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EFFECTIVENESS OF ONLINE CLASSES FOR POSTGRADUATE STUDENTS DURING THE COVID-19 PANDEMIC

ABSTRACT

Objective:

The study aimed to assess the attitude of postgraduate students towards online classes and to evaluate their effectiveness and difficulties.

Materials and Methods:

A descriptive, cross-sectional study was conducted among the postgraduate students of Maharajgunj Medical Campus, Institute of Medicine, Kathmandu, Nepal from April 2020 to May 2020. Data were retrieved from the online survey and analysis was done.

Results:

Among 137 participants, 75% of postgraduate students preferred online classes as a good alternative to learn at the time of the pandemic. As a participant, 64% of the participants had a better level of understanding than the traditional method. As a presenter, 49% of the participants were confident enough that they comprehended their content clearly. Factors that promote its effectiveness included time-saving, minimization of the risk of exposure to COVID-19, participation even when sick and continuation of academic calendar with additional exposures to external faculty's webinars. Technological issues, feeling of isolation, passive status during classes were the factor that reduces the quality of online classes.

Conclusion:

For postgraduates medical students, online classes have become a good alternative source of learning during COVID pandemics with some technical limitations.

Keywords: COVID-19 pandemic, Online class, Postgraduate student.

INTRODUCTION

Coronavirus disease 2019 (COVID – 19) is a contagious disease caused by Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The World Health Organization declared it as a Public health emergency of international concern in January 2020 and pandemic on March, 2020.¹ The first case in Nepal was confirmed on 23rd January 2020, following which a countrywide lockdown came into effect on 24 March 2020.² Implementation of social distancing forced colleges and universities to shut down and a perceptible impact was seen in medical education globally leading to the cancellation of seminars, practical classes and clinical exposures.³ Uninterrupted teaching and learning activities are the mainstays for achieving the goal of medical education program to produce clinically competent, academically capable professionals. It was a challenge for developing countries like Nepal where a limited population

has internet access, to adopt the online method of teaching and learning activities. Moreover, there was a doubt whether online classes could satisfy the postgraduate students, whose academics are moreover based on practical learning. Therefore, this study was carried out to assess the attitude of postgraduates medical students, towards online classes and to evaluate their effectiveness and difficulties.

MATERIALS AND METHODS

The study was descriptive, cross-sectional, questionnaire-based, which was conducted among the postgraduate student (residents) working in the various departments under Maharajgunj Medical Campus, Institute of Medicine, Kathmandu, Nepal from April 2020 to May 2020 after obtaining ethical clearance. Non-probability sampling was done for the study. (Purposive sampling) was taken. During this period, questionnaires were distributed to

the targeted population in printed form as well as through email accounts whichever suitable. Questionnaires were used after pretesting incorporating feedback and verification by a team of experts. Data were retrieved from the online survey, entered into Microsoft Excel and was imported into the Statistical Package for Social Sciences (SPSS) version 22. The descriptive analysis was done from the response collected.

RESULTS

A total number of 137 participants were included in the study with a participation of 66.5% in our study. The majority used both Wi-Fi and paid cellular data package for online access with the preference of zoom application (61%) which was followed by Microsoft Teams (35%) as an online application platform. Online classes were attended on the laptop by 52% of postgraduates while 39% found smartphones as a better substitute. The maximum number of postgraduates expressed the requirement of prior orientation classes (68%) (Table 1).

Table 1. General information regarding the online class (n=137)

		Frequency (n)	Percentage (%)
Source of internet	Wi-Fi and paid cellular data pack	69	50.36
	Personal Wi-Fi network	54	39.42
	Institution Wi-Fi network	8	5.84
	Paid Cellular Data Pack	6	4.38
Application used for online classes	Zoom	83	60.58
	Microsoft Teams	48	35.04
	Google	5	3.65
	Other	1	0.73
Device used for online classes	Laptop	72	52.56
	Smart Phone	53	38.69
	Tablet	11	8.02
	Desktop	1	0.73
Orientation before online classes	Yes	93	67.88
	No	44	32.12

Before the COVID pandemic, 104 (76%) had never taken an online classes and considering the absolute shut down of academic activities, 75% of postgraduates voted online classes as a

good alternative to learn at the time of pandemic (Figure I). All sorts of disturbances were faced by postgraduates (63%) that includes slow internet, audio and power cut during the course of time while attending the online classes (Figure II). Besides that 64.22% responded that the duty schedule of the postgraduates was hampering them to attend the online classes (Figure III).

