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Undergraduate nursing students' attitude towards online classes during lockdown period in India: imposed or interested?

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ABSTRACT

Background: Online classes were never been a part of regular habit in India. But due to corona pandemic every institute is offering online classes whether medical or nursing institutes. Aim was to ascertain the attitude towards online classes among undergraduate nursing students during lockdown period.

Methods: This cross-sectional descriptive survey was conducted on 394 undergraduate nursing students in which samples were chosen through convenient sampling technique. A valid and reliable self-structured questionnaire based on 5 point Likert scale was used to ascertain the attitude of undergraduate nursing students towards online classes and data were analysed using descriptive and inferential statistics in SPSS version 23.

Results: More than two-third (76%) participants showed unfavorable attitude towards online classes. There was a significant difference between age, residence, father and mother education with participants' year of study (p<0.05). Overall mean score for attitude towards online classes was 73.37 (SD±23.52) and there was no significant difference between overall attitude score with participants' year of study. Only one subscale (interest to computer and intention to adopt component) had significant difference (p=0.011) among participants. There was significant association found among gender, mother education and family income with their year of study (p<0.05).

Conclusions: Online classes may have lots of advantages over traditional classes yet it does not seem to be of much interest among undergraduate nursing students in India and they are not willing to consider it on a regular basis. Policy makers should find the way to make online classes more interesting.

Keywords: Attitude, Lockdown, Online classes, Pandemic, Undergraduate nursing students

INTRODUCTION

Technology has proven its major influence on everybody in the world. In fact, life is almost dependent on technology now days. Everything was moving with its own pace. But as the circumstantial lockdown took place perspective of education has been changed. Almost all educational institutions all over the world have evolved new means to reach the students. The Ministry of Human Resources Development (MHRD) is regularly emphasizing on e-learning with the tagline as "Let COVID-19 not stop your learning. Continue with

SWAYAM". ¹ In 2002, ANA has also stated that: "nurses and their employers are jointly responsible for creating an environment in which competent nurses can provide quality outcomes". ²

The concepts of online classes are not new as it has been a part of many academic courses since a long time. Evidences indicate that worldwide many universities are offering online courses for the learners.^{3,4} But it is a new concept in India that overall education either it be primary education or higher studies are shifted or relied on online classes. Although, in the field of health sciences it is not

suitable from the practical point of view where clinical experience is the lifeline of medical profession however it may be helpful for theoretical purpose. Online classes are nothing but playing a supplementary role in present situation.

This pandemic has left no options in front of institutions other than temporarily shut the doors or shift to online classes. Though online classes are adopted as an alternative for traditional classes but they must be the part of futuristic education so that students must be acquainted with technological skills. Online classes have shown an aspect of continuing the academic education. It has been shown in researches that students retain 25-60% more, when they learn online in comparison of 8-18% in traditional classroom teaching and 40-60% less time to learn than in classroom settings.

Moreover, successes of online classes are dependent on learner's ability, their interest in technology and some essential tools required. Beyond the student's attitude, facilitator's attitude is also important to make online learning more interesting. Undoubtedly web-based learning has captured the education globally and it make learning more convenient but country like India does not have online classes as a routine part of their curriculum. Affordability, availability and less knowledge of technology are some important issues which make online classes unsuitable for students in India. 1,5

Current scenario has forced everybody to go online and we have to accept that it is the era of online classes which are offering more comfort, flexibility to adjust schedule, less need of infrastructure and on the other hand some kind of physical strain, more disturbances at home, less space for study and so on. This pandemic has immensely attacked our education system but it has made clear us that education must be continued no matter what kind of mode it could be. It is mandatory to all of us to explore the paths and maximum utilization of technology to disseminate the knowledge.^{1,6}

WhatsApp, zoom and Google meet are some of the apps used for conducting online classes. Some institutions have also developed their own software for online classes. It is almost a new notion for the nursing students to take online classes on regular basis so they were never being evaluated for their attitude towards online classes in this context. Current study is a novice idea on online classes in India rather than e-learning which is more popular for pursuing different short term courses by the learners.

As best of our knowledge previous studies conducted were basically focused on attitude of nursing students towards e-learning under normal circumstances but the present study was themed and attempted with an aim to ascertain the attitude of undergraduate nursing students towards the online classes during the lockdown period in India.

