ORIGINAL RESEARCH ARTICLE

E-LEARNING DURING COVID-19 PANDEMIC: ATTITUDE AND PROBLEMS FACED BY THE NURSING STUDENTS

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ABSTRACT

Background: COVID-19 pandemic lockdown resulted in closure of educational institutes like schools, colleges, universities etc. worldwide. These closures are impacting over 60% of world's student population. Online learning has become alternative for education in order to control risk of community transmission. The objective of study is to assess attitude and problem faced by nursing students towards E-learning education.

Methods: A web based descriptive cross-sectional study was conducted from 1st August to 31st October 2020 to assess attitude and problem faced with online class among 216 nursing students of Manipal college of Medical Sciences, Pokhara. Data was collected through self-administered questionnaire via online mode. Collected data was further analyzed using descriptive statistics SPSS 20.0 version.

Results: The finding revealed that more than half (50.9%) were below 20 years. Among 144 respondents, 105 (72.9%) were able to attend the class every day. More than half (57%) replied reason for not attending class every day is electricity cutoff. Regarding attitude of online classes, respondents had different feelings i.e. excitement (25%), bored (25%), fear(25%) and anger (25%) while attending online classes. Majority (82.4%) started to have musculoskeletal and other problems once online classes started.

Conclusions: Respondents have both positive and negative feelings while attaining online class. The negative feeling can be resolved by addressing electricity cutoff, giving break in between and more interaction in class. Regarding problems faced, sitting posture and positioning need to be address along with use of big screen device (laptop/computer) instead of mobile to sort out musculoskeletal and other problems.

INTRODUCTION

The coronavirus disease 2019 (COVID-19) disease caused by novel coronavirus is currently impacting every aspect of daily life around the world. It is one of the most significant and unpredictable global public health crises in recent times, and according to Center for Disease Control and Prevention, COVID-19 is contagious and deadly, disproportionally affecting elderly and those with chronic underlying disease.[1] There are over 9.6 million infected cases and mortality over 491 thousand worldwide by June 27, 2021.[2]

In the beginning of March, government urged general public to avoid large gatherings.[3] On 19th March 2020, government declared suspension of all classes[4] and postponement of all academic examinations including Secondary Education Examination until 12th April 2020, all schools hold the final examinations.[5] Tribhuvan University and Public Service Commission also postponed all their examinations.[6]

These nationwide closures are impacting over 60% of world's student population. As a result, teachers were compelled to run their classes online, primarily by using Zoom, Google meet and several other methods that involve the internet. This growing trend of virtual education in the Nepali education system has increased the familiarity of Nepali teachers, students, and parents with online classes. For the majority it was a new experience.[7]

The significance and efficacy of the implementation of e-learning have been investigated by previous studies. They report several reasons for its overall acceptability including its ease of use, flexibility, and better control over the environment. However, regardless of its rewards, there are quite a few limitations in e-learning such as social isolation, lack of student-teacher interaction, technical and connectivity problems.[8] In Nepal's medical field, e-learning is a new approach to teach students. In nursing education where most of the teaching-learning is physical, the pandemic compelled the use of virtual classes to complete the syllabus on time. Nevertheless, this teaching method can be more difficult compared to classroom teaching for both the teachers and students, as it takes time to get accustomed to the new approaches. The objective of study was to assess attitude and problems faced on e-learning

among nursing students.

METHODS

A descriptive cross-sectional online survey was conducted on attitude and problem faced by nursing students towards E-learning education. The study was conducted among nursing students of Manipal college of Medical Sciences, Phulbari-11, Pokhara from 1st August to 31st October 2020.

The setting of study (Manipal College of Medical Science) was selected purposively in which enumerative sampling technique was used with the sample size of 216. The response rate was 100%. The semi-structured self-designed questionnaire was used to collect data which consisted of 5 sections: socio-demographic characteristics, information, feeling, effect/response, activities and problem confronted on the online classes. Logical sequence of questionnaire was maintained and checked for content validity. As per the suggestion of senior experts and extensive literature review, necessary modifications were made in the tool. For testing reliability of tool, Cronbach's alpha was used to measure internal consistency of instrument which was found to be 0.75.