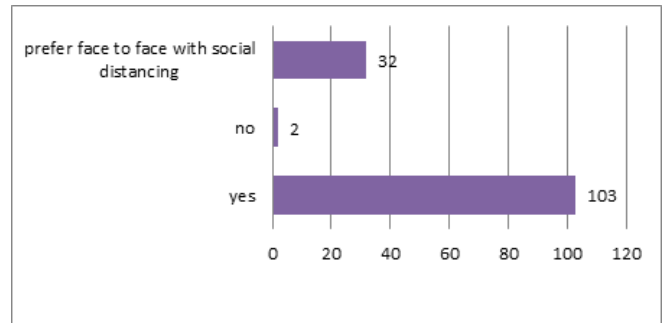


Figure I: Online classes as a good alternative during the COVID pandemic (n=137)

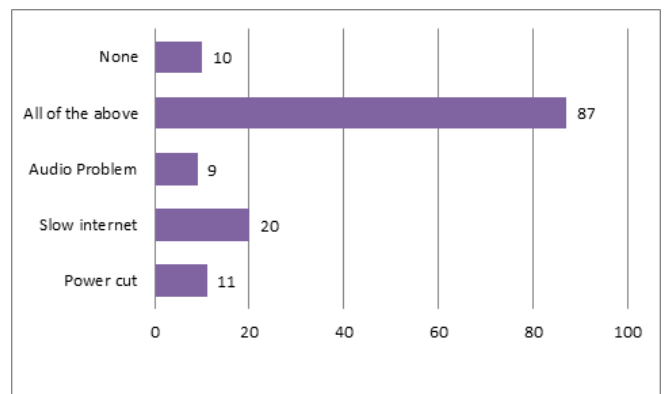


Figure II: Disturbances during online classes (n=137)

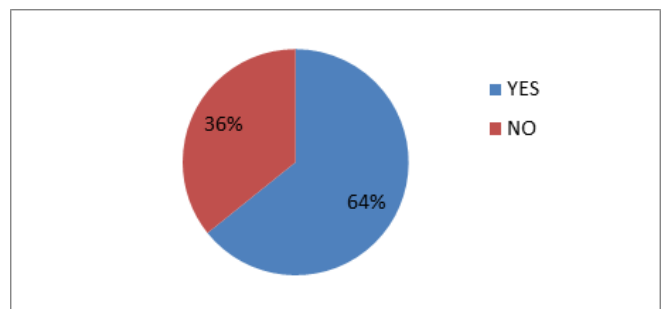


Figure III. Response on the effect of postgraduate duty schedule in online classes (n=137)

However, 71% of participants felt that it was a time-saving to prepare and deliver their lectures (Figure IV).

As a listener, 24% of the participants had a better level of understanding than face to face classes while 46% thought the level of understanding was

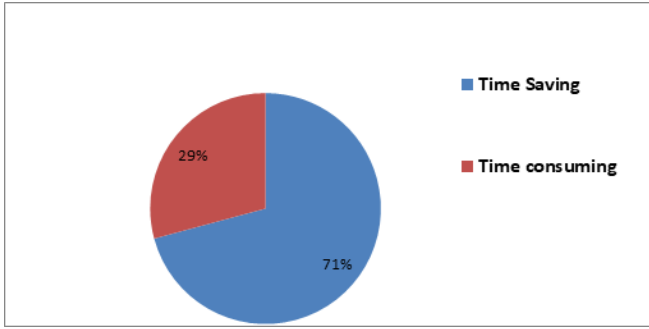


Figure IV. Time management during online classes (n=137)

insufficient (Figure V). It was believed by 86% of participants that the way of teaching was also helpful to upgrade their clinical knowledge and practical skills (Figure VI).

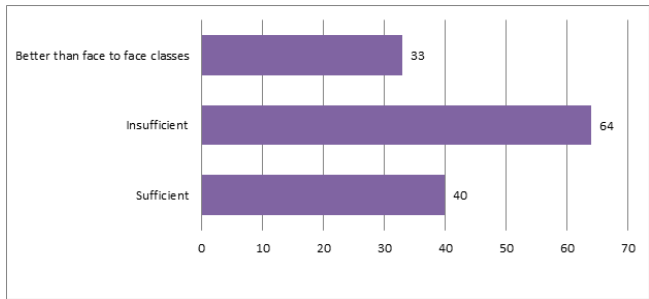


Figure V. Level of understanding as a listener from online classes (n=137)

As a presenter, 49% of the participants were confident enough that they have comprehended their content clearly while 48% were not sure about it (Figure VII).