METHODS

This was a multicenter, cross sectional descriptive online survey planned to find-out the attitude of undergraduate nursing students towards online classes as a routine mode of their curriculum during lockdown period. Original data were collected by a self-structured, online Google form, during the month of July 2020. Study population included undergraduate nursing students from first year to fourth year, studying at three nursing colleges of Himachal Pradesh and Rajasthan. We enrolled all the students who were willing to participate and understand English.

We calculated the sample size by using formula

$$\frac{\left(Z_{1-\frac{a}{2}}\right)^2(p)(q)}{d^2}$$

Where p was considered 50% with absolute error of 5%, confidence interval 95%.⁷ The estimated sample size was 385 participants. A total 400 participants were enrolled for the present study. A sample of 394 eligible participants, who met the inclusion and exclusion criteria were selected. Data were collected through Google forms till calculated sample size met.

Ethical clearance from Institutional Review Board of Akal college of Nursing, Baru Sahib, Himachal Pradesh, India was taken vide letter number ACN/IRB/20/044 dated 21.06.2020. Informed Electronic consent was taken from all the participants to participate in the study. Participants were assured for their anonymity and confidentiality.

A self-structured attitude questionnaire was used for the data collection procedure. Final tool included two sections i.e. Section A: Self-structured socio-demographic characteristics which comprised age, gender, year of study, residence, family income, level of computer knowledge and if they have ever attended online classes. Section B: The scale consisted of 27 items under four subscales related to interest in computer and intention to adopt online classes (six items), effectiveness and advantages of online classes (eight items), easiness in using online classes (seven items), and future perspective regarding online classes (six items). Each item was rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) with minimum and maximum score were 27 to 135. Higher score (<90) indicated favourable attitude towards online classes.

The overall content validity of the tool was assessed before administering in the survey, by sending the tool for seven experts and found valid and for internal consistency Cronbach's coefficient of the questionnaire was 0.950, which is considered highly reliable. As participants were instructed to fill the form completely so there were no missing data and we received complete data sheet. Received data were analysed by using descriptive and inferential statistics with Statistical product and service

solutions (SPSS version 23) as per our study objective stated earlier. Categorical variables were depicted in frequencies and percentage and continuous variables were depicted as means and standard deviations for univariate analysis, with bivariate analysis was applied using chisquared test, independent t-test and one-way analysis of variance (ANOVA). These tests were applied to find-out the association and difference between independent and dependent variables. Statistical significance (p value) was set at 0.05 for the tests involved.

RESULTS

A total of 480 undergraduate nursing students were being sent the Google forms on their email IDs and we received 394 (82%) responses back as they submitted it. More than half of the students 211 (53.6%) were female and majority of the participants 188 (47.71%) were in the age

group of 19-21 with the mean age was 20.49±1.88 years and most of them belong to rural community 263 (66.8%). It was surprising that all the participants 394 (100%) rated their level of computer knowledge at average level despite 371 (94%) had experience of attending online classes. There was significant difference found among their age, residence, fathers' education and mother's education with the year of study (Table 1).

Table 2 demonstrates the comparison of total and subscale attitude scores among undergraduate nursing students according to their year of study. Overall mean score for attitude was 73.37±23.52, within a range from 47 to 110. Fourth year undergraduate nursing students had higher attitude score on all subscale and total than other batches. The only significant difference (p=0.011) in context of subscale, was found in the component, interest in computer and intention to adopt online classes.

Table 1: Participants' demographic and background characteristics.

