Nursing Students' Perception of Online Learning Amidst COVID-19 Pandemic

Sunita Rana,[a,c] Chandra Kumari Garbuja,[b,c] Geeta Rai [a,c]

ABSTRACT:

Introduction: The declaration of COVID-19 pandemic on 11th March 2020 by World Health Organization forced many countries including Nepal to choose online mode of nursing education. Hence, it is essential for the educators to find out students' perception that ensures their readiness to learn in this new environment. This study sought to examine the perception of online learning among nursing students. **Methods:** After obtaining ethical clearance, a cross-sectional descriptive study was conducted among 211 nursing students using enumerative sampling method. Self-administered structured online questionnaire was used. Calculated Cronbach's alpha value was 0.828. Descriptive (frequency, percentage, mean etc.) and inferential statistics (Chi-square test) were used to analyze data. **Results:** The mean age of the participants was 19.80±1.87 years. All (100%) had mobile phone. Most (93.8%) had internet facility at home. More than half (59.7%) strongly agreed that face-to-face learning was more effective. Less than half (44.6%) strongly agreed that interrupted internet connection was an obstacle. More than half (56.9%) participants had positive perception of online learning. Age, enrolled nursing program and device used were statistically significant with perception of online learning. **Conclusion:** The perception of nursing students towards online learning is positive. Students are satisfied with their learning opportunities amidst COVID-19 through online education. However, interrupted internet connection, unfeasible practical natured courses, load-shedding etc. were perceived as obstacles to online learning. Age, enrolled nursing program, academic year, and devices used had an impact on positive perception.

Keywords: COVID-19 pandemic; Nursing student; Online learning perception

INTRODUCTION:

It is no secret that a good education has the power to transform student's lives. It is the responsibility of good educators to integrate several learning approaches into their teaching based on the need of the student. Traditional teacher-centered learning focuses more on classroom lectures. The emergence of flexible learning opportunities is playing a vital role recently. According to Casey & Wilson, flexible learning is flexible in terms of start and end times, teaching modes, study materials, place, time, and assessment.[1] One of the common approaches of flexible learning is online learning which offers instruction that can be delivered anytime and from anywhere through web-based courses, online discussion forums, synchronous virtual classes, video and audio streaming, online simulations etc.[2,3] Nursing education in the developed countries has already incorporated online learning into their nursing curricula, whereas developing countries like Nepal are far behind.[1,2,4]

The declaration of COVID-19 pandemic on 11th March 2020 by World Health Organization forced many countries including Nepal to choose

a- Lecturer, College of Nursing
b- Assistant Professor, College of Nursing
c- Lumbini Medical College Teaching Hospital, Palpa, Nepal.

Corresponding Author:
Sunita Rana
e-mail: rsunita25@gmail.com
ORCID: https://orcid.org/0000-0002-4987-6607

online mode of nursing education.[5-11] Hence, it is essential for the educators to find out students' perception towards online learning that ensures students' readiness to learn in this new environment. It also increases students' attendance, satisfaction and motivation thus generates an effective and meaningful learning environment.[8]

This study sought to examine the perception of online learning among nursing students of Lumbini Medical College and Teaching Hospital (LMCTH), Palpa, Nepal.

METHODS:

A cross-sectional descriptive design was adopted to study the online learning perception of nursing students studying in Proficiency Certificate Level (PCL) and Bachelor of Science (B.Sc.) nursing program of LMCTH. Ethical clearance (IRC-LMC 06-I/026) was obtained from the institutional review committee of LMCTH. Enumerative sampling method was used to collect data from 2nd to 15th October 2020. Out of 213, only 211 students participated in the study resulting 99% response rate. Confidentiality and anonymity were maintained strictly throughout the study.

Data was collected using self-administered structured questionnaire that was developed by the researchers based on relevant literatures.[3,8,10,12-14] Data was collected via google form. Pretesting was done among 10% of the sample size i.e., 21 nursing students. The value of Cronbach's alpha was 0.828.

The tool consisted of three parts-

Part I: Demographic variables of the participants (age, enrolled nursing program, academic year, average monthly family income)

Part II: Availability and skills required to use computer/internet of the participants (having own computer/mobile phone, duration of use of computer/mobile/internet, training to use computer, availability of internet at home, type of connection, purpose to use internet, previous online learning experience, devices used for online learning and skill rating to use computers/internet).

Part III: Five-dimension- perceived effectiveness (14), perceived ease of use (6), perceived obstacles (7) perceived difference between face-to-face and online learning (7) and perceived satisfaction (4)

perception tool with 38 total items was used to assess participants' perception regarding online learning during Covid-19 pandemic.

