Medical Students' Perception towards Online Education at Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

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ABSTRACT

Background

Online education has gained popularity in various fields, including medicine, owing to its flexibility and time-saving advantages. The COVID-19 pandemic has further accelerated its adoption as an alternative to traditional in-person learning. Medical students appreciate the ability to study at their own pace, access resources remotely, and engage in virtual collaboration and networking.

Objective

The objective of this study was to determine the perception of online education among medical students.

Method

A cross-sectional descriptive study was conducted at Kathmandu University School of Medical Sciences (KUSMS), Nepal, comprising 332 participants. A Google Form questionnaire was used to assess their perceptions and responses deliberated on a three-point Likert scale. Descriptive analysis was used to determine the respondents' views.

Result

The results showed that a significant majority (64.8%) of the respondents agreed that accessing the internet for online education was easy. However, only 35.5% felt comfortable attending online lectures at home. Regarding the effectiveness of online learning, the majority (66.3%) disagreed that it was similar to traditional classroom lectures. More than half (51.5%) of the respondents agreed that online classes were time-consuming and (71%) required breaks during sessions. Surprisingly, only 27% expressed a preference for online education. Additionally, a notable proportion (87%) disagreed that online education could provide similar real-world skills. Moreover, the majority (85%) disagreed that conducting exams for theoretical and practical/clinical courses virtually was possible.

Conclusion

Despite the availability of internet access for the majority of students, a significant proportion expressed discomfort with online education. Only a quarter preferred it, and many disagreed that it could replicate the traditional classroom experience or provide comparable skills. Training all faculties, providing high-speed internet, improving student interaction, and giving online demonstrations can enhance student preferences and online quality.

KEY WORDS

Medical students, Online education, Perception

INTRODUCTION

The global COVID-19 pandemic has resulted in the closure of educational institutions worldwide, including Nepal, leading to the introduction of a 'digital education system' by the Nepali Government.[1] Kathmandu University (KU) has taken steps to facilitate online teaching by creating accounts for teachers and students, providing training to teachers on online teachers. To ensure continued learning, the Ministry of Education, Science and Technology (MOEST) andUnited Nations Educational Scientific and Cultural Organization(UNESCO) are collaborating with Association of Community Radio Broadcasters (ACORAB) and Nepal to promote distance learning through various channels, including the internet, television, and FM radio stations.[2]

While lockdowns and social distancing measures are essential for slowing down the spread of COVID-19 by interrupting the transmission chain, the closure of educational institutions has had a significant impact on numerous students worldwide.[3]

In healthcare education, e-learning has been regarded as a revolutionary solution, but it poses challenges to nursing education. Nursing students have been restricted from hands-on experiences, hindering their academic progress. The uncertainty of when traditional practices can resume further complicates the situation.[4]

A significant number of academic leaders recognize the importance of online learning for their institutions' long-term strategies. The courses may prove especially challenging for students who do not have the skills for self-regulated learning.[5] However, physical separation in online classes affects students' perceptions, emphasizing the need for effective communication and timely responses. While some studies show positive perceptions of online education, there is limited research on students' perception in the Nepali context, especially regarding medical education.[6]

To address this research gap, it is crucial to understand students' attitudes, challenges, and experiences with online learning in Nepal. Such insights will contribute to enhancing the quality and effectiveness of online education. Therefore, researchers aim to assess the perception of medical students towards online education in Nepal, providing valuable knowledge to improve educational practices.

METHODS

A descriptive cross-sectional study was conducted at Kathmandu University School of Medical Sciences from April 2023 to May 2023. The study included 332 medical students from various disciplines who had experience with online education. The research tool was developed based on Dr. Manoj Saurabh's work and other literatures, and developed as a Google Form. An information sheet and written consent form were incorporated into the survey. The content validity of the instrument was established through seeking opinion of experts and co-authors. A pre-test was performed on 10% of the total sample size among medical students. The study received written approval from the Research Review Committee of KUSMS, and participants provided their consent. Data collected through the survey were exported to an Excel sheet and analyzed using descriptive statistics.

RESULTS

Among the total respondents, 43.4% were pursuing MBBS, 26% were studying B.Sc. Nursing, 20% were enrolled in BDS, and 11% were pursuing BNS (Bachelor of Nursing Sciences) in different disciplines. The majority of these respondents (50.8%) were in their second year of study across various disciplines. The majority (91.0%) of the respondents belongs to Hindu religion, and 69.9% lived in single-family households. A significant proportion (41.9%) of participants were from Bagmati Province 3. In terms of online education, more than half (53.9%) of the respondents did not use institutional licensed software, and nearly three-fifths (59.3%) utilized laptops for their online education. The majority (92.5%) of stu-dents used broadband Wi-Fi, and Zoom application was the preferred choice (75.6%) for online education.

Perception towards online education was assessed in different areas such as perceived feasibility, suitability, utility, effectiveness and challenges. Out of the 332 respondents, majority (64.8%) were agreed that they were able to easily access the internet for their online education.