Variables	First year (n=104); N (%)	Second year (n=86); N (%)	Third year (n=116); N (%)	Fourth year (n=88); N (%)	P value	
Age (in years)	(n-104); 11 (70)	(11–50); 11 (70)	(11-110), 11 (70)	(n-00); 11 (70)		
17-19	47 (82.5)	10 (17.5)	-	-		
19-21	51 (27.1)	65 (34.6)	60 (31.9)	12 (6.4)	0.000**	
>21	06 (4.0)	11 (7.4)	56 (37.6)	76 (51.0)	_	
Gender				<u> </u>		
Male	51 (27.9)	51 (27.9) 40 (21.9) 55 (30.0) 37 (20.2)				
Female	53 (25.1)	46 (21.8)	61 (28.9)	51 (24.2)	0.799	
Residence	,	,	, ,			
Rural	88 (33.5)	54 (20.5)	64 (24.3)	57 (21.7)		
Semi-urban	01 (2.1)	16 (33.3)	20 (41.7)	11 (22.9)	0.000**	
Urban	15 (18.1)	16 (19.3)	32 (38.6)	20 (24.1)		
Father's education						
Illiterate	37 (23.0)	37 (23.0)	47 (29.2)	40 (24.8)	0.012**	
Primary	16 (33.3)	15 (31.2)	15 (31.2)	02 (4.2)		
Secondary	20 (40.0)	10 (20.0)	13 (26.0)	07 (14.0)	0.013**	
Graduation and above	31 (23.0)	24 (17.8)	41 (30.4)	39 (28.9)		
Mother's education						
Illiterate	19 (21.8)	19 (21.8)	31 (35.6)	18 (20.7)		
Primary	33 (35.9)	18 (19.6)	32 (34.8)	09 (9.8)	0.000**	
Secondary	28 (40.0)	20 (28.6)	09 (12.9)	13 (18.6)	0.000**	
Graduation and above	24 (16.6)	29 (20.0)	44 (30.3)	48 (33.1)		
Family income (in rupees	per month)					
Less than 10000	30 (36.6)	22 (26.8)	20 (24.4)	10 (12.2)		
10000-20000	27 (27.0)	24 (24.0)	30 (30.0)	19 (19.0)	0.080	
20000-30000	24 (24.7)	17 (17.5)	29 (29.9)	27 (27.8)	- 0.080	
>30000	23 (20.0)	23 (20.0)	37 (32.2)	32 (27.8)		
Level of computer knowle	dge					
Good						
Average	104 (26.4)	86 (21.8)	116 (29.4)	88 (22.3)	-	
Poor						
Ever attended online class	es					
Yes	101 (27.2)	82 (22.1)	108 (29.1)	80 (21.6)	0.294	
No	03 (13.0)	04 (17.4)	08 (34.8)	08 (34.8)	0.284	

^{*}p<0.05 indicates significant differences among participants by demographic profile.

Table 2: Comparison of attitude towards online classes among under graduate nursing students.

Attitudes	First year (n=104) Mean (SD)	Second year (n=86) Mean (SD)	Third year (n=116) Mean (SD)	Fourth year (n=88) Mean (SD)	P value
Interest in computer and intention to adopt	16.52 (6.21)	17.56 (5.83)	18.03 (5.74)	19.20 (4.18)	0.011**
Effectiveness and advantages	19.65 (7.7)	20.41 (7.61)	20.67 (7.3)	21.50 (5.96)	0.368
Easiness in using	18.87 (7.78)	18.74 (6.82)	18.78 (7.23)	19.82 (6.14)	0.693
Future perspective	15.15 (5.74)	15.83 (5.63)	16.26 (5.7)	16.84 (4.62)	0.183
Total	70.21 (25.72)	72.56 (24.06)	73.75 (24.26)	77.37 (18.51)	0.207

^{*}p<0.05 indicates significant differences among participants' attitude

Table 3: Association among participants' characteristics and attitude towards online classes.