The data was collected through self-administered questionnaire via online mode. Separate groups were formed in the Microsoft team named as research data collection in which all the students (BSc and PCL) were added. And self - designed questionnaires prepared with the help of google form were attached in group along with letter of informed consent. Before data collection all students were informed about study topic and purpose of conducting the study. Digital informed consent was obtained from all respondents by asking question whether they are willing to participate in the study or not. Almost all the students responded within a week. Those who didn't respond to questionnaire, notification was send to the individual students through team chat, messenger, and email. Collected data were entered into master chart prepared in MS Excel 2008 which is checked, verified and converted to SPSS version 20. Descriptive statistics was mainly used like frequency, percentage, mean and standard deviation to describe characteristics of collected data. Tabular representation was used to display various characteristics of data. Ethical clearance letter was obtained from Institutional Review Committee of Manipal college of Medical Sciences. Digital informed consent was taken from all the respondents before data collection. Confidentiality and anonymity was maintained by removing personal identifiers and not disclosing information to anyone except for research purpose.

RESULTS

Table 1 revealed that about half (50.9%) of the respondents were below 20 years and 84.7% lived in nuclear family. Majority of the respondents (93.5%), source of information was media (Internet/TV/mobile).

Table 2 showed that majority (89.8%) of the respondents uses Wi fi to get access on online class. Nearly two-third (66.7%)

had class every day and amongst which 48.6% were able to attend the class every day. More than half (57.4%) mentioned the reason for not attending online class was due to electricity cutoff.

Table 1: Socio-demographic characteristics of the respondents n = 216

Characteristics	Frequency (%)
Age (in years)	
< 20	110 (50.9)
≥ 20	106 (49.1)
Mean ± SD	19.62 ± 1.98
Permanent residence	
Metropolitan city	90 (41.7)
Municipality	86 (39.8)
Rural municipality	22 (10.2)
Sub-metropolitan city	18 (8.3)
Ethnicity	
Ungrouped caste(Terai & hilly region Brahmin & Chettri)	92 (42.6)
Relatively advantaged Janajatis (Newar, Gurung, Thakali	64 (29.6)
Disadvantaged Janajati (Rai, Limbu, Magar, Madhesi)	49 (22.7)
Others	11 (5.1)
Type of course	
PCL nursing	120 (55.6)
BSc nursing	96 (44.4)
Year of study	
1st year	57 (26.4)
2nd year	66 (30.5)
3rd year	68 (31.5)
4th year	25 (11.6)
Family type	
Nuclear	183 (84.7)
Joint/Extended	33 (15.3)
History of COVID-19 in family members	
Yes	5 (2.3)
No	211 (97.7)
Source of information	
Media (Internet/T.V/Mobile)	202 (93.5)
Health care personnel	9 (4.2)
Family/Relatives/Friends	5 (2.3)

Table 2: Information regarding the online class n = 216

Characteristics	Frequency (%)
Access for online classes	
Wi Fi	194 (89.8)
Data pack	22 (10.2)
Commonly used device for class	
Mobile	153 (70.8)
Laptop/Desktop	63 (29.2)
Fully oriented with online class	
Yes	204 (94.4)
No	12 (5.6)
Difficulty you feel about in most cases	
Joining	96 (44.4)

Mute/Unmute	85 (39.4)
Recording/unrecording	34 (15.7)
Leave	1 (0.5)
Number of days/week classes scheduled	
Everyday	144 (66.7)
4 – 5 days	70 (32.4)
2 -3 days	2 (0.9)
Number of days/week class attended	
Everyday	105 (48.6)
4 – 5 days	55 (25.5)
2 – 3 days	56 (25.9)
Reason for not attending	
Electricity cutoff	124 (57.4)
Poor network	73 (33.8)
Laptop or mobile not working	12 (5.6)
Balanced finished in data pack	7 (3.2)

Table 3 showed that about one forth (25.5%) have the mixed feelings i.e. sometimes bored, sometimes excitement, sometimes fear and sometimes anger while attending online classes.