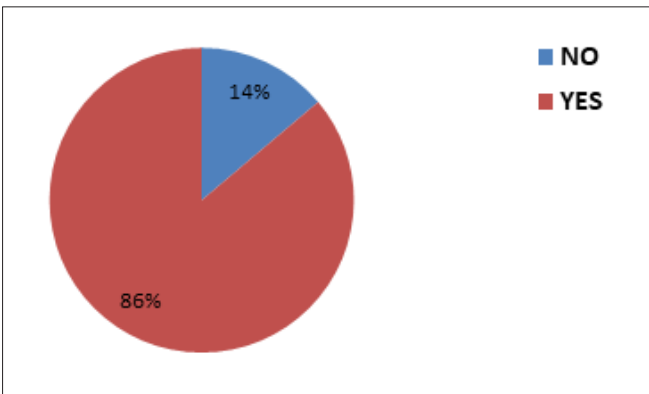


Figure VI. The benefit of online classes on clinical knowledge and practical skills (n=137)

The rate of the passive listener was high (46.71%), however, they benefit themselves by taking screenshots (45%) and recording the classes for future references (8%) (Figure VIII). Feeling of isolation was a common reason noted by almost

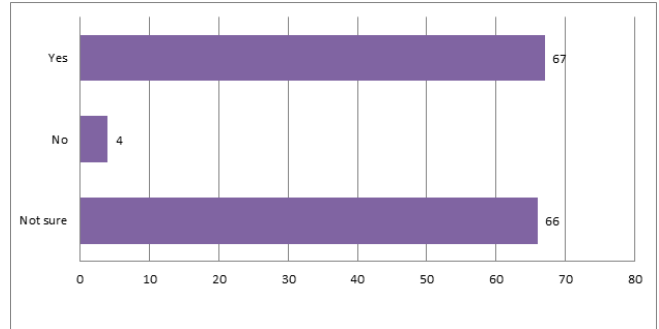


Figure VII. Clarity on the content delivery as a presenter (n=137)

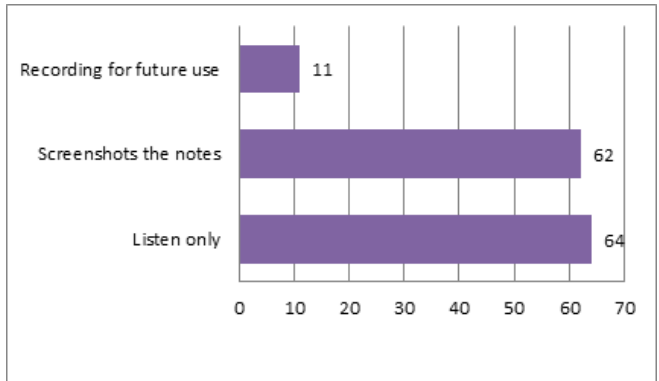


Figure VIII. Respondents taking benefits from online classes (n=137)

32% of the participants.

With almost 8 – 10 months of experience in online classes, postgraduates preferred combined online classes and traditional face to face learning (74.45%) even after COVID subsides in future. None voted to get back into traditional face to face

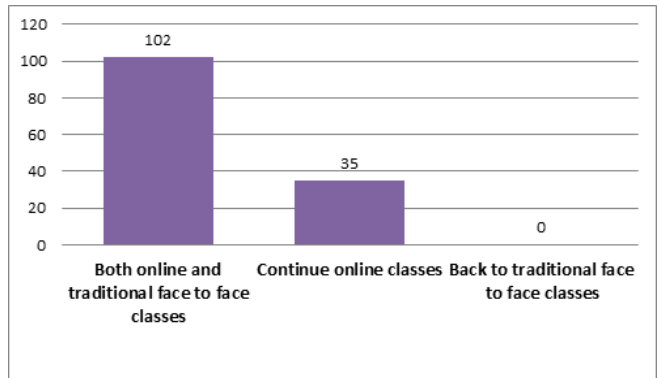


Figure IX. Preference on teaching method (n=137)

classes alone (Figure IX).

