

“Nursing Students’ Perspective on Advantages, Challenges and Recommendations for Virtual Learning during COVID-19 Pandemic: A Qualitative Study”

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Abstract

Background: During Covid-19 pandemic, educational institutions in India have started online learning. The present study explores the advantages, challenges and recommendations for improving virtual learning from nursing students of a nursing institute in Kolkata. **Methods:** This qualitative study was conducted from May 2020 to June 2020. Purposive sampling was done. Four students from each category like B.Sc. Nursing, Post Basic B.Sc. Nursing & M.Sc Nursing students were included until data saturation achieved. Individual interview was done through telephonic interview. In-depth interview was conducted using semi-structured interview schedule. Data were transcribed and thematically analyzed using MAXQDA software version 2020. **Results:** Qualitative data analysis leads to extraction of 31 codes and the highest frequency of code was related to loss of internet connectivity. The advantages of virtual learning were flexibility, student centered learning, regularity and challenges involved inadequacy, financial burden & health problem etc. The recommendations were proper assessment, monitoring, training & adequate teaching etc. **Conclusion:** Virtual learning has many advantages and limitations too. If we take proper steps to resolve the challenges then it is a very good teaching method mainly during pandemic situation.

Keywords: Virtual learning, Covid-19, Nursing students, perspective, qualitative study.

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INTRODUCTION

Advancement in information technology and easy access to internet over the past decade has led to new educational delivery model like e-learning. E learning is becoming a significant approach of imparting education in higher educational institutions.

COVID-19 has been declared a Public Health Emergency of International concern. In India, according to Ministry of Home Affairs, the school and colleges are totally shut from March 2020 and online classes started [1]. This online teaching was going on for nursing education too.

This shutdown stimulated the growth of online educational activities so that there would be no interruption to education.

India’s apex regulatory body of higher education, University Grants Commission (UGC), has

taken the present educational scenario very seriously and put some efforts proactively to resolve the deadlock of completing courses and examinations in on-going semesters as well as issued circular regarding the academic calendar after the recommendations of one of the committees constituted by UGC itself. It has also become mandatory for all the universities in India to complete the 25% syllabus through online teaching mode and 75% face-to-face interaction [2].

Many faculties have been involved in how best to offer online course material, involve students, and perform evaluations [3]. This was a difficult time for the educational sectors to deal with the current situation; professional education, particularly skill based education, was more challenging.

Online nursing teaching has challenges, such as providing nursing students with online authentic learning experiences that relate to real- world nursing situations. Faculties have to be given support and

sufficient time to develop effective course, with adequate assessment for the students, for ensuring the quality of online nursing education⁴. A study to compare perception of students toward online learning and face to face learning indicated that face to face learning perception was higher than online in terms of social presence, social interaction, and satisfaction [5].

Very few studies have been done on the challenges faced by students during attending virtual class so, challenges are not fully known. Maximum study mainly explored the challenges of students from general discipline. So there is a lack of understanding regarding challenges of nursing students during attending virtual classes. Few studies which are available mainly conducted in developed countries so there is a lack of in-depth understanding about challenges faced by nursing students from Indian Socio-cultural context. It is obvious that the findings will be different from developed country to developing country. So there is inadequate knowledge in many regard.

In the current scenario virtual classes are utmost important for nursing students and techniques of teaching nursing students are different from general students as the specific needs are different. So to make the classes more effective adequate assessment of the students issue is very important.

Before implementing any intervention to improve the quality of virtual classes we need to know the different challenges and issues faced by the students. In-depth knowledge about the challenges and issues faced by the students may lead to develop strategies to overcome these challenges and improve the quality of virtual classes. I think the findings of the study may contribute to improvement of online education and that is why this study is chosen. The main objective of the study is to explore the advantages, challenges and recommendations for virtual learning among nursing students.

METHODOLOGY

Qualitative design is chosen for this study because very little is known about this issue and to know students' opinions & suggestions textual information is necessary. The study is conducted in a nursing college of West Bengal rendering nursing courses like B.Sc., Post Basic B.Sc. and M.Sc. Nursing. The college is affiliated to the West Bengal University of Health Sciences, West Bengal Nursing Council and Indian Nursing Council. Permission was taken from the head of institution. The study was approved by the Ethics committee and informed consent is taken from the participants for each interview and voice recording. The purpose of the study was explained to all the participants before taking consent. The participants were assured of the confidentiality of the data. In addition, the recorded interviews were kept in a safe

