A STUDY TO ASSESS FACTORS AFFECTING EFFICACY OF ONLINE CLASSES DURING COVID-19 LOCKDOWN AMONG STUDENT NURSES AND NURSE EDUCATORS OF PUNJAB, INDIA

Hemant Kumar Saini¹, Narendra Kumar Sumeriya², Hemlata Saini³

¹Associate Professor, University institute of Nursing, Jalalabad, West Punjab, India, Email: hemantpushp@gmail.com;
²Professor, Dasmesh College of Nursing, Faridkot, Punjab, India;
³Nursing Tutor, Govt. College of Nursing, Alwar, Rajasthan, India

ABSTRACT:

Introduction: The COVID-19 pandemic significantly disrupted every aspect of human life including the educational system. In the existing education system before the pandemic, online teaching was not a major form of education in schools and universities, therefore most of the teachers have no or minimal experience in online teaching. So, in the context of e-learning during pandemic student's ubiquity and acceptance of the e-learning system should be considered.

Material and methods: The total sample size of this study included 1000 respondents which included staff and students indulged in online classes. Source of data included nursing colleges of Punjab. The primary quantitative data was obtained by self-administered questionnaire through online survey method. The questionnaire was prepared in google forms and the link was shared with the nursing students and staff.

Results: Of the total 1000 respondents, 100 respondents were teachers and 900 respondents were students. About 74% of the participants agreed that e-learning and online contents was an effective method of studying. 91% of the respondents were glad to be updated with digital technology used for taking classes. Further, 68% of the participants agreed that online learning contents were easy to understand and made learning effective. Regarding the perceived obstacles regarding E-learning, participants complained of interrupted internet connection (24%) while 36% complained regarding the electricity issues. Furthermore, they agreed that high internet charge (38%) and load shedding (26%) were the common obstacles.

Conclusion: The findings of studies like ours can be used to improve online instruction delivery and improve educational outcomes in the future if a similar situation arises. Institutions must increase their knowledge and information technology infrastructure to be prepared to deal with COVID-19-like circumstances.

Keywords: COVID-19, pandemic, viral infection.

I. INTRODUCTION:

The COVID-19 pandemic significantly disrupted every aspect of human life including the educational system. The first death due to COVID-19 was reported in India on March 12, 2020. It has affected more than 4.5 million peoples worldwide (WHO). It caused chaos compelling educational institutions to suspend their regular activities. In order to flatten the curve and control the spread of the disease, lockdown and stay-at-home techniques have been implemented.

According to the UNESCO report, it had affected more than 90% of total world’s student population during mid April 2020 which is now reduced to nearly 67% during June 2020. In India, more than 32 crores of students have been affected by the various restrictions and the nationwide lockdown for COVID-19. As per the UNESCO report, about 14 crores of primary and 13 crores of secondary students are affected which are two mostly affected levels in India. In the aftermath of COVID-19, online classrooms became the most effective way of delivering education to pupils. As a result of the nationwide lockdown teachers were compelled to e-learning methods. E-
learning, often known as online education, is the process of acquiring and disseminating knowledge through the use of electronic resources such as the internet, computers, and smart phones. E-learning, when enhanced with audiovisual features, can provide instructional content as well as numerous examinations to support these contents, as well as enable access to vital relevant information. Most importantly, it provides an interactive environment for students and the faculty.

In the existing education system before the pandemic, online teaching was not a major form of education in schools and universities, therefore most of the teachers have no or minimal experience in online teaching. So, in the context of e-learning during pandemic student's ubiquity and acceptance of the e-learning system should be considered.

Nursing education in the developed countries has already incorporated online learning into their nursing curricula, but in developing countries like ours it still remains a challenge both for students and staff. Existing literature shows that nursing students found this pandemic moderately stressful. This was exacerbated by personal issues among students, such as older students with family responsibilities, inadequate technological accessibility, and poor performance in online exams.

Due to the uncertainty of the future in the short-term control of COVID-19, nursing students' perceptions of e-learning must be understood in order to improve their learning experience in the coming academic year. Therefore, this study was conducted to assess factors affecting efficacy of online classes during covid-19 lockdown among student nurses and nurse educators of Punjab, India.

