



EXPERIENCES OF POST -GRADUATE NURSE STUDENTS REGARDING ONLINE LEARNING DURING COVID-19 PANDEMIC

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ABSTRACT

Background: The emergence of the COVID-19 pandemic resulted in a sudden transition to online learning. However, this new platform presented many challenges for students especially for nursing education programs which are traditionally conducted in a face-to-face learning environment. **Objective:** To assess the experiences of post-graduate nurse students regarding online learning during COVID-19 Pandemic. **Methods:** This descriptive type of cross-sectional study was conducted among 346 respondents from four institutions of Dhaka city from January to December 2021. Respondents were enrolled in the study using convenient sampling technique. Data was collected by face to face interview with a semi-structured questionnaire. **Results:** The mean age of the respondents was 38.3 ±6.0 years. Among the 346 respondents, 82.7% were from urban areas and 88.4% were from private institution. During COVID-19 pandemic, exploring the advantages of online learning 86.1% stated that it always saved time, 85.5% always found it effective way of learning, 80.3% always enjoyed it, 91.9% stated that it always saved transportation cost. However, 34.1% stated that on line learning was not a substitute of traditional learning. One third respondents 32.4% had physical problems during online learning. **Conclusion:** Post-graduate nurse students had positive experience of online learning in the field of flexible time schedule, comfortable, time saving, cost effective, updated, effective way of learning carried out amidst COVID-19 pandemic.

KEYWORD: Experiences, Post-graduate nurse students, Public institution, Private institution, online learning, Technological skill.

I. INTRODUCTION

Corona virus disease (COVID-19), an infectious disease caused by the SARS-CoV-2 virus, is believed to have originated in Wuhan, the capital city of Hubei province. The virus is transmitted mainly via respiratory droplets and/or contact, and human-to-human transmission and family clustering have been reported.^[1] Reported illnesses have ranged from patients with little or no symptoms to patients being severely ill and dying.^[2]

The main clinical manifestations include fever, cough, fatigue, and dyspnea.^[3] As compared to young and middle-aged patients with COVID-19, elder infected patients with chronic co morbidities have an increased risk of developing organ dysfunctions, including shock, acute respiratory distress syndrome (ARDS), acute cardiac injury, and acute kidney injury, resulting in a higher mortality rate.^[4] Globally, as of 21 January 2022,

there have been 340,543,962 confirmed cases of COVID-19, including 5,570,163 deaths, reported to WHO (WHO Corona virus (COVID-19) Dashboard, 2022). In Bangladesh, from 3 January 2020 to 5:55pm CET, 21 January 2022, there have been 1,653,182 confirmed cases of COVID-19 with 28,180 deaths, reported to WHO (WHO, 2022). Bangladesh is the top 38th country the world.^[5]

The pandemic- induced lockdown forced colleges and schools to shut down their campuses and amid this a new reality; online teaching has emerged as a potent tool to support students' learning remotely. To continue the wheels of learning, institutions, worldwide, are switching to online mode of teaching and learning. The practical usage of video conferencing platforms such as WebEx, ZOOM, Google Meet, etc. have been encouraged to support students' learning in all possible manner during

lockdown. However, this unexpected shift to online-learning, while internet is not available in all over Bangladesh and in context where large numbers of learners come from disadvantaged areas or homes, internet accessibility and unaffordable technology is more likely to make learning beyond the reach of many students.^[6]

Like other countries educational institutions in Bangladesh have been shut down where social distancing matters. To ensure uninterrupted education among the students, the Ministry of Education (MoE) has encouraged the teachers to conduct online classes and apart from this, for the free flow of education the concerned authority has started telecasting distant learning programs for the students of schools and colleges. Online education has been mainly focused at higher level of education in the country. In Bangladesh there are 46 public and 105 private universities offering higher education for the students. Besides almost 1500 colleges affiliated to national university of Bangladesh are offering a wide range of courses and programs in higher education.^[7]

However, there are challenges for Online-Learning in Bangladesh. First of all, it is their first experience to get connected with online class, so they are found to be struggling with the proper adaptability with this trend. Secondly, during the shutdown most of the students are staying home in different areas of the country as still in the rural areas internet facilities are hardly found, students use mobile internet which interrupts the online connectivity due to poor internet signal. Thirdly, there are some technical issues like poor literacy on handling computer and smart phone. Moreover students and teachers have to download some apps like Zoom, FoxFi, Audioboo, etc., sometime seem challenging due to not having prior experiences and these apps have limited time to be connected online. Fourthly, time management has been a crucial thing as for example Zoom can each time connect people online for 40 minutes but students take time to respond to the class due to some technical interruptions. When students join at the middle of the class, have the chance to understand a little. Fifthly, it is difficult for the teachers to manage feedback from every individual as well as to let them engaged in materials.^[7]