place and were only accessible by the researcher. Participants were selected through purposive sampling and each participant was contacted through telephone and prior appointment was taken for telephonic interview. In-depth interview was conducted using semi-structured individual technique among 3-4 students in each year from each course until data saturation. Various groups of students in terms of age, academic year and experience of learning in the college were used in order to achieve deep and extensive data. Data were collected during May 2020- June 2020. All interviews were conducted in regional language. In-depth interview guide was prepared and validated by qualitative research experts. The interview was done with questions like what is your experience on virtual learning? Exploratory questions were asked during the interview, such as did you ever faced any challenge? Please explain more regarding your problem, do you have any suggestions to improve the virtual learning methods? The researcher who collected data was also a qualitative research expert. Each interview was recorded and immediately transcribed after the end of the interview sessions.

DATA ANALYSIS

All the interviews were analyzed simultaneously using MAXQDA 20. This process involves open coding, creating categories, and abstraction. First, the recorded interviews were written, each interview was reviewed several times and the initial codes were identified. The researcher also reviewed the written text line-by-line, word-for-word, and allowed the code to be created freely. In the next step, the codes that were semantically similar were placed in the same category. These categories were then classified as larger categories. The purpose of grouping was to reduce the number of classes by merging similar or non-similar classes within broader categories. Finally, the classes were abstracted at an interpretive level in order to reveal their implicit meanings and main themes.

Data Trustworthiness

Long-term participation with the participants was done to ensure the accuracy and reliability of the data. After extracting the initial codes, participants' opinions were taken for the accuracy of the codes and their interpretations. In case of any disagreement; the codes were modified and were sent to qualitative research experts for agreement on the selected codes and categories. In order to obtain generalizability across population, the results of the research were presented to a number of students who had not participated in the study and asked for judging the results and their own experiences. The quality assessment of present study was done using criteria for reporting qualitative consolidated research (COREQ-32).

RESULTS

The participants consisted of twenty-four nursing students. The students in the second, third and fourth year basic B.Sc. nursing were aged 18-23 years, the M.Sc. nursing first & second year students were aged 26-34 years and the students of post basic B.Sc. nursing first & second year were aged 25-32 years. One post basic first year & one post basic second year student did not participate in the study. In total, ten basic B.Sc. nursing students, six post basic B.Sc. nursing students and eight M.Sc. nursing students included in the study. Data saturation achieved after interviewing of 24 students. Interview time ranged from 25-45 minutes.

Advantages of virtual learning

Theme-1: Flexibility

1.1. Lectures at convenient time

Online class usually conducted at convenient time of teacher and students. R-1: Online class timing is not so rigid that it has to be in day time only. One day I had an urgent work at 11am and I requested my teacher to postponed class for 2 hours then she agreed to do that.

1.2. No physical attendance

The participants of this study clearly preferred face to face traditional class. Exceptions to this thinking are provided by students who have lots of family or work responsibilities other than studies alone.

One senior student stated the following

R-9: "I feel great relief because this type of learning does not require physical presence. To me that is the most important advantages because I can study in my own space, I can spend time with my family. I can better balance student & family life."

1.3. Save time

Online learning saves time because the student and faculty do not use transportation.

R-2: During virtual learning I got huge time to read. Many days, morning time I was free and studied well and afternoon time used to do virtual class. After my duty I get enough time to read during virtual class.

Theme-2: Student centered learning

2.1. Self directed learning

In virtual learning students take the responsibility of their learning.

R-2: The online learning enables me to become self-directed learner and I am more independent because this time we cannot ask everything to a teacher. I use many resources to solve problem and became knowledgeable and confident. Now I encourage my friends to become self-learner and I help them.

Theme-3: Supportive environment

3.1. Family involvement

Some parents usually take an important part during virtual classes by encouraging and motivating their children.

R-7: My parents are concern about my class, they provide their phone even when I faced problem and they give their room for my class purpose also. They are also concern about the money which is required for recharging the data in the Mobile. I am getting more support from my family for my study during this pandemic.

Theme-4: Regularity

4.1. Course completion

During Covid-19, virtual learning helped in course completion. Learner got helped for their lesson through this.

R-2: Classroom teaching was prohibited during Covid-19 pandemic. We were so tensed by thinking that how we will gain knowledge? But our teacher took initiative to teach through online class. I am thankful to our teacher that they have almost completed our syllabus through virtual classes.

4.2. Maintain continuity of teaching & learning

Learner and teacher both want continuity of learning that is why virtual learning was initiated during Covid-19 pandemic.