The first four dimensions were measured in five-point Likert scale as 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly agree. Perceived obstacles and difference between face-to-face and online learning dimensions had negative items thus scored reversely. The fifth dimension- perceived satisfaction was measured in five-point Likert scale as 1=very dissatisfied, 2=somewhat dissatisfied, 3=neither satisfied nor dissatisfied, 4=somewhat satisfied and 5=very satisfied. The overall score of the tool was 38-190.

Based on the overall mean score, perception of the students was categorized as positive (if the score was equal to or above the mean score) and negative (if the score was below the mean score).

Data was analyzed using statistical packages for social sciences (SPSS) software version 16. Frequency, percentage, mean, standard deviation and range were used for descriptive statistics whereas chi square test was used to find out the association between selected variables and perception of online learning. The confidence level was set at 95% and p-value at <0.05.

RESULTS:

The mean age of the participants was 19.80±1.87 years. More than half (56.4%) of them were studying in PCL nursing. More than half (55%) had monthly family income of NPR. 25,000-50,000. Nearly one-fourth (24.2%) participants did not have their own laptop and 27.5% of them had been using computer for 1-3 years. All (100%) had mobile phone. Regarding availability of the internet, most (93.8%) of them had internet facility at their home. Very few (7.1%) of them had previous online learning experience. Nearly two-third (62.1%) rated their skill to use computers/internet as good.

Most participants had expressed agreement on all 14 components of perceived effectiveness dimension of online learning. Nearly three-fourth (71.1%) participants agreed that online contents were effective and almost two-third (64.9%) of them agreed that online contents were relevant. Similarly, about two-third (62.1%) agreed that online learning was useful for distant education. Greater agreement was seen in effective time utilization during lockdown

(62.6%) and better cope with COVID-19 situation (67.8%) as perceived effectiveness of online learning.

Regarding perceived ease of online learning, more than half (58.3%) of the participants agreed that online learning contents were easy to understand. Two-third (66.8%) of them agreed that basic computer operating skills were enough. Regarding perceived obstacle, participants showed strong agreement on interrupted internet connection (42.7%) and unfeasible practical natured courses (57.8%). Furthermore, they agreed that high internet charge (39.8%) and load shedding (46%) were the obstacles.

Likewise, more than half (59.7%) of the participants strongly agreed that face-to-face learning was more effective. More than half (51.2%) stated strong agreement on better interaction and 46.9% had agreement on easy group assignment through face-to-face learning. Concerning participant's satisfaction, majority (75.4%) were very satisfied with teacher's preparation. More than half (63%)

Age (p<0.0001), enrolled nursing program (p<0.0001), academic year (p=0.033) and device used for online learning (p=0.024) had statistical association with the perception of online learning of participants (Table 3).

DISCUSSION:

Our study revealed nursing student's perceptions of online learning during COVID-19 pandemic. Regarding ownership, present study found that nearly three-fourth (75.8%) participants had their own computer/laptop. Another study that assessed e-learning in first year medical students found only 20% of them using laptop. This highlights the significance of use of electronic devices in modern education process.[15] In the present study, more than half (53.6%) of the participants had obtained formal education or training to use computers which is similar with other study.[14] All (100%) participants in the present study had their own mobile phone. This result agrees with other studies. [15,16] Majority (93.8%) of the participants in the

Table 1. Scores obtained by participants in perception dimensions regarding online learning (n=211).

Perception domains	No. of Items	Obtainable Score Range	Mean ± SD
Perceived effectiveness	14	14-70	50.89±4.914
Perceived ease of use	6	6-30	21.62± 2.915
Perceived obstacles	7	7-35	13.63±3.338
Perceived difference between face-to-face and online learning	7	7-35	11.94±3.578
Perceived satisfaction	4	4-20	16.64± 2.096
Overall	38	38-190	114.71±10.592

of them were somewhat satisfied with the overall quality of student's learning.

Table1 depicts scores obtained by participants in various perception dimensions of online learning. Higher mean scores were obtained by the participants on perceived satisfaction followed by effectiveness and ease of use. However, they scored low on perceived obstacles and difference between online and face-to-face learning. More than half (56.9%) of the participants had positive perception towards online learning (Table 2).

Table 2. Participant's perception of online learning (n=211).

