impact on the students. Study done by Choi et al in final year medical students of the UK showed that 43.0% of assistantship placements were postponed while 77.3% (n = 340) had electives cancelled.[16]

The finding of this study does not cover all the aspects of online teaching methods. We have been forced to start online classes with minimum source and knowledge. Many different modes of teaching can be introduced that will help our students to achieve the required knowledge. Extensive research must be done in the field of medical education so that in the future if faced with similar problems, we can tackle with more finesse.

Conclusion

Medical students of Nepal preferred traditional method of teaching over online teaching. Our study showed that internet connection was the hurdle faced by our students during online classes. Less interaction during the class was also one of the disadvantages of online classes. It is essential for medical college management and faculty to take necessary measures to improve the quality and delivery of online medical education to better meet students' needs during such disruptions in the future.

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Conflict of Interest: None

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References

1. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020 Web Page

2. The Himalayan Times, .TU urges to take pat in online classes. 2020 Aug 27 https://thehimalayantimes.com

3. Taghrir MH, Borazjani R, Shiraly R. COVID-19 and Iranian Medical Students; A Survey on Their Related-Knowledge, Preventive Behaviors and Risk Perception. Arch Iran Med. 2020 Apr 1;23(4):249-54. DOI: 10.34172/aim.2020.06 PMID: 32271598

4. Abdulwahab M, Kamal M, AlAli AM, Husain YM, Safar M. Knowledge and Perceptions of COVID-19 Among Health Care Professionals, Medical Students, and Dental Students in the GCC Region: A Cross-Sectional Correlational Study. J Multidiscip Healthc. 2021;14:1223-32. DOI: 10.2147/JMDH.S306324 PMID: 34103924 PMCID: PMC8176401

5. Nepal S, Atreya A, Menezes RG, Joshi RR. Students' Perspective on Online Medical Education Amidst the COVID-19 Pandemic in Nepal. J Nepal Health Res Counc. 2020 Nov 14;18(3):551-5. DOI: 10.33314/jnhrc.v18i3.2851 PMID: 33210658

6. Sindiani AM, Obeidat N, Alshdaifat E, Elsalem L, Alwani MM, Rawashdeh H, et al. Distance education during the COVID-19 outbreak: A cross-sectional study among medical students in North of Jordan. Ann Med Surg. 2020 Nov 1;59:186-94. DOI: 10.1016/j.amsu.2020.09.036 PMID: 33042535 PMCID: PMC7531436

7. Khamees D, Brown CA, Arribas M, Murphey AC, Haas MRC, House JB. In Crisis: Medical Students in the COVID-19 Pandemic. AEM Educ Train. 2020 Apr 25;4(3):284-90. DOI: 10.1002/aet2.10450 PMID: 32704600 PMCID: PMC7369493

8. Bączek M, Zagańczyk-Bączek M, Szpringer M, Jaroszyński A, Wożakowska-Kapłon B. Students' perception of online learning during the COVID-19 pandemic. Medicine (Baltimore). 2021 Feb 19;100(7):e24821. DOI: 10.1097/MD.0000000000024821 PMID: 33607848 PMCID: PMC7899848

9. Dost S, Hossain A, Shehab M, Abdelwahed A, Al-Nusair L. 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 Nov 1;10(11):e042378. DOI: 10.1136/bmjopen-2020-042378 PMID: 33154063 PMCID: PMC7646323

10. Singh R, Subedi M, Pant S, Rai P, Gupta K, Thapa A, et al. Perception towards Online Teaching-learning in Medical Education among Medical Students during COVID-19 Outbreak in Nepal: A Descriptive Cross-sectional Study. J Nepal Med Assoc. 2021 Feb 28;59(234):128-33. DOI: 10.31729/jnma.5410 PMID: 34506470 PMCID: PMC8959244

11. Abbasi S, Ayoob T, Malik A, Memon SI. Perceptions of students regarding E-learning during Covid-19 at a private medical college. Pak J Med Sci. 2020 May;36(COVID19-S4):S57-61. DOI: 10.12669/pjms.36.COVID19-S4.2766

12. Thomas A, Shenoy MT, Shenoy KT, Kumar SS, Sidheeque A, Khovidh C, et al. Survey Among Medical Students During COVID-19 Lockdown: The Online Class Dilemma. Int J Med Stud. 2020 Aug 3;8(2):102-6. DOI: 10.5195/ijms.2020.571

13. Qarajeh R, Tahboub F, Rafie N, Pirani N, Jackson MA, Cochran CD. The Effect of COVID-19 Pandemic on US Medical Students in their Clinical Years. Int J Med Stud. 2020 Jun 15;8(2):172-4. DOI: 10.5195/ijms.2020.508

14. Minh DNT, Huy TP, Hoang DN, Thieu MQ. COVID-19: Experience from Vietnam Medical Students. Int J Med Stud. 2020 Apr 30;8(1):62-3. DOI: 10.5195/ijms.2020.505

15. Cheung BHH, Foo DCC, Chu KM, Co M, Lee LS. Perception from students regarding online synchronous interactive teaching in the clinical year during COVID-19 pandemic. BMC Med Educ. 2023 Jan 5;23(1):5. DOI: 10.1186/s12909-022-03958-8 PMID: 36600224 PMCID: PMC9812743

16. Choi B, Jegatheeswaran L, Minocha A, Alhilani M, Nakhoul M, Mutengesa E. The impact of the COVID-19 pandemic on final year medical students in the United Kingdom: a national survey. BMC Med Educ. 2020 Jun 29;20(1):206. DOI: 10.1186/s12909-020-02117-1 PMID: 32600460 PMCID: PMC7323883