While all learning is important, nursing education concerns critical decisions that affect humans' health. Nursing education comprises theoretical and practical education to develop nurses' professional skills and knowledge. Previously, these skills and knowledge have been taught through in-person lectures, laboratory instruction, and clinical rotations. The COVID-19 pandemic has demanded alternative strategies to maintain high-quality nursing education. Nursing education has required restrictions on physical contact and moving the bulk of nurses' education-related interactions online.^[8]

Therefore, this study was carried out to assess the experiences of post-graduate nurse students regarding online learning during COVID-19 Pandemic. This study included both students from different backgrounds (such as students from urban and rural areas, students from public and private institutions etc.) to evaluate whether socio-demographic factors had any influence on experience. Moreover, skill in computer was also assessed.

II. MATERIALS AND METHOD

Study Design: The study was a descriptive type of cross-sectional study.

Study place: The present study was conducted in the following institutions

- National Institute of Preventive & Social Medicine (NIPSOM),
- Daffodil international University,
- Northern University
- Atish Dipankar University of Science & Technology,

Study period: The study was conducted one year from 1st January 2021 to 31st December 2021.

Study population: Post-graduate nurse students who were studying during data collection period in mentioned study places.

Sampling Method: Respondents for data collection were enrolled in the study using convenient sampling technique. Sample size was 346.

Eligibility criteria: Post-graduate nurse students of both sexes who were actively involved in online learning at least two (2) months during COVID-19 pandemic irrespective of gender, religion and custom.

Research Approach: At first, purpose of the study was informed to the respondents. A complete assurance was given that all information would be kept confidentially. Informed written consent was obtained from respondents. Informed consent was documented properly. Data was collected by face to face interview in English. The right was being given to the participants not to participate and to discontinue participation at any time in study with consideration/without penalty. Their participation and contribution was acknowledge with due respects.

Data processing and analyses: All the data were checked and edited after collection. Data were then entered into computer, with the help of SPSS for Windows (IBM SPSS Statistics for Windows, version 26). An analysis plan was developed keeping in view with the objectives of the study. Statistical analyses were be done by using appropriate statistical tool.

Data quality management: The data collected from the respondents were analyzed. After completion of data collection, the data were checked and edited manually and verified before tabulation. Data were coded, entered and analyzed in a computer. The statistical analysis was conducted using SPSS (Statistical Package for Social Science) version 26 statistical software.

Ethical issues: The study was done through collection of data using questionnaire and neither any intervention nor any invasive procedures was be undertaken. However, prior to initiation of the study ethical clearance was taken from appropriate Ethical Committee.

III. RESULT

The present cross sectional study was conducted among 346 post-graduate nurse students to assess their experiences regarding online learning during COVID-19 Pandemic. Results were presented in the following sections:

- A. Socio-demographic characteristics of the respondents
- B. Experiences on Technological platform used by respondents during COVID-19 pandemic
- C. Advantages of online learning during COVID-19 pandemic
- D. Disadvantages of online learning during COVID-19 pandemic
- E. Barriers of online learning during COVID-19 pandemic.

Table 1 shows Socio-demographic characteristics of the respondents. Out of total respondents, 168 (48.6%) were from 36-45 years age group, while the mean age of the respondents was 38.3 (± 6.0) years and from them (83.8%, n=290) were female, 268 (82.7%) respondents were from urban areas. According to educational qualification, 72 (22.5%) respondents had Basic B.Sc in nursing, 188 (54.3%) respondents had Post basic B.Sc in nursing. Majority of the respondents (82.7%, n=286) were from nuclear family. Among the 346 respondents, 184 (53.2%) respondents had monthly family income $\geq 50,000$ TK. From the total respondents, 138 (39.9%) were from Daffodil International University, 95 (27.5%) were from Northern University Bangladesh, 73 (21.1%) were from Atish Dipankar University of Science and Technology while 40 (11.6%) were from National Institute of Preventive and Social Medicine (NIPSOM) and from them 306 (88.4%) respondents were from private institution while 40 (11.6%) were from public institution.