Perception	Frequency n (%)
Positive	120 (56.9 %)
Negative	91 (43.1 %)

current study had internet facility at home which is consistent with other study[3] but incongruent with findings from South African and Egyptian studies. [10,13] As most of the participants in this study were from urban areas with good internet facility may have resulted this finding. Current study revealed that majority (82.9%) of the participants used internet for academic activities which concurs with other study.[15] Regarding devices used for online learning, less than half (43.1%) of the participants in the current study used mobile phone. Other studies have opposing findings.[10,17,18] This may be due to possibility of use of mobile internet data for online learning and availability of mobile phone. In the present study, more than half (62.1%) participants had rated their skills for computer/internet use as good which is supported by another study.[15]

Table 3. Association between selected variables and online learning perception of participants (n=211).

Variables		Perception		df	Chi-square value	p-value
		Positive n (%)	**Negative n (%)**			
Age, in years	≤20	93 (68.4)	43 (31.6)	1	20.667	<0.001
	>20	27 (36)	48 (64)			
Enrolled nursing program	PCL	81 (68.1)	38 (31.9)	1	13.946	<0.001
	B.Sc.	39 (42.4)	53 (57.6)			
Academic year	First	38 (73.1)	14 (26.9)	3	8.753	0.033
	Second	36 (57.1)	27 (42.9)			
	Third	34 (48.6)	36 (51.4)			
	Fourth	12 (46.2)	14 (53.8)			
Device used for online learning	Laptop	20 (60.6)	13 (39.4)	2	7.445	0.024
	Mobile	60 (65.9)	31 (34.1)			
	Both	40 (46.0)	47 (54)			

Participants in this study showed agreement on online learning as informative (71.1%), relevant during COVID-19 (64.9%), tailored to learner's need (57.8%), interesting and enjoyable (46%), useful for distant education (62.1%) and productive (66.8%). The result was supported by other studies.[3,9,10,15] Regarding perceived ease of use, majority of the participants agreed that having basic skills to use computer/internet and mobile devices was sufficient for online learning. These findings are in line with other studies' findings.[3,19]

In the present study, the participants stated agreement on technical problems from teacher's side (45.5%), difficulty staying motivated (54%), load-shedding (46%), high internet charge (39.8%) and lack of fair evaluation (46.9%) as well as strong agreement on internet issues (42.7%) and unfeasible practical natured courses (57.8%) to be the obstacles to online learning. The result was supported by other studies as well.[8,9,15]While online methods support and facilitate educational activities, the pros and cons of technology to harness its potentials is equally important.[8] Furthermore, policy-related issues such as network security, bandwidth, storage solutions, copyright and intellectual property as well as accessibility need to be addressed by the academic institution for successful implementation of online learning.[20]

Majority of the participants strongly agreed that face-to-face learning was more effective, more motivating and more interactive compared to online learning. This finding is consistent with a Pakistani study where majority (84%) of the students rated that e-teaching has limited student-teacher interaction.

[13] Similarly, Nepali medical students perceived online classes as poorer than traditional classes. [18] An Indian study also supports this finding.[16] Even though virtual learning has become a part of the overall education process; face-to-face learning is equally important especially to directly evaluate students' learning activities and providing solutions to overcome their limitations. Hence, an integrated approach that uses both, traditional and e-learning methods, seems the best for better outcome in medical education.[15]

Likewise, most participants were very satisfied on teacher's preparation in the present study. An Egyptian study also discusses that quality of education system, service delivery and instructor's quality had positive effect on learner's satisfaction. [10] The role of teachers in the educational process is beyond limitation.[15]

The present study showed that highest scores were obtained on perceived satisfaction followed by perceived effectiveness and perceived usefulness which is supported by an Egyptian study.[10] The continuity and enhancement of their academic competence as well as provision of distance education amidst COVID-19 pandemic might be the factors.

The present study found that more than half of the participants had positive perception which is supported by other study findings[9,19] but contradictory to a Pakistani study which revealed that about three-fourth (77%) students had negative perception.[13] This may be due to lack of readiness of students to shift forcibly from face-to-face to

online classes due to COVID-19 pandemic. Also, the Pakistani study was conducted very early period of pandemic (April 2020) and the students were yet to accept and be ready for online learning.

The present study revealed that age, enrolled nursing program, academic year, and devices used were statistically significant with online learning perception of the nursing students which is contradictory to the findings from a Nigerian study. [3]

CONCLUSION:

Nursing students had positive perception of online learning. They were very satisfied that their teaching learning activities were carried out amidst COVID-19. Age, enrolled nursing program, academic year, and devices used had an impact on positive perception. However, obstacles perceived by the students need to be addressed by the academic institution to improve quality of online education. In conclusion, the current pandemic has caused severe damage to our society but it also provides a great opportunity for educators to capitalize on this and integrate approaches such as online-learning to the mainstay nursing education that creates more student-centered learning environment.

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