Gender Male 70.74 (25.15) -2.053 0.041** Female 75.64 (21.81) -2.053 0.041** Age (in years) 17-19 73.15 (22.69)	Variables	Mean (SD)	t value/ F value	P value	
Pemale 75.64 (21.81)					
Female 75.64 (21.81) Age (in years) 17-19 73.15 (22.69) 19-21 71.93 (25.12)		70.74 (25.15)	2.052	0.041**	
Age (in years) 17-19 73.15 (22.69) 19-21 71.93 (25.12) 75.26 (21.68) 0.839 0.433 0.433 0.435 0.4	Female	` '	-2.053		
17-19	Age (in years)				
Name		73.15 (22.69)			
No. 10	19-21	71.93 (25.12)	0.020	0.422	
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Second 72.56 (24.06) Third 73.75 (24.26) Fourth 77.37 (18.51) Residence Rural 72.55 (24.84) Semi-urban 72.79 (20.93) Urban 76.30 (20.42) Father's education Illiterate 73.50 (22.79) Primary 68.10 (31.01) Secondary 70.00 (24.32) Graduation and above 76.32 (20.62) Mother's education Illiterate 72.27 (22.20) Primary 67.27 (28.92) Secondary 74.75 (23.55) 3.574 0.014** Graduation and above 74.75 (23.55) 3.574 0.014** Family income (in rupees per month) Less than 10000 63.32 (29.56) 10000-20000 78.96 (18.69) 20000 - 30000 74.11 (21.30) >300000 75.04 (22.30) Level of computer knowledge Good Average 73.37 (23.52) Poor - Ever attended online classes Yes 73.39 (23.87)	Year of study				
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Transpar Transpar	Semi-urban	72.79 (20.93)	0.017		
Illiterate	Urban	76.30 (20.42)	0.817		
Primary 68.10 (31.01) Secondary 70.00 (24.32) 1.869 0.134 Graduation and above 76.32 (20.62) Mother's education Illiterate 72.27 (22.20) Primary 67.27 (28.92) 3.574 0.014** Secondary 74.75 (23.55) 3.574 0.014** Graduation and above 74.22 (19.51) Family income (in rupees per month) Less than 10000 63.32 (29.56) 10000-20000 78.96 (18.69) 20000-30000 74.11 (21.30) 7.437 0.000** Level of computer knowledge Good - Average 73.37 (23.52) Poor - Ever attended online classes Yes 73.39 (23.87)	Father's education				
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Graduation and above 76.32 (20.62) Mother's education Illiterate 72.27 (22.20) Primary 67.27 (28.92) Secondary 74.75 (23.55) 3.574 0.014** Graduation and above 74.22 (19.51) Family income (in rupees per month) Less than 10000 63.32 (29.56) 10000-20000 78.96 (18.69) 7.437 0.000** ≥30000 75.04 (22.30) 7.437 0.000** Level of computer knowledge Good -					

^{*}p<0.05 indicates significant association among participants' attitude and demographic profile

Figure 1 shows that little more than two third of undergraduate nursing students (76%) had unfavorable attitude towards online classes.

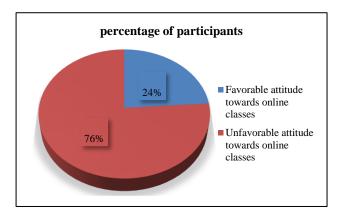


Figure 1: Overall attitude of undergraduate nursing students towards online classes.

The association between total mean attitude scores of participants towards online classes and their sociodemographic variables are shown in Table 3. Independent t-test revealed that female students (75.64±21.81) had more positive attitude towards online classes than male students (70.74±25.15) with (p=0.041). The results of one-way ANOVA test showed significant association between mother's education and attitude (p=0.014). Furthermore, family income and attitude towards online classes was also found significant (p=0.000) (Table 3).

DISCUSSION

Worldwide spread of corona pandemic has imposed so many limitations on every aspect of life so how can education be spare from it. But as human nature is always so curious and creative and nothing can stop its journey. This pandemic has slowed down the speed of education but taught the world different aspects of experimentation. So the new trend has started in India is of online classes now.

As, we could not be able to retrieve much data specifically related to attitude of undergraduate nursing students towards online classes during this pandemic. Most of the studies assessed the attitude towards elearning, within different educational background like MBBS, dentistry, academic undergraduates and under normal circumstances, which depicted mixed results. Some of them showed favourable and others showed unfavourable propensity towards e-learning.^{2,3,9-13}

More than half of the participants were female and belong to rural background. Similar results showed in a study conducted by Abbasi et al on MBBS and BDS students and in Malaysia by Omar et al where majority of the participants (64.1%) and (53.7%) were female respectively. In contrary Ali et al conducted a study on nursing students in which majority of participants (86%)

were females.² Similarly study conducted by Xing et al also had majority of female nurses (99.1%) as the study participants.¹⁰

In the best of our knowledge during the literature search we did not come across such a study that compared the attitude of both male and females towards online classes. The results of independent-t test showed that females had more positive attitude towards online classes than males. So, more studies must be conducted to differentiate the attitude of both genders.

Study finding showed that there was significant difference between fourth year and other batches. Fourth year students were more interested in computer and intended to adopt online classes in compare to other students. It might be due to they became more familiar to the technology during their course as they have to complete research project, seminars and some other educational activities for the partial fulfilment of degree requirement.