Furthermore, more than two-fifth of the respondents agreed with all five items regarding the feasibility and sustainability of online education.

However, regarding the perceived utility of online education, only 35.5% of the respondents agreed that they felt comfortable attending online lectures at home, while 69.0% agreed that classroom lectures were more comfortable. In contrast, for the other three items related to the util-ity of online learning, a higher percentage of respondents disagreed or remained neutral com-pared to those who agreed.

In terms of the effectiveness of online learning, more than fifty percent (66.3%) respondents ex-pressed their disagreement regarding the similarity between online learning and traditional class-room lectures. Additionally, ≥ half (51.5%) of the respondents agreed that online classes tend to be more time consuming and (71%) require proper breaks during sessions. Compellingly, only 27% of the students indicated a preference for online education. Out of the total respondents, merely 18% believed that

Table 1. Respondents' perception towards online education (n-332)

Variables/Statement	Agree n (%)	Neutral n (%)	Disagree n (%)
Feasibility and Suitability of online learning			
I am able to easily access the internet as needed for my studies.	215(64.8)	78(23.5)	39 (11.7)
I feel comfortable communicating online.	150(45.2)	101(30.4)	81(24.4)
I am willing to actively communicate with my classmates and instructors electronically.	150(45.2)	87(26.2)	95(28.6)
I feel comfortable to compose a text on a computer in an online learning environment	160(48.2)	105(31.6)	67(20.2)
I can ask my questions if there are problems in understand-ing an online lecture.	191(57.5)	78(23.5)	63(19.0)
I get quick response from teacher for clearing my queries via online mode.	139(41.9)	107(32.2)	86(25.9)
Utility of online learning			
I am more comfortable in online learning at home.	118(35.5)	89(26.8)	125(37.7)
I am more comfortable in lecture in class.	229(69.0)	78(23.5)	25(7.5)
Students are motivated due to online lectures.	56(16.9)	118(35.5)	158(47.6)
Sufficient number questions or MCQ are asked by the teacher to make online learning session interactive.	109(32.8)	108(32.5)	115(34.6)
More questions can be asked in online learning.	98(29.5)	106(31.9)	128(38.6)
Effectiveness of online learning			
Learning is similar in online or conventional lectures in lec-ture halls.	49(14.8)	63(19.0)	220(66.3)
It simply takes more time to effectively accomplish tasks in an online environment than a face to face class.	171(51.5)	89(26.8)	72(21.7)
I prefer to attend online lectures than conventional lectures after the COVID-19 pandemic is over.	89(26.8)	59(17.8)	184(55.4)
I get quick response from teacher for clearing my queries via online mode.	102(30.7)	116(34.9)	114(34.3)
Online lectures are more effective than traditional/live classroom lectures.	59(17.8)	82(24.7)	191(57.5)
During online sessions, give proper breaks, so that the stu-dents should have sufficient time not only to think about the topic but also to frame their questions on doubt.	240(72.3)	61(18.4)	31(9.3)
Online class for practical skill should be started.	93(28.0)	52(15.7)	187(56.3)
Online assessment should be done regularly.	192(57.8)	81(24.4)	59(17.8)
Challenge to implement theory classes			
Teachers or students may lack willingness to adapt the changes	215(64.8)	88(26.5)	29(8.7)
Teachers or students may lack of skills to run the online classes effectively.	217(65.4)	82(24.7)	33(9.9)
Availability of existing technology is insufficient (in terms of storage, connectivity, etc).	223(67.2)	64(19.3)	45(13.6)
Availability of internet facilities and electricity	208(62.7)	72(21.7)	52(15.7)
Parents/guardian may resist for online education	124(37.3)	104(31.3)	104(31.3)
Both teachers and students emotional health may be affected	178(53.6)	100(30.1)	54(16.3)
There may be noises (disturbance) while going online from home	241(72.6)	48(14.5)	43(13.0)
Challenges to implement clinical practicum			
Virtual simulation covers clinical Placement of students.	63(19.0)	70(21.1)	199(59.9)
It is possible to give both theoretical and practical/clinical courses exam virtually	50(15.1)	70(21.1)	212(63.9)
Virtual clinical simulation can provide similar skills as in real world scenarios	44(13.3)	47(14.2)	241(72.6)
It is safer to postpone clinical learning activities till situa-tions			
Normalize than practicing in a Simulated environment.	186(56.0)	62(18.7)	84(25.3)

online education is more effective than attending live class lectures. Moreover, approximately only 31% of the respondents agreed with the statement that they receive quick responses from their teachers when they have questions.The majority of respondents (56%) disagreed with the statement of starting online classes for practical skills.

When considering the challenges faced in implementing theory classes, the percentage of re-spondents who agreed with each of the seven items ranged from 37.3% to 72.6%. In terms of virtual clinical simulation, only 13% of the respondents agreed that it can provide similar skills as real-world scenarios. Furthermore, 19% of the respondents agreed that virtual simulation can cover clinical placement, and only 15% agreed that it is possible to conduct exams for both theoretical and practical/clinical courses virtually. On the other hand, 56.0% of the respondents agreed with one statement referring to the challenges associated with implementing clinical practicum.