II. MATERIAL AND METHODS:
The study design was descriptive study which mainly focused on the nursing teachers and students of Punjab. The primary objective of the study was to assess the outlook of nursing students and teachers regarding e-learning. Secondary objectives included assessment of benefits, effectiveness and various problems faced both by the students and teachers while learning through electronic media.

Sample size and source: The total sample size of this study included 1000 respondents which included staff and students indulged in online classes. Source of data included nursing colleges of Punjab, which were randomly selected according to the researcher’s feasibility. The required ethical clearance was obtained prior to commencement of the study. Purpose and objectives of the study were clearly explained in the questionnaire form. The study subjects were well informed about the study and its objectives. All those respondents who were willing to be a part of this study were included in our sample.

Study instrument: The primary quantitative data was obtained by self-administered questionnaire through online survey method. The questionnaire was prepared in google forms and the link was shared with the nursing students and staff. The total duration of the study was two months from February to April 2021. Those participants who provided their consent to participate were asked to continue to fill the form. They had to click on a proceed button for a response that they have gone through the consent form and agreed to participate in the study. Privacy and confidentiality of records was strictly maintained throughout the study.

III. STATISTICAL ANALYSIS:
All collected data were organised and checked for accuracy, completeness, and consistency. Data were analyzed using the Statistical Package for Social Science (SPSS) version 21. Data were analyzed and interpreted using descriptive statistics like frequency, mean, percentage, and standard deviation.

IV. RESULTS:
Of the total 1000 respondents, 100 respondents were teachers and 900 respondents were students.

Demographic details of Teacher population (n=100):
Majority of the teacher respondents (56%) were from the age group 30 to 35 years of age with a mean ± SD age of 32.4 ± 1.5 years and majority were females (88%). 86% of the respondents resided in urban areas. Majority (95%) the teaching staff had never participated in e-learning before this pandemic and had their first time
experience. It was found that 78% of the respondents used mobile phones for their e-learning and 92% used Wi-Fi as a source for internet. (Table 1)

**Demographic details of student population (n=900):**

Among a total of 900 student population, majority (54%) of the respondents were of age group 20-24 years. Gender distribution showed that majority of the respondents were females (89%) and 55.8% of them were perusing BSc nursing. More than half of the respondent’s (53.6%) were from middle class families with income per month was less than Rs. 40,000. It was found that 72.2% of the respondents used mobile phones for their online classes and 92.2% used Wi-Fi as a source for internet. None of the student (100%) participants had ever participated in online classes before this pandemic. (Table 1)

**Table 1: Sociodemographic details of participants**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>TEACHER POPULATION (n=100)</th>
<th>STUDENT POPULATION (n=900)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (most common)</td>
<td>30 to 35 years</td>
<td>20-24 years</td>
</tr>
<tr>
<td>Gender (m:f)</td>
<td>Males:12%</td>
<td>Males :11%</td>
</tr>
<tr>
<td></td>
<td>Females:88%</td>
<td>Females: 89%</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>Middle class and upper middle class</td>
<td>Lower middle and middle class</td>
</tr>
<tr>
<td>Source of e-learning</td>
<td>Mobile phones:78%</td>
<td>Mobile phones:72.2%</td>
</tr>
<tr>
<td></td>
<td>Laptops:20%</td>
<td>Laptops: 27.8%</td>
</tr>
<tr>
<td></td>
<td>Tablets:2%</td>
<td></td>
</tr>
<tr>
<td>Major Source of internet</td>
<td>Wifi: 92%</td>
<td>Wifi: 92.2%</td>
</tr>
<tr>
<td>Past e-learning experience</td>
<td>No :95%</td>
<td>No: 100%</td>
</tr>
</tbody>
</table>

About 74% of the participants agreed that e-learning and online contents was an effective method of studying. 92% believed that this method was effective in time utilization during lockdown to cope up with present COVID-19 situation and keeping in mind the future lockdowns.

Among the advantages, 91% of the respondents were glad to be updated with digital technology used for taking classes. Further, 68% of the participants agreed that online learning contents were easy to understand and made learning effective. 78% of the participants were of the opinion that online class saves time, and can be conducted according to their convenience, and even they take care of their family side by side. 76% were of the opinion that it reduces travelling cost and risks. 69% of the teachers gave assignments always to their students after online class, and corrected and reverted back also.