R-1: Covid-19 stopped classroom teaching which results interruption of teaching learning process. We could learn something through virtual class. It was very much helpful for us because continuity of learning was possible. All the students were in touch with their study material and class through virtual class.

Challenges

Theme-1: Inadequacy

Category-1: Student related factor

1.1.1. Lack of learning environment at home

The environment of a classroom is integral to learning and it should be conducive for learning to be effective. Classroom should have minimum distraction so that students can concentrate. In virtual learning learning teachers cannot monitor the body language of the students and ensure their focus on learning. One student shared their views as follows:

R-6: "I do classes in presence of family members because at my home only one room is there. During class some disturbances are there because of

this. Sometimes my mother asks me to do household chores. Sometimes I see my mother facing problem while doing some chores and automatically I get up to help her. This creates disturbance in my focus in the class. My sister also attends classes sitting in the same room which creates problems for both of us."

1.1.2. Lack of self- motivation

In adult learning self-motivation is very important. Moreover, it becomes even more essential in virtual learning. Lack of self-motivation does not allow learning in an individual. In virtual learning, teacher does not play a direct role as motivator which is usually the case in traditional learning. Participants expressed their views about lack of motivation:

R-15: "In virtual learning I have concentration problem. I try to put my whole concentration but after sometimes I lose concentration. I draw during class & somehow I go out of track during class. I think because I am not able to see madam that is why I am losing attention. In traditional class I used to be very attentive. In traditional class madam is our motivational force. Actually some teachers never ask questions about the previous class so I have no motivation regarding class/study".

1.1.3. Lack of interaction

Daily interactions with teachers and peers improve student's skills to deal with others and teach them how to live in a society. Through group interaction they improve communication skills. One student stated the following:

R-5: "Group interaction is not enough in virtual learning because if one student keeps the speaker on and that time if a second person gets on the speaker then the voices become clumsy/inaudible. There is also lack of group discussion. In traditional class if we don't understand anything then we discuss with each other till understanding takes place. In virtual learning if we miss anything then we have to tell madam that please send notes and if madam sends notes then only, we write & read it repeatedly for understanding. Sometimes direct interaction is not possible with madam because class is time bound so before asking questions, we think about that and face problem"

1.1.4. Lack of computer literacy

Computer literacy is essential in virtual learning. Teachers should have professional development and training opportunities to learn how to teach through computer as well as assist students how to use these platforms and technologies. One student shared her views as follows:

R-10: "We faced technical problems while attending virtual learning so many times. Initially both teachers & students faced a lot of problems related to mobile handling & presentations for class. But

afterwards we became habituated and learned how to deal with the problems but few students still face problems. They don't know how write questions in a chat box..."

1.1.5. Loss of connectivity

With faulty or nonexistent internet connection, students could not attend online classes. Many students faced this problem one student shared their views:

R-3: "Due to network problem sometimes, we can't follow the teacher's voice clearly. Technical difficulties also were there due to which the slideshow during presentations gets hanged so presentations can't be given properly. I could see the slide but the teacher & other students were unable to see the slide. This happened many times. Sometimes, because of this some classes were postponed for 1-2 days."

1.1.6. Lack of comprehensive understanding

Lack of motivation is usual in virtual learning and it results lack of comprehensive understanding. The online teacher should be ready to help learners who lack the required understanding. One student shared her views as follow:

R-1: "In traditional learning teacher can look after all the students at a time, interaction is more and the teacher can explain directly. In traditional learning teacher can make out whether the student understood or not. In virtual learning students are more passive, interaction is less and teacher can't make out whether students understand the matter or not."

1.1.7. Ineffective communication

Ineffective communication can arise at all stages of the virtual learning. The main barrier of communication is because of lack of access with the teacher & lack of two way communications. One student shared her views as follow:

R-2: "Sometimes we feel communication problem because once it so happened that all of us started talking at the same time so effective communication did not take place. Sometimes some students only joined to give attendance in the class but they do not attend the class and when it comes to the knowledge of the teacher then the class environment gets disturbed and we are not able to interact properly. Suddenly many students started talking with each other or started asking questions at a time so the session became chaotic & communication in the class becomes ineffective."

