COVID 19 and Nursing Education in India: A Paradigm Shift from Conventional to Online

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Authors' contributions

This work was carried out in collaboration between both authors. Authors conceptualized the opinion article, managed literature searches and wrote the manuscript. Both authors read and approved the final manuscript.

Opinion Article

ABSTRACT

The present study discusses regarding the shifting of in-person learning to virtual learning particularly in the field of Nursing. Also, it focuses on the challenges which are faced by the students and teachers during this pandemic and various strategies to combat those challenges. 2019 novel Corona virus (COVID -19) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) is an infectious disease caused by newly discovered corona virus. Synchronous virtual learning enables participants to engage in learning at the same time through same online environment, example - live webinars while in asynchronous virtual learning the participants are not engaged in the learning process at the same time. The experiences of teachers on virtual learning vary on individual basis. For some teachers, the COVID 19 has changed the way of teaching. They are able to communicate with students more efficiently and effectively through video meetings, chat groups, document sharing. Amidst of this pandemic technology enables the education to be on the go when the world has physically shut down schools and colleges. A key aspect of this pandemic is to make sure that teaching learning process is uninterrupted, continuous and equally accessible. This is the ideal time for a paradigm shift.

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1. INTRODUCTION

2019 novel Corona virus (COVID -19) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) is an infectious disease caused by newly discovered corona virus [1] and transmitted by inhalation or contact with the infected droplets [2]. With its emergence and spread worldwide, World Health organisation (WHO) declared COVID-19 as global emergency on 30 January 2020 and a pandemic disease on 11 March 2020 [3]. There are total 16, 341, 920 confirmed cases and 6,50,805 deaths reported till date (28/7/2020) globally as per WHO reports [4]. This new public health crisis has not only affected the health sector tremendously but also the economic and education sectors as well.

When it comes to the education sector, on 16 March 2020, Union government of India declared complete lockdown of the schools and colleges for an indefinite period to prevent COVID 19 entry into schools, colleges and its spread to the community [5]. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), there are total 1.37 billion students affected by schools and university closures in 138 countries and nearly 60.2 million teachers are no longer in the classroom [6].

Thus, for the continuity of the teaching-learning activity and assessment processes, schools and colleges have adopted the digital learning platforms. The large group in-person conventional lectures have been replaced by streamed online lectures and small group sessions and tutorials have been replaced with interactive Webinars [7]. In India, teachers and students are utilising the online learning platforms such as National Digital library, You tube live training channel and Indira Gandhi National Open University (IGNOU) for accessibility to the book, live classes. Thus, schools and colleges have moved from classroom teaching to online learning during this unprecedented pandemic.

This article discusses about the shifting of in-person learning to virtual learning particularly in the field of Nursing. Also, it focuses on the challenges which are faced by the students and teachers during this pandemic and various strategies to combat those challenges.

2. SHIFTING OF IN-PERSON LEARNING TO VIRTUAL LEARNING

In-person learning is an instructional method where course content and learning material are taught in person to a group of students [8]. It provides more hands-on training which is necessary in the field of medicine, surgery and nursing [9].

Virtual learning is distance learning conducted in a virtual learning environment with electronic study content designed for self-paced (asynchronous) or live web-conferencing (synchronous) online teaching and tutoring [10]. Synchronous virtual learning enables participants to engage in learning at the same time through same online environment, example- live webinars while in asynchronous virtual learning the participants are not engaged in the learning process at the same time. They can learn at their own time and pace, example- recorded webinar [11].

During this pandemic, various virtual modes are utilised for mentoring, faculty meetings and faculty development programmes, [12] and a significant surge in online learning platforms, language apps, video conferencing and virtual tutoring tools is being observed [13].

Virtual learning has many pros and cons. It introduces teachers and educators to education technology, classes can be taken anywhere, lack of commute also offers more time, students can learn at their own pace and convenience. It also provides an opportunity for the students to clear their doubts anonymously by dropping the question in the chat box. This is particularly useful for those who usually hesitate in classroom setting and their doubts remain unclear. But it may be expensive, need access to internet, computer and smart mobile devices, it lacks discipline and also the real time teaching learning experience. Long-time virtual learning can cause deterioration of students' mental and physical health [14,15,16].