Table 3: Attitude of the respondents while attending the online class   n = 216

Characteristics	Frequency (%)
Feeling bored in the online class	
Always	4 (1.9)
Sometimes	55 (25.5)
Rarely	79 (36.5)
Never	78 (36.1)
Feeling excitement in the online class	
Always	4 (1.9)
Sometimes	55 (25.5)
Rarely	79 (36.5)
Never	78 (36.1)
Feeling fear in the online class	
Always	4 (1.9)
Sometimes	55 (25.5)
Rarely	79 (36.5)
Never	78 (36.1)
Feeling anger in the online class	
Always	4 (1.9)
Sometimes	55 (25.5)
Rarely	79 (36.5)
Never	78 (36.1)

Table 4 revealed that about 73.1% of the respondents feel that regular class is more effective than online class. Majorities (88.4%) were not satisfied and want some improvement in online assessment. Among 191 respondents, one forth (25.1%) responded that keeping more MCQs than subjective question can be the better way of evaluation done through online.

Table 5 showed that majority (91.7%) attend online class in their personal room. Nearly one-fourth (24.5%) of the respondents sat on the floor with mattress. More than half (57.4%) locked the door when on the class.

Table 4: Effect/response of online class among the respondents n = 216

Characteristics	Frequency (%)
Break should be given in between online classes	
Always	89 (41.2)
Sometimes	121 (56.0)
Never	5 (2.3)
Discontinue and rejoin in between when class is ongoing	
Always	8 (3.7)
Sometimes	140 (64.8)
Never	68 (31.5)
Effectiveness of online class compared to regular	
Regular class are more effective	158 (73.1)
Both are equally effective	58 (26.9)
Appear any online assessment?	
Yes	211 (97.7)
No	5 (2.4)
Satisfied with online assessment	
Yes	25 (11.6)
No	191 (88.4
If not satisfied, ways to improve (n = 191)	
Exam can be postponed till the end of pandemic	86 (45.1)
More MCQs than subjective question	48 (25.1)
Verbal exam/viva can be taken instead of written	25 (13.1)
Regular assessment can be conducted in exam hall with necessary precautions	15 (7.8)
Online assignment instead of exam	12 (6.3)
Don't know/No idea	5(2.6)

Table 5: Method/Modes used on online class among the respondents   n = 216

Characteristics	Frequency (%)
Duration of computer/mobile used for academic purpose other than online class (hours/day)	
1 – 2	42 (19.4)
3 – 4	73 (33.8)
4 – 6	67 (31.0)
> 6	34 (15.7)
Venue of taking classes	
Personal room/bedroom	198 (91.7)
T.V halls/living room	15 (6.9)
In corridor/baranda	3 (1.4)
Sitting arrangement while attending class	
Table and chair	127 (58.8)
Floor with mattress	53 (24.5)
Bed	27 (12.5)
Sofa/chair	9 (4.2)
Attend class with door locked	
Always	124 (57.4)
Sometimes	80 (37.0)
Never	12 (5.6)
Allow family members to enter room during class	
Always	12 (5.6)
Sometimes	129 (59.7)
Never	75 (34.7)

Table 6 notified that majority (82.4%) of the respondents stated that they have musculoskeletal problem than usual once the online classes started. Among them, more than half (52.3%) were having back pain. About 1/3rd (32.4%) of the respondents have problem since 3- 4 months.

Table 6: Problems faced by the respondents due to online class
n = 216

Characteristics	Frequency (%)
Muscular skeletal problem faced after online classes	
Yes	178 (82.4)
No	38 (17.6)
If yes, type of problem (n = 178)	
Back pain	93 (52.3)
Neck pain	60 (33.7)
Shoulder pain	21 (11.8)
Elbow pain	4 (2.2)
Duration of suffering (months) n = 178	
< 1	23 (12.9)
1 − 3	79 (44.4)
4 − 5	76 (42.7)
Improvement after medication/therapy (n = 178)	
Yes	131 (73.6)
No	47 (26.4)
Any other health problems faced after online classes	
Yes	150 (69.4)
No	66 (30.6)
If yes, type of problem (n = 150)	
Eye problem (Eye strain, Irritation, Burning)	82 (54.7)
Headache	50 (33.3)
Gastritis	13 (8.7)
Constipation	5 (3.3)
Duration of suffering (months) (n = 150)	
< 1 months	30 (20.1)
1 − 3 months	71 (47.3)
4 − 5 months	49 (32.6)
Medication/therapy to get relief (n = 150)	
Take medication	68 (45.3)
Eye checkup and use of speck	36 (24.0)
Take rest/relaxation technique	23 (15.3)
Home remedy	11 (7.3)
Nothing	12 (8.0)
Improvement after medication/therapy (n = 150)	
Yes	93 (62.0)
No	57 (38.0)