1.1.8. Unavailability of educational gadgets

From an instructional perspective, educational technology/gadgets sound great. If any problem arises in educational gadgets then virtual learning is not possible. One student shared her views as follow:

R-10: "Many of our friends use mobile for attending classes but after attending two classes mobile charge gets used up. If they had to attend more classes then they need to use another mobile which is not possible always. So student attendance usually reduces for classes held at the end of the day. As students are staying in hostel because of their duty so many students can't use laptop & mobile both so if they attend two hours class in morning then they can't attend afternoon classes because their mobile data finishes up & mobile screen gets hanged. This problem happened very frequently too for many of us."

1.1.9. Feeling isolated

Teacher need to embrace new strategies to support the social and emotional wellbeing of students during distance learning. Participant 15 shared their views as follows:

R-15: "Actually we feel isolated in virtual learning but in traditional class by seeing everybody we felt good & we can share our problems with friends. But in virtual learning we miss physical presence of our friends and teachers and effective interaction does not took place so, I feel isolated and stressed out."

1.1.10. Security issue

Online learning must consider the security risks of the internet, such as identity theft and inadequate authentication. Online activities pose the risk of cyber criminals hacking into education/learning system. It is usually the concerns of both learners & teachers. One student shared their views as follow:

R-9: "I felt security problem because ZOOM is not safe. I read from the newspaper and social site that ZOOM is not safe. We had used zoom for a few days then we stopped it fearing that my accounts may get hacked."

1.1.11. Lack of real time experience

"R-16: Our course is practical oriented course but we are not practicing in practical field. Thus, we are unable to apply our theoretical knowledge to practice. In practical area we used to get real problem and teacher used to helped us to solve that problem. Now, no practical experience so we are lacking real time experience. Without the clinical training, we can't acquire competencies. I don't feel prepared as a nurse. The clinical training has been postponed temporarily and it bothers me because I have doubts whether I will get a job or not?"

1.1.12. Lack of development of discipline & morals

Education is not limited to the syllabus only; it also includes discipline, manners, morals and interactions with other students and teachers. In nursing teaching moral values and discipline is very important. One student stated the following:

R-19: "During attending virtual class our gesture & posture is not OK, sometimes we lie down on the bed and attend class. In traditional class we maintained discipline but in virtual class we didn't do that. In traditional class we could see teacher as a real role model and they also used to give lots of real life examples which helped in development of moral values & attitudes. But in virtual class it is absent."

Category-2: Teacher related factor

1.2.1. Inappropriate time management

Teacher and student should practice good time. Participant-11 shared her views as follow:

Should be R-11, Not R-22 class overlapped with other class and next teacher has to wait. Sometimes some teacher canceled the class because of long waiting period.

1.2.2. Lack of proper evaluation

It is difficult to perform objective exams through online and it is a limitation of online evaluation. Participant -20 shared her views as follow:

R-20: "I don't know how teachers are going to evaluate us. There should be proper evaluation system because in online exam many students can cheat so proper evaluation does not take place. Through online exam poor student can get higher marks than the good students. During online examination proper invigilation should be there."

1.2.3. Information overload

Most participants talked about the volume of information in virtual learning. They also communicated that because of huge information they are unable to complete the task given in day to day classes.

Participant 10 shared her views as follows

R-10: "We have 5 subjects and many times notes overload was there. Actually, in the physical class, discussion took place for 50% of the class and through discussion half portion of a topic gets covered. But in virtual class for one topic, huge ppt or content was sent by the teacher which we could not write down in the exercise book resulting in subject overload."

1.2.4. Lack of involvement of passive students

During online classes a teacher cannot pay attention to every student. Few students usually remain silent throughout the class and they do not concentrate in the class.

One student shared her views as follow

R-2: "Many students remain silent in virtual learning and teacher also can't make out whether they understood or not because here teacher can't read student's facial expression. Actually, teachers explain as a whole they don't give special emphasis to passive

students. So many classes were ineffective as very few students were attentive in virtual learning"

Category-3: Institution related factor

1.3.1. Lack of proper class routine

Academic Planning allows students the opportunity to create a strategic academic road map. This plan also reflects the student's personal and educational goals so that the students' can get the most out of their educational experiences. One student shared their views as follow:

R-20: "Sometimes we faced problems regarding class timing. Sometimes the teacher changed her class times & it was communicated through whatsapp at a short notice. I was not online that time and missed that class on that day. On some days, there are 4-5 classes and on other days there are no classes. We want regularization of classes"

1.3.2. Lack of virtual demonstration

Proper infrastructure is very much essential for virtual demonstration. Participant 15 shared their views as follow:

R-15: "During virtual class, teacher can use board and she can explain with the help of board so that monotony of the class can be avoided and attention of the student can be drawn. For practical based classes if teacher can use the laboratory of our college then better understanding can take place."