DISCUSSION

Due to the risk of transmission of COVID – 19, all sorts of activities that promote the crowding were

discouraged and a concept of social distancing was followed. United Nations Educational, Scientific and Cultural Organization (UNESCO) recommended the use of distance learning program to limit the disruption of education.⁴ Traditional face to face classes was replaced by distance learning methods that include interactive radio instruction (IRI), interactive audio instruction (IAI), online virtual worlds, digital games, webinars and webcasts.

In our study, the most common application used was Zoom followed by Microsoft Teams which was similar to the study conducted by Gupta A et al.⁵ and Tuladhar S L et al.⁶, who found Zoom as the most common application to be used by 86.2% and 100% respectively. Zoom is freely available to download with optimum services & convenient to operate. Microsoft Teams needs users institutional account verification and has complex processing that makes it less popular.

The maximum number of participants in our study had not experienced online classes before and therefore they expressed the requirement of orientation classes on the online teaching process. Orientation with the software, course design, features and approach is essential to the successful and smooth running of the online classes. Almaiah MA et al.⁷ found that technological factor is the instrumental component in affecting the effectiveness of online education.

The majority of postgraduates chose online classes as a good alternative of the teaching and learning process at the time of the COVID pandemic. Besides being related to experience modern technology-based learning (84%), they also felt secure as online classes minimized exposure to COVID among the colleagues (96%). Similar experience was shared even by those with bad health (80%) that would not have been possible in traditional face to face methods. The duty schedule of the front liner became busier than before as the caseload of COVID raised, which directly hampered the postgraduates to attend online classes. Besides this, slow internet, audio and power cut were other problems while adopting this methodology of teaching & learning activities. Subediet al.⁸ also found the internet problem (48%) and power cut (42.3%) as a major source of disturbances in attending online classes.

Comparing the experiences from traditional classes, postgraduates found the online presentation a time saving (71%) methods. In contrast to the study done by Visseret al.⁹, time and labour –intensive work required in online course delivery are greater than that of regular classroom teaching as one has to spend hours in front of the computer screen, which can be easily communicated verbally with minimal effort. Level of understanding as a listener was comparable to other studies.^{6,8} About 46% of postgraduates were not able to understand as a listener, as postgraduates education needs integration of theory, practical & clinical portion of the curriculum.

In our study, we found that most of the department motivated their residents to participate in the online classes by external faculties either hosted by themselves or a third party, where they were exposed to recent advances, case discussions, surgical videos and webinars. Therefore postgraduates (63%) felt that online classes were helpful to upgrade their clinical knowledge & practical skills. As a presenter, 48% of the postgraduates were not sure whether they could convey their content to audiences. The reason besides it could be the sense of isolation or not been able to show social presence as voted by 32% of the participants. Garrison et al. defined social presence as an ability of participants to project their personal characteristics & present themselves as real people. Creating an environment of social presence is essential for the proper comprehension & success of online education.¹⁰ Postgraduates although being passive (57.6%) during classes, took screenshots (45%) and or record classes (8%), which was the most advantageous part of online classes. Most of the participants showed no health issue while the minority developed minor headache (7.2%) and 5.1% had eye problems. Although face to face classes has their own importance in terms of direct communication, emotional connection, social interaction and teamwork, however considering the COVID pandemic postgraduates voted to continue online classes (26.27%) even if risk minimizes. Nobody voted to get back into traditional face to face classes alone while the majority preferred both online classes and traditional face to face learning simultaneously (73.7%) if the COVID pandemic stabilizes.

Few significant issues encountered could be optimized like – expanding the routers and increasing the speed of institutional Wi-Fi may resolve the poor internet issues. Considering the moderator in each presentation to make sessions more interesting and encouraging active participation & promoting the discussions may remove the problem of isolation. Increasing the number of external and internal faculty's lectures will increase the exposure of postgraduates.

The main limitation of the study is the single centre study. Extending the survey to involve postgraduates from other medical colleges in order to obtain a nationwide response on online teaching and learning activities at the postgraduate level would yield a better overview. With the result of this survey, we recommend the continuation of online classes for theoretical purposes and the beginning of face to face classes with social distancing for practical skills development.

CONCLUSION

Postgraduates of Maharajgunj Medical Campus considered online classes as a good alternative during COVID pandemics & therefore recommends it's continuation even if the pandemic stabilizes. Factors that promote its effectiveness includes – time-saving, minimization of the risk of exposure to COVID, participation even when sick and continuation of academic calendar with additional exposures to external faculty's webinars. Technological issues, feeling of isolation, passive status during classes were the factor that reduces the quality

of online classes.

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