

Perception and experience of online classes among undergraduate and postgraduate medical students during COVID-19

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ABSTRACT

Introduction: The purpose of this study was to analyze the perception and experiences of online classes among undergraduate and post-graduate medical students during COVID-19. **Methods:** This prospective cross-sectional study was conducted in the Medical College of Nepal. A self-administered semi-structured questionnaire was developed through extensive review of related literature. It was sent among 304 students. Student who did not want to take part in a survey, didn't respond to all questions were excluded from the study. The data was received via email and completeness was checked. Out of 304 student, 265 students met the criteria for study. Two parts of the questionnaire included: demographic data related to medical students and online classes; and five perception-related questions which are measured by Likert scale. Perception of student were divided into positive, neutral and negative. **Results:** About 265 students out of 304 students completed the form which is 87.1% response rate. The mean age of the students was 24.5±2.5 years. Majorities of students (87.5%) used wifi and almost two third students (66%) wanted two classes per day. Nearly half (49.4%) students felt happy with initiation with online classes and 50.1% said voice was clear during classes. Overall, positive perception was found on was 72.15% of students toward online classes. **Conclusions:** Majorities of students used wifi. Nearly 50% of the student feel happy with initiation of online classes. More than two third students had a positive perception toward online classes. Online learning became the alternative option to continue academics during COVID-19.

Keywords: COVID-19, online classes, perception.

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INTRODUCTION

The Impact of COVID-19 pandemic had a very disastrous effect on physical health at the end of 2019.¹ It affected routine teaching processes including the medical education system due to closure of classroom teaching activity.² Since the duration of a pandemic was uncertain and social distancing was compulsory in this circumstance, it was very difficult to provide systematic intensive education for future Medical Professionals.³

From 23rd April 2020 online class was started in our institution as per curriculum given by Tribhuvan university. Zoom software was used to deliver lectures among students of MBBS and postgraduates (PG) lasting for 60 minutes. After five months of online classes, MBBS 3rd to 5th year and PG second and 3rd years were enrolled to fill up the questionnaire regarding perception of online classes along with their feedback. It is important to know the perception of MBBS and PG students' online classes as these students had both physical classes and clinical posting. These students have different teaching design as compared to another program.

The aim of the study was to evaluate the student views, strength,

drawback, and effectiveness of online classes among undergraduate and postgraduate students during COVID-19.

METHODS

This cross-sectional study was performed at Gandaki Medical College Teaching Hospital, Pokhara, Nepal. Study proposal was approved by GMC IRC No 92/77/78. Data was collected from December 2020 to January 2021. The MBBS and PG student who already took five months of online classes by either zoom or MS team were eligible for the study. The set of questionnaires regarding perception of online classes was sent to MBBS 3rd to 5th year and PG students. Students who completed all the response were included. Students who didn't want to take part in a survey, did not respond to any questions were excluded from the study. Out of a total 304 students, 265 met the inclusion criteria A self-administered semi-structured questionnaire developed through extensive review of related literature was used for data collection. Two parts of the questionnaire included 1. Demographic data related to medical students and online classes. 2. Five perception related questions which were measured by Likert scale. It included five Statements using 5-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). The total score ranged from 5 to 1325. Pretesting of the instrument was done among 10% the sample size and necessary modification was done as required. The questionnaire set sent through email. The data was received via email and completeness was checked. Any incomplete data was again sent to students. Confidentiality was maintained by keeping secrecy of participants and their information. Data was extracted at MS-excel file and fed to IBM statistical package for the social sciences version 26.0. Data was analyzed by description statistics frequency and percentage. Perception of student were divided in three groups; positive (strongly agree and agree), neutral and negative (disagree and strongly disagree) group.

RESULTS

Two hundred and sixty-five students out of 304 students completed the form which is 87.1% response rate. The mean age of the students was 24.5±2.5 years. Majorities of students (231/87.5%) used Wi-Fi and almost two third students (175/66%) wanted two classes per day (Table 1).

Table 1: Demographic data related to medical students (N=265)

Characters	Findings	Percentage
Age in years	Mean (mean SD= 24.5+-2.5)	
Female:Male	1.3:1	

No of students	MBBS 3 rd year	85	32.1
	MBBS 4 th year	80	30.2
	MBS 5 th year	75	28.3
Type of internet uses	PG student	22	8.3
	WIFI	231	87.2
	Cellular data	34	12.8
Device used for online classes	Laptop	126	47.5
	Mobile	117	44.2
	iPad	15	5.7
	Tablet	7	2.6
Number of classes attended by student attended per days	One	28	10.6
	Two	175	66
	Three	50	18.9
	Four	12	4.5
Preferred timing of online classes	8-9 AM	92	34.71
	9-10	98	36.98
	10-11	68	25.66
	1-2	7	2.64

The perception of students toward online classes has been shown in Table 2. Nearly half 131(49.4%) students had felt happy with online classes study and 50.1% (n=133) of students said voice was clear during classes.