Category-4: Course related factors

4.1. Lack of skill training

Nursing is practice oriented profession so, skill training is the core component of teaching in nursing.

R-3: Without hands on practice we cannot develop required skill. In nursing theoretical knowledge need to be linked to practice.

Theme-2: Financial burden

2. 1. Family burden to buy educational gadgets

Virtual classroom needs some requirements like internet connection, laptop/computer or a mobile phone. Hence virtual learning may not be convenient options for economically weaker section. One student shared their views as follow:

R-22: "Smartphone and mobile data is required for attending virtual class and it is costly for us. In my family we have two brothers and we all attend online class but we don't have three smart phones in my family as it is costly. "

Theme-3: Health problem

3. 1. Increased screen time leads to headache

Increased screen time has been found to be linked with increase in depression, anxiety and perceived attention problems. There are many other health problems which may develop because of increased screen timing. Participant 18 shared their views as follows:

R-18: "I can't read from phone so I have to write all the notes in a notebook, only then I can read. I have migraine problem so if I do online classes for long time I face problems such as headache, back pain, eye problems& neck problems etc."

RECOMMENDATIONS

Theme-1: Assessment

1.1. Test should be conducted after finishing each chapter

R-17: "Tests should be conducted after each chapter and feedback should be given to the students for every answer or activity. In virtual learning getting marks can be a motivating factor for students. We see each other's marks and start reading books."

1.2. Using objective assessment tools

R-2. In examination, variety of questions should be added and examination should be controlled by setting limited time. All students should be instructed to on their Video during examination.

Theme-2: Monitoring

2.1. Following up of students' attendance

R-2: Student's attendance should be included in evaluation system. Attention and active participation should be marked and rewarded. During class, teacher should ask question to weak students as well as to a good student so that chances of bias will be minimized.

Theme-3: Training

3.1. Training on e-learning should be arranged for students and teacher

Computer literacy is essential in virtual learning. Teachers need significant professional development and training opportunities to learn not just how to take online classes but also to assist students for using this technology. Participant 11 shared her views as follow:

R-11: "For both student & teacher we have to update our knowledge of computer technology. During class, teachers were unable to show slides because of lack of expertise in handling computer or mobile so many classes were ineffective or incomplete. College should organize online in-service education on computer technology so that teachers and students will be competent enough for online class"

Theme-4: Teaching

4.1. Well planned class

R-1: "Regular classes should be conducted according to college class routine. One day only one class and in other day five to six classes are held. Attending so many classes in one day is very strenuous. Our educational gadgets have some limitations too."

Initiation of separate doubt clearing session

R-2: Proper planning of the sessions, doubt clearing sessions and personalized responses to the queries of the student is very beneficial. After doubt clearing class my concept are getting cleared.

4.2. Using of appropriate audio-visual aids

"R-15: In order to avoid monotony as well as to draw attention of students, the teacher may use blackboard to explain a certain points. For practical based classes the teacher may use our college laboratory for better understanding. Videos of nursing procedures may be uploaded in YouTube."

4.3. Keeping adequate time for clarification of doubts

R-16: "Teacher should give more time for doubt clearance. Irrespective of class time teacher should clarify students' doubts. In virtual class it is better to keep 50% time for doubt clearing and it is the student's responsibility also that they should ask question in time."

4.4. Involvement of the passive students

R-16: "During virtual class teacher should involve all the students. Teacher's voice should be clear enough so that it can reach to students. Teacher should ask question randomly so that everyone will get equal opportunity to answer the questions. Teacher should interact with each student in every class so that everyone will be conscious & prepared for the class."

4.5. Recording of the class should be given to the student if required

R-15: "During each class network problem usually arises for at least 2-3 students. If recording of the class could be done and given to the students they can follow that in their convenient time. Sometimes teacher's voice is also not audible to us which create lack of understanding on the subject. If recording of the class is available then the gap created during the class may be filled."

DISCUSSION

As per researcher's knowledge, this is a first published study to explore nursing student's perspective regarding virtual learning from Indian sociocultural context. Lack of self-motivation, improper learning environment, ineffective communication, lacks of interaction, lack of computer literacy, connectivity problem, information overload and feeling isolated are the different challenges faced by students during

attending virtual education. Some of the challenges we can sort out but some of it we can't solve. Our students also shared some advantages of virtual learning and they recommended some tips to improve virtual learning too.