The results of current study highlighted that students appreciated online classes as the proper utilization of pandemic time only, but 76% showed unfavorable attitude towards online classes. Similar results showed by a study conducted by Ullah et al that majority of undergraduate students had less interest in computer and acquisition of knowledge through online learning. 11 Same results was presented by Abbasi et al where 77.4% students had negative perception towards e-learning.8 In support of these findings some literature also evidenced where students have given preference to face to face classes rather than online teaching. 12,13 The results is in contrary with a study conducted by Ali et al on nursing students showed that 95% of them found e-learning more useful.² Also similar results presented by Akimanimpaye et al in a study conducted on undergraduate nursing students where students showed favorable attitude towards e-learning.³ A study conducted in china by Xing et al between rural and urban nurses is also supporting the positive attitude of rural nurses towards online learning with (102.7±14.2) scores. 10 Similarly study conducted by Singh et al on efficacy of conducting digital lectures on gross anatomy showed acceptance of students towards digital learning. 14 Mamattah presented that students were more satisfied in e-learning rather than face to face learning.¹⁵ Another study conducted by Maheshwari et al. also supported the students' satisfaction level towards elearning.¹⁶

This pandemic has shifted all the education on web based learning though this time will be over and traditional classes will resume their role but all we have to incorporate is some of the required changes in our curriculum. Practical computer classes must be included in every educational institution and we must have to make our students technically sound.

A study conducted by Smart et al on students perceived that for 83% students, that was their first online module and they reported lack of technological knowledge waste their time more. Study conducted in Iran also analysed that major disadvantage considered by students of pursuing online classes was technology issue. A study conducted by Ali et al on nursing students also showed that 61% students think that technology is making them lazy. These findings corresponding with our study where all students (100%) rated their computer knowledge on average level and find online classes inconvenient in terms of less technical knowledge. These results are not aligned with a study conducted by Oyewumi et al on nursing students where 92.6% agreed that e-learning makes them more skillful.

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.

In our study majority of students' perceived learning is disturbed by the group. Similar finding stated in a study that lack of experience in group-based learning leads the students towards dissatisfaction.¹⁹ These results are not aligned with a study conducted by Oyewumi et al on nursing students where 91.7% believed that group size does not affect learning.¹⁸

For making online classes more fascinating instructors must be trained to control the large groups and equipped with the technical knowledge to manage the disturbing noises from students by instructing them to off the mike and cameras.

Study also explored that students living in rural area had poor internet bandwidth and less availability of computers at their home place, which leads to unfavourable attitude towards online classes. Studies indicated that computers and internet speed are the basic requirements for online learning. ²⁰⁻²² In less developed areas students still don't have proper internet access with computers, which hold back them from using online classes properly.

The results of our study are highly comparable to other western countries which have shown more positive attitude towards online learning. It might be due to the unfamiliarity of students with the technology as they don't have frequent experience of online access. The findings of the study recommended that government should focus on internet quality, availability of cyber cafes and in the development of more familiar apps.

This study was limited to the undergraduate nursing students only. In addition, undergraduate nursing students were selected through convenient sampling technique that may lead selection bias. Furthermore, all information provided by participants was self-reported. Therefore, results of this study should be generalized cautiously.

CONCLUSION

India is one of the leading sectors in technology with a huge bulk of smart phone users; despite the fact this study has concluded that the attitude of undergraduate nursing students towards the online classes was not favourable. However, using smart phones since a long time, our students are still reluctant towards use of online classes. Definitely there will be some hurdles from both the sides i.e. students and teachers. Provision of computers in the nursing colleges, required technical support and inclusion of e-courses can develop positive attitude among the students. Our futuristic nurses must have interest to be updated with new knowledge and current technologies to accomplish health care expectations.

Recommendations

This study stressed on the need to conduct more studies on assessing the attitude of learners and trainers both towards the online classes. Studies must focus on to explore the barriers and more suitable ways to overcome them.

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Conflict of interest: None declared
Ethical approval: The study was approved by the
Institutional Ethics Committee of Akal college of Nursing,
Baru Sahib, Himachal Pradesh, India (vide letter no.
ACN/IRB/20/044 dated 21.06.2020)

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