Table 2: Likert scale regarding perception on online classes (N=265 students)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Happiness of student to study via online classes	1(0.4%)	3(1.13%)	39(14.7%)	131(49.4%)	91(34.3%)
Clearness of voice	2(0.8%)	12(4.5%)	43(16.2%)	133(50.1%)	75(28.3%)
Software Friendly using during classes	5(1.9%)	13(4.9%)	39(14.7%)	118(44.5%)	90(33.9%)
Effectiveness of slide or video	2(0.8%)	18 (6.7%)	70(26.4%)	112(42.2%)	63(23.7%)
Level of understanding during online classes	5(1.9%)	20 (7.5%)	97(36.6%)	75(28.3%)	68(25.6%)
Total perception	27(1.9%)	54(3.9%)	288(21.7%)	569(42.9%)	387(29.2%)

The overall perception among students toward online classes is shown in Table 3. Positive perception was found among 72.15% (n=956) of students.

Table 3: Different type of perception

Type of perception	Total Responses (N=1325)	Perception in %
Positive Perception	956	72.15
Negative perception	81	6.11
Neutral perception	288	21.7

Note: total responses of 265 respondents are 1325, which is denominator in the calculation of proportion of perception; positive perception includes agree and strongly agree; negative perception includes strongly disagree and disagree

DISCUSSION

It was a very difficult time dealing with the COVID-19 pandemic. Some countries began lockdown after initial reports of the corona and started lockdown and social distancing.² It had also completely jeopardized the education sector.⁴ Medical institution faced even challenging situation in organizing classes.⁵ Most of the institutions and universities were shut down. Most graduate exams and courses had cancelled. Now only the option left was online classes for completion of courses. Despite the uncertainty about this pandemic, academic activities should go on. This was an important study to know the perception and effectiveness of online classes among undergraduate and post graduates residents during this period. This study found that 72.15% of students had a positive perception toward online classes. A study by Prasad et al.⁶ in India showed that the majority of the respondents (70%) were ready to use online classes to manage their curriculum during a pandemic. Similar finding was observed in a study performed by Michel et al.⁷ in Poland where 73% respondent were satisfied with online classes. We know that it was not a substitute for real face to face classes but it can help students to learn and continue their academic activities. The theory part may be covered by online classes, but medical students should come to the hospital for the practical part after the end of the lockdown. Management of online classes was very difficult for each and every student, staying at different locations, sometimes even remote areas too. Other issues were adapting the technology by college and university, internet availability and devices needed to run software. Most commonly used internet service was wifi (87.2%) in our study. Laptop (47.5%) was a commonly used device followed by mobile (44.2%). In contrast, study by Kelum et al.⁸ showed both laptop and mobile users were 45% and only laptop by 34% and mobile by 8% for online classes.

Two third of (66%) students preferred only two classes per day and 71.7% of students preferred to take morning classes at 8-10 am and only 2.6% students preferred day time. In our study, morning classes perceived to be very effective as the students were highly enthusiastic and alert in the morning hour. It is supported by the fact that at early morning, low cortisol level and stress hormone enhance memory and concentration.⁹

More than two third (78.5%) students had understood the voice clearly. However only 53.9% of students were only able to understand the subject matter studied at classes. Sixty-six percentage of students perceived powerpoint slides to be effective. Sometimes, online classes were disconnected due to electricity and the strength of the internet was poor that made difficult to transfer voice

and slide through online. Demuyakor² observed that the slow speed and high cost of internet packages created disturbance in online learning. Most developing countries did not have modern facilities in the network system.

Limitation of our study were small portion of participants which is not able generalized among whole student of Nepal. We also did not explore the other factors that may influence online teaching, such as student's psycho-social and socioeconomic conditions during this pandemic, access to electricity, and other relevant provisions. We recommended that even in a pandemic, it should be important to continue academic activity via alternative ways like online education. We think high speed internet, familiarity with software, use of laptop and device, video monitoring and live question/answer session during classes were important to better learning of the students during online classes.

CONCLUSIONS

Online learning became the option to continue academics during the covid-19 pandemic. Majority of students used wifi. Nearly 50% of the student felt happy with initiation of online classes. Positive perceptions was found 72.15% of total response which was higher compared to negative perception (6.11%) among medical student. It is one of alternative learning methods supported by student feeling and understanding of students where face to face interaction is impossible.

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