Table 1: Socio-demographic characteristics of the respondents (n = 346)

Age (in years)	Frequency (f)	Percent (%)
26-35	130	37.6
36-45	168	48.6
46-54	48	13.8
Gender		
Female	290	83.8
Male	56	16.2
Residence		
Urban	268	82.7
Rural	60	17.3
Educational status		
Basic B.Sc in nursing	78	22.5
Post basic B.Sc in nursing	188	54.3
Post basic B.Sc in PH nursing	80	23.2
Type of family		
Nuclear	286	82.7
Joint	60	17.3
No. of family member		
<4	182	52.6
4	102	29.5
>4	62	17.9
Monthly family income (in TK)		
20,000-29,000	8	2.3
30,000-39,000	64	18.5
40,000-49,000	90	26.0
$\geq 50,000$	184	53.2
Place of study		
Daffodil International University	138	39.9
Northern University Bangladesh	95	27.5
Atish Dipankar University of Science and Technology	73	21.1
National Institute of Preventive and Social Medicine	40	11.6
Type of institution		
Private institution	306	88.4
Public institution	40	11.61
Total	346	100.0

Table 2 shows the Experiences on technological platform used by respondents for online learning during COVID-19 pandemic. Among the 346 respondents, majority 286 (82.7%) respondents used smart phone for online learning, 164 (47.4%) respondents used both broadband

and mobile network for online learning, 302 (87.3%) used Google Met while 176 (50.9%) respondent stated that the internet quality was average and 334 (96.5%) respondents gave feedback by assignment.

Table 2: Experiences on technological platform used by respondents for online learning during COVID-19 pandemic (n = 46)

Type of device used	Frequency (f)	Percent (%)
Smart phone	286	82.7
Computer/ laptop	236	68.2
Tab	42	12.1
Internet connection		
Broadband	94	27.2
Mobile network	88	25.4
Both	164	47.4
Communication tools		
Facebook	210	60.7
Google class room	80	23.1
e-mail communication	210	60.7
Zoom	212	61.3
Google Met	302	87.3
Quality of network		
Good quality	164	47.4
Average quality	176	50.9
Poor quality	6	1.7
Method of feedback		
Assignment	334	96.5
Quiz	274	79.2
Item examination	124	35.8
Card examination	98	28.3
Total	346	100.0

Table 3 shows the advantages of online learning by the respondents during COVID-19 pandemic. Majority 242 (69.9%) respondents stated that online learning always had flexible time schedule while 240 (69.2%) respondents stated that they could always actively answer the question. Majority stated that online learning always saved time, was an effective way of learning, useful for availability of lecture, prevent the learning gap, updated with digital technology. More than one fifth 78 (22.5%) stated that sometimes online learning was

useful for group communication. Moreover, 200 (57.8%) stated that online learning was always useful for providing feedback. Again, 184 (53.2%) stated that through online learning they could always interact with the facilitator, most of the respondents (91.9%) stated that online learning always saved travel cost. Among the 346 respondents, 238 (68.8%) always felt it comfortable. Here, 278 (80.3%) stated that online learning was always enjoyable.

Table 3: Advantages of online learning by the respondents during COVID-19 pandemic (n- 346)

Advantages of online learning	Always f (%)	Sometimes f (%)	Never f (%)
Flexible time schedule	242 (69.9)	88 (25.4)	16 (4.6)
Actively answer the question	240 (69.2)	88 (25.4)	18 (5.2)
Saves time	298 (86.1)	38 (11.1)	10 (2.9)
Effective way of learning	296 (85.5)	24 (6.9)	26 (7.5)
Useful for group communication	212 (61.3)	78 (22.5)	56 (16.2)
Useful for providing feedback	200 (57.8)	108 (30.1)	42 (12.1)
Useful for availability of lecture	278 (80.3)	48 (13.9)	20 (5.8)
Prevent the learning gap	250 (72.3)	64 (18.5)	32 (9.2)
Updated with digital technology	310 (89.6)	26 (7.5)	10 (2.9)
Interact with the facilitator	184 (53.2)	88 (25.4)	74 (21.4)
Save travel cost	318 (91.9)	24 (6.9)	4 (1.2)

Comfortable	238 (68.8)	82 (23.7)	26 (7.5)
Enjoyment of online learning	278 (80.3)	44 (12.7)	24 (6.9)

Table 4 shows the disadvantages of online learning by the respondents during COVID-19 pandemic. Most of the respondents 300 (86.7%) stated that they had no opportunity in field visit and 224 (64.7%) stated that they had no practical classes. One third of the respondents

116 (33.5%) lost extracurricular activities while 126 (36.4%) respondents lost concentration. Here, 112 (32.4%) respondents had physical problems which included headache, eye problem and neck problem.