![Figure 1: Advantages of e-learning](image)

Regarding the perceived obstacles regarding E-learning, participants complained of interrupted internet connection (24%) while 36% complained regarding the electricity issues. Furthermore, they agreed that high internet charge (38%) and load shedding (26%) were the common obstacles. Regarding usage of e-platforms, 21% did not have full knowledge regarding media and its usage for online education. 36% complained regarding
increased screen time due to these e-learning methods with common complaints being suffering from eye problem/headache. Furthermore, 58% agreed to the fact that they got disturbed during online class because of students leaving and joining in between their class. 28% of the teacher respondents specifically mentioned that they were not able to satisfy their student's queries through online classes. Almost 34% participants were not able to have good communication with students every time during online class. While 69% of the teacher respondents complained that did not get desired response from students when they are asked question in between online class and its difficult to keep a check on their activities.

Figure 2: Obstacles faced due to e-learning methods

Overall, 69% of the participants were happy and satisfied with the e-learning methods during this tough COVID times. While about 31% of the participants strongly agreed that face-to-face learning was more effective as it imparts better interaction and helps in easy group assignment through face-to-face learning.

V. DISCUSSION:
The lockdown has compelled many educational institutions to cancel their classes, examinations, internships etc. and to choose the online modes. Initially, the educators and the students were quite confused and didn’t understand how to cope up with the situation of this sudden crisis that compelled closure of the educational activities. But latter on all realized that the lockdown has taught so many lessons to manage with the emergence of such pandemics. Our study focused on nursing staff and student's attitude and perception of e-learning during COVID-19 pandemic. We observed that 69% of the participants were happy and satisfied with the e-learning methods during this tough COVID times. 74% of the participants agreed that e-learning and online contents was an effective method of studying.

Rana S et al in their study on examining the perception of online learning among nursing students reported that more than half (56.9%) participants had positive perception of online learning. 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. Age, enrolled nursing program and device used were statistically significant with perception of online learning. 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.

In another study by Mohammed Amin Almaiah on “Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic” shows that technological factors were also one of the critical factors that affect the usage of e-learning system according to respondents which were similar to this study that more than half of the students (63.2%) got disturbed for their online class because of electricity problem, and (63.6%) because of internet problem. Likewise, almost half of the teachers (42.3%) got disturbed for their online because of the electricity problem, and (48.1%) because of the internet problem.
Subedi S et al in a similar study to assess the impact of E-learning during the COVID-19 pandemic among Nursing students and teachers of Nepal reported that almost half of the teachers (42.3%) got disturbed for their online class because of the electricity problem, 48.1% because of internet problems. More than half of the students (63.2%) were affected because of electricity and 63.6% internet problem, only 64.4% of the students had internet access for their online classes. However, 64.3% of students used data pack for their online class, 58.4% used mobile (cell phone), and there is a significant association of Selected Demographic variables of the respondents with most of the Statements (Attitude and Problems/Activities)\(^7\).

In yet another study, Suvashri Sasmal et al reported that 70.95% of the nursing students had indifferent perception, whereas only 14.07% possessed unfavourable perception towards E-learning. Compared with the indifferent percentage the participants with favourable perception was very less i.e. only 14.98%. We also found perception of E learning has no association with demographic variables but significant association is there between gadgets used to attend E learning. They concluded that Nursing faculties need to address the student’s perception towards e-learning so that efforts can be directed towards improving their learning experience\(^8\).

COVID-19 has impacted immensely to the education sector of India. India is not fully equipped to make education reach all corners of the nation via digital platforms. Our findings are expected to bring new insights into the discipline of nursing, which has traditionally depended on physical learning in real-life settings such as labs and wards to transmit hands-on knowledge and skills. Even if the COVID-19 problem lasts longer, there is a pressing need to maximize the use of online platforms so that students can not only finish their degrees this academic year but also prepare for the future digitally oriented environment.

**VI. CONCLUSION:**

The findings of studies like ours can be used to improve online instruction delivery and improve educational outcomes in the future if a similar situation arises. Institutions must increase their knowledge and information technology infrastructure to be prepared to deal with COVID-19-like circumstances.

**REFERENCES:**