DISCUSSION

Among the total respondents, more than one-third (43.4%) were studying in the MBBS program. Additionally, slightly over half of the respondents (50.8%) were in their second year across different disciplines. Regarding religion, most of the respondents were Hindu (91.0%) which is probably reflective of the country's dominant religious faith. More than two third (69.9%) of the respondents live in a single family. More than one third (41.9%) of the respondents hailed from Bagmati Province 3, which is the largest province in terms of population. Regarding online education, more than half (53.9%) of the respondents did not use institutional licensed software possibly because they attended classes from home and nearly three fifth (59.3%) of students used laptop for online education but another two studies done in India showed that 77% of the students use mobile device for learning.[9,10] Incredibly (92.5%) of the students used broad band Wi-Fi and bulk (75.6%) of the students used Zoom application for online education.

Among the total respondents, a significant majority (64.8%) agreed that they had easy access to the internet for their online education. Additionally, more than two-fifths of the respondents agreed with all five items regarding the suitability of online education.

However, regarding the perceived utility of online education, only 35.5% of the respondents agreed that they felt comfortable attending online lectures at home. This percentage is considerably lower than a study conducted in India, which showed that 87.4% of students preferred online teaching during the pandemic.[9] It is important to note that these preferences may be influenced by the specific circumstances of the pandemic. The finding is consistent with the findings of Motte-Signoret et al. in which they found that 89% of respondents strongly agreed that online teaching was an appropriate way of delivering courses during the COVID-19 pandemic which could be high preference due to pandemic situation.[11]

While teaching medical students, student teacher interaction is more important aspect. Regarding the utility of online learning like motivation due to online lecture, 34% of respondents disagreed with the statement they get quick response form teachers on their question sufficiently which is consistent with a study conducted which showed that students had a negative perception of online learning due to a lack of interaction between teachers and students.[9] Similarly, another study conducted by Michal Baczek et al. found that only 4% of respondents considered class interactivity as an advantage of eLearning.[12] Similarly, another study by Docherty et al. showed that poor interaction between learners and facilitators can impede the online learning process.[13]

Regarding the effectiveness of online learning, more than fifty percent (66.3%) of the respondents expelled their disagreement regarding the similarity between online learning and traditional classroom lectures.

However, a study conducted in Egypt revealed that the majority of students (64.6%) perceived online education to be better than face-to-face education.[14] Furthermore, more than half of the participants (51.5%) agreed that online classes tend to be more time-consuming, and a majority (71%) highlight the need for proper breaks during class. Surprisingly, only 27% of the students indicated a preference for online education. In contrast, a study by Motte-Signoret et al. found that 72% of students preferred online learning due to the flexibility of time.[11]

Out of the total respondents, only 18% believed that online education is more effective than attending live class lectures. Additionally, approximately 31% of the respondents agreed with the statement that they receive quick responses from their teachers when they have questions. The finding is supported by a study conducted in Egypt, which showed that over 50% of students desired online sessions to be more interactive, and 44% felt unprepared for their profession.[15] Learning from real patients in a clinical setting is undeniably crucial for medical education.[15] However, when it comes to online education, it becomes impractical to teach students using real patients. The present study examining virtual clinical simulation found that a majority of respondents (87%) disagreed with the notion that it can provide skills similar to real-world scenarios. This observation aligns with the findings of Thomas et al.[16]

Moreover, majority of the respondents (81%) disagreed that virtual simulation can competently replace clinical placements, while 85% disagreed that it is possible to conduct exams for both theoretical and practical/clinical courses virtually where as a study conducted in India, which revealed that 49.4% of students disagreed with online assessment methods and online viva voce9but study conducted by AbdElgalil et al. suggested that online exams can provide a sense of security, and according to their findings, 69.7% of students expressed a preference for paper-based exams over online exams.[17] On the other hand, 56.0% of the respondents agreed with a statement highlighting the challenges associated with implementing clinical practicum which is supported by study done India showed that group also reflected analogous demerits of e-learning.[18]

The online study was included on medical students and The study was conducted in only one medical institution including medical students resulting study may not represent all the sample size of the medical students. Moreover, how they response on question uncertain. However, even with these limitations, the implications of our study findings appear to be applicable as it is congruent with other studies in the same domain.

CONCLUSION

Despite having internet access, a notable proportion of students expressed discomfort with online education, with only a quarter preferring it. A significant numbers of respondents disagreed that online education can replicate physical classes or provide practical skills, including virtual exams. COVID-19 has opened up a unique opportunity to enhance medical education by embracing new technology, blended teaching learning approaches, and a more immersive experience. This shift, although initially challenging, has provided valuable lessons in navigating pandemic-related obstacles while ensuring uninterrupted education.

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