Table 4: Disadvantages of online learning by the respondents during COVID-19 pandemic (n- 346)

Disadvantages of online learning	Yes f (%)	Sometimes f (%)	Never f (%)
Opportunity in field visit	22 (6.4)	24 (6.9)	300 (86.7)
Practical classes	32 (9.2)	90 (26.0)	224 (64.7)
Loss of extracurricular activities	116 (33.5)	102 (29.5)	128 (37.0)
Loss of concentration	126 (36.4)	136 (39.3)	84 (24.3)
Had physical problems	112 (32.4)	98 (28.3)	136 (39.3)

Table 5 shows the barriers of online learning by the respondents during COVID-19 pandemic. Out of total respondents, 160 (46.2%) respondents sometimes had interrupted electric supply, 158 (45.7%) respondents sometimes had interrupted internet supply. Majority of the respondents were happy with time allocated (routine) online class (69.9%) and communicated easily with

teacher during online class (76.3%). Device problem was faced by 122 (35.3%) respondents. Majority of the respondents communicated with teacher by email, (86.1%) collected lecture from email (86.7%) and majority 234 (67.6%) respondents had no experience of online learning before COVID-19 pandemic.

Table 5: Barriers of online learning by the respondents during COVID-19 pandemic (n- 346)

Barriers of online learning	Yes f (%)	Sometimes f (%)	Never f (%)
Interrupted electric supply	148 (42.8)	160 (46.2)	38 (11.0)
Interrupted Internet supply	140 (40.5)	158 (45.7)	48 (13.9)
Happy with time allocated (routine) online class	242 (69.9)	80 (23.1)	24 (6.9)
Communicate easily with teacher during online class	264 (76.3)	54 (15.6)	28 (8.1)
Device problems	122 (35.3)	124 (35.8)	100 (28.9)
Communicate with teacher by email	298 (86.1)	46 (13.3)	2 (0.6)
Collect lecture from email	300 (86.7)	46 (13.3)	0 (0.0)
Experience of online learning before COVID-19 pandemic	94 (27.2)	18 (5.2)	234 (67.6)

IV. DISCUSSION

The emergence of corona virus disease 2019 (Covid-19) has led many countries to adopt non-therapeutic preventive measures, which include travel bans, remote office activities, country lockdown, and most importantly, social distancing.^[9] Most universities worldwide transitioned their teaching to distance online learning. Interrupted internet access, absence of face-to-face interaction between students and instructor as well as the lack of traditional classroom socialization are amongst the issues encountered with higher education students.^[10]

The mean age of the respondents was 38.3 (± 6.0) years. Mobile phones, due to their flexibility and portability, became a popular e-learning gadget compared to laptops and computers during the COVID-19 pandemic. In this study, most of the respondents (82.7%) used smart phone

for online learning was also observed in other studies.^[11] Majority stated that online learning always saved time, was an effective way of learning, enjoyable, useful for availability of lecture, prevent the learning gap, updated with digital technology.^[12]

Most of the respondents (91.9%) stated that online learning always saved travel cost. This benefit was also observed in other studies.^[13] However, one third (34.1%) stated that online learning was never substitute of traditional learning while 222 (64.2%) stated that online learning was sometimes substituted of traditional learning. Majority (59.7%) Nepalese nursing students also strongly agreed that face-to-face learning was more effective.^[14] In nursing education, teaching and learning with real patients in a clinical setting is very much essential and it is indeed very difficult to manage with distance e-learning.^[15]

While exploring the barriers of online learning, 42.8% respondents had always and 160 (46.2%) respondents had sometimes interrupted electric supply. Again, 140 (40.5%) respondents had always while 158 (45.7%) respondents had sometimes interrupted internet supply which was consistent with the study of Subedi, et al. (2020). The study of Rana, et al. (2021) and Thapa, Bhandari & Pathak (2021) also found interrupted electric and internet supply were obstacle for online learning. In Iraq, poor internet connection found to be a big challenge.^[16] In India, poor network and connectivity found to be the most disliked elements of online learning.^[6]

V. CONCLUSION AND RECOMMENDATION

Post-graduate nurse students had positive experience of online learning carried out amidst COVID-19. They were satisfied with online learning as it has flexible time schedule, time saver, cost effective, help them to updated with digital technology and comfortable. However, a significant proportion of respondents suffered from disturbances during online classes because of internet, electricity and device problem. If online learning can be made user-friendly with reduced technical barriers, online learning can be the vital alternative teaching method and learning in the nursing field. Special attention should be taken for public institution to improve online learning.

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