Connectivity issue is a big challenge for any type of online education and almost all E-learner faced this. Study done by Zalat M M *et al.* [6] study revealed that the highest barriers to e-learning were insufficient/unstable internet connectivity i.e. 40%. Padhi *et al.* [7] study mentioned that majority (79.3%) of the participant network issues were the most common impending factors in the smooth conduction of e-learning. According to study participants' view network problem can be solved by sending the recorded class to the students. Padhi *et al.* [7] study also recommended that network issue can be solved if live online sessions are followed by uploading of the recorded session in the common online platform. Mishra L *et al.* [8] study also revealed in their study that the major challenge while teaching online was the unstable network connection.

The present study found that lack of self-motivation is another important challenge of virtual learning. Mishra L *et al.* [8] study also reported that a lack of motivation as immediate feedback was not possible in the online teaching-learning transition phase perceived by both teachers and students.

This study revealed that lack of interaction was the important challenge in virtual learning. Mishra L *et al.* [8] study also mentioned that through online teaching there was lack of scope for meaningful interaction. But Baczek M *et al.* [9] study finding is consistent with this that is there was lack of interaction with teacher & friends. Mishra L *et al.* [8] study also mentioned that lack of scope for meaningful interaction, level of understanding were the challenges for teacher too.

As per this study improper learning environment was also a challenge in virtual learning. Mishra L *et al.* [8] study is consistent with this study and they reported that they did not have conducive learning environment at home and they were assigned in household chores during lockdown. Padhi *et al.* [7] study showed that 80.5% students have absence of classroom environment during attending virtual class.

Our study found that many students have problems of educational gadgets which is consistent with Mishra L *et al.* [8] study where they reported that during lockdown period when the student needed the laptop for online learning but they could not do so as they did not have desktop or laptop at home and the mobile phone was not found enough effective to participant in online classes.

Maintenance of proper evaluation was another challenge found in our study and it is consistent with Mishra L *et al.* [8] study where they mentioned that teachers were unable to read the face and mood of students. Our study also found that through virtual learning there was lack of involvement of passive students. Baczek M *et al.* [9] study finding is consistent with our study finding where they mentioned that students were less active during online classes compared to traditional classes.

Students of our study mentioned that through virtual learning there was lack of real life experience and it is consistent with Baczek M *et al.* [9] study which revealed that learning from real patients in a clinical setting is crucial for medical education and it cannot be fully replaced with distance learning. To solve this problem our student recommended that Videos of nursing procedures may be uploaded. Baczek M *et al.* [9] study recommended using virtual patient to stimulate real life clinical scenarios.

Students' feedback in the present study revealed that there was lack of skill training in virtual learning and Mukhtar K *et al.* [10] study also viewed the same thing that is inefficiency to teach psychomotor skills. Sharing recorded videos of laboratory and clinical skills demonstration is also worthwhile.

Our study also mentioned some advantages of virtual learning like it is flexible in nature, student centered learning, it saves time and it maintain regularity of learning. Mukhtar K *et al.* [3] study findings also consistent with our study findings where they mentioned that It was useful in distant learning and during COVID 19 situation they can continue our education system. Mukhtar K *et al.* [3] study also revealed that student centered learning is an advantages of virtual learning.

The present study recommended that faculty needs training and students orientation in using online learning tools. Mukhtar K *et al.* [3] study also consistent with our study findings. Padhi *et al.* [7] study also recommended that there should be enough gap in between the two lectures, and the total duration of lectures should be limited to three hours in a day as screen is stressful and exhausting. Almost similar to Padhi *et al.* [7] study, our study recommended that classes should be conducted according to college class routine. One day only one class and in other day five to six classes are held. Students are expressed attending so many classes in one day is very strenuous.

One limitation of the present study is the non-use of experiences of nursing teacher regarding the challenges. Second limitation is that focus group discussion was not done due to contagious nature of Corona virus, to prevent cross-infection. Thirdly, this study included students from one college only. Further

studies are recommended on the multicentric study and inclusion of experiences of nursing teachers and administrator.

CONCLUSION

The present study results identified advantages, challenges on virtual learning in undergraduate & post graduate student of Nursing. The challenges include lack of self-motivation, improper learning environment, ineffective communication, lacks of interaction, lack of computer literacy, connectivity problem, information overload and feeling isolated etc. Since nursing is a practical oriented job so concept development of nursing student is very important because clinically practical problem differ from one patient to another patient. This study also found ways to improve quality of virtual learning so stakeholders should incorporate these findings into practice as early as possible.

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