DISCUSSION

Since the serious outbreak of this global pandemic COVID-19,[9] majority of the countries practiced lockdown. Currently there are in excess of 26 million cases of COVID-19. Social distancing and restrictive movement policies were being implemented to curb this rising curve of cases.[10] This present situation made us implement an alternative and innovative approach in sustaining academics of medical undergraduates through online classes.

Among the class scheduled, 72.9% were able to attend online class every day. More than half (57.4%) mentioned reason for not attending class is due to electricity cut off and 33.8% due to poor network which is in line with study conducted in Pokhara where 63.2% got disturbed on their online classes because of electricity problem, and (63.6%) of internet problem.[11] A study on doctors revealed average attendance for online classes was 96% over a period of 5 months and 79% lost their interest during online classes due to issues with internet connection.[12] Since electricity cutoff/load shedding is one of the major issue concerned with discontinuation of online class so government should addressed this problem promptly.

More than seventy percentages (70.8%) of respondents used smart phone/mobile to get access on online class and majority (89.8%) get connected to internet through Wi fi/Landline internet which was similar to study from Nepal (86.5%).[13] A study from Egypt showed that 64.1% use mobile device for their e-learning and 60.1% had internet facility at home.[14] Most of the students possess a mobile phone, making it most accessible and feasible platform to attend online classes (52%).[12] Since, majority of the respondents were using mobile phone instead of laptop which may have led to different eye problem, headache, etc.

About 83.8% got troubled in proper use of media for online class like joining, mute/unmute while attending online class which is contrast to a study in Nepal with 70.4% have full knowledge on use of media (like joining, recording, mute-unmute, leave etc.).[11]

About 73.1% of respondents felt that regular class is more effective than online class which is similar to study from Pokhara showing 77.51% rated that online classes were not effective.[15] Conventional learning has face to face interactions, motivates one to learn, better interactions among student and teacher and most important a feel of togetherness in learning and sharing opinions.[16] Some of these aspects lack in online learning. A survey conducted in India suggested that although both methods of teaching covered almost equal content of a particular topic yet the students preferred classroom learning for understanding and retention of a topic.[12] In support to these findings some literature also evidenced where students have given preference to face to face classes rather than online teaching.[17, 18] The results is in contrary with a study conducted by Ali et al on nursing students showing 95% found e-learning more useful.[19] To develop the interest of students in online classes' institutes must focus on providing guidance regarding initial instructions, proper time frame, technical assistance, interactive sessions and motivation among the students.

Majority (82.4%) of the respondents started to have musculoskeletal problem than usual once the online classes started like back pain (52.3%), neck pain (33.7%), and shoulder pain (11.8%). Among them, more than one forth (26.4%) of the

respondents' problem didn't get resolved even after different medicine/therapy. The position of the respondents needs to be addressed as their position may be inappropriate to attend the online class.

Other problems encountered by the respondents were eye problem (54.7%), headache (33.3%). One of the reason of facing these problems may be use of small screen device i.e., mobile instead of laptop/computer. So, students attending the online classes should be motivated to use big screen like laptop/computer. Long duration of online classes can cause eye related problems, distraction by social media.[20] About 75% students complained eye related issues like eye strain, epiphora and headache while attending long online sessions.[12]

The study limits the generalization of findings due to non-probability sampling technique. Since, the questionnaire used is online questionnaire so the honesty of answered provided by the respondents may be questionable.

CONCLUSION

Regarding attitude of the online class, respondents have mixed feeling i.e., positive and negative feelings while attaining the online class. The negative feeling can be resolved by addressing electricity cutoff, giving break in between and more interaction in the class. Certain problems faced while in online class like bad posture and positioning which need to be taken in consideration along with use of big screen device (laptop/computer) instead of mobile to sort out musculoskeletal and other problems.

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