Similarly, In-person learning allows face to face interaction of students with teachers and their peers, promote hands-on-training and "make the subject alive", it allows more varied exercises such as role-play and immediate feedback. But it has disadvantages that it is inflexible in terms of

class schedule, requires long commute and costs more [17,18,19].

The general effectiveness of online education depends upon the urban-rural disparity and levels of knowledge and training acquired by the teachers about educational technology. [15]. Furthermore, digital divide in times of COVID-19 is also a grave concern. It is an uneven distribution of technological access to the internet and information technology in terms of geographical location, socioeconomic status and the competency to use the technology. At a time when the entire focus of education has been shifted to online, the role of teachers and students also been changed towards a technology enabled education; the equality towards virtual learning is need of the hour.

2.1 Challenges Faced by Teachers

In most of the countries, all the educational institutes have proceeded with the online mode of teaching. Initially, there was lots of resistance from the teachers for technology adoption and virtual engagement of students.[12]They had apprehension of teaching the full classroom over a new platform. They had concern regarding navigation of the internet, use of video conferencing app and management of the classroom which is different from real classroom and mediated by the screen and a microphone.[13]They may face many technical Information Technology (IT) problems during the online teaching. There may be hardware and software related issues including slow working, frequent restarting or sudden "shut off" of computer or laptop; unavailability of high bandwidth or strong internet connection; audio or video related problems such as poor quality, inoperable camera etc. Therefore, training was also provided by institutions for the same. Thus, COVID 19 has provided an opportunity for the teachers to utilise the platform to train themselves for virtual learning.

The experiences of teachers on virtual learning vary on individual basis. For some teachers, the COVID 19 has changed the way of teaching. They are able to communicate with students more efficiently and effectively through video meetings, chat groups, document sharing. In a qualitative study conducted by Shenoy et al in India, the findings revealed that as teachers developed the habit of conducting classes virtually, they started liking them than conventional classes. They found it better because they can focus on family, no travelling,

no traffic and mental peace [12]. But they may face many problems while teaching at home such as household chores, care of baby or elderly, or unavailability of the suitable space for teaching [15].

The validity and reliability of the unsupervised formative and summative assessments' cannot be established as students can use books and internet for the same [20]. Thus, evaluation of students through virtual platforms is really going to be cumbersome for teachers.

Sometimes it is hard to maintain discipline and decorum of the classes as compared to the traditional classroom method of teaching.

During this pandemic, there has also been a massive surge on cybercrimes across the world. Indian Computer emergency Response Team (CERT-In) reported the COVID-19 based cyber-attacks and also warned against the cyber vulnerability of the video conferencing app "Zoom" [21]. In education sector, during virtual learning there have been many incidences where unwanted trolls intruded and then shared illicit content over screens [22]. This causes awkwardness and discontinuity of the class.

2.2 Challenges Faced by the Students

Even though about 66 percent of Indian population is living in rural areas, only 25 percent have access to the internet services. [23] Because of lockdown, students are residing with their families in the rural areas which have insufficient network coverage. The online learning also requires the availability of computer, smart mobile devices and huge data. [24] Thus, students without reliable technology or internet access struggle to participate in digital learning [13] Therefore, during this COVID 19 when students need to continue the learning, online learning platform has put down the burden on the students' financial condition [24].

Virtual learning requires more motivation and attention. Students may find it hard to concentrate. They may browse internet and use other applications while continuing the class. [25] Also, they may find difficulties while using video conferencing apps. Either the host mute all the participants or they are asked to mute themselves because background noise disrupts the continuity of the class. But this has a disadvantage that it prevents the participants to join the conversation or ask doubts quickly. Also, the "raised hand" function gets unnoticed and message box is distracting [25].

With the emergence of a highly contagious pandemic, various institutions have limited the In person academic activities as students and teachers may transmit the virus unknowingly or contract the disease. Therefore, the students are missing out the real time experiences of the clinical skills. They cannot attend clinical and ward rounds, bedside teachings, case presentations, health assessments, interactive patient sessions and hands on training [7].

3. STRATEGIES TO COMBAT THE CHALLENGES

The Ministry of Education and several telecom operators can commit together for the provision of fast and stable networks for online education so that teachers', students', and parents' can access to online education. Government must equip the students with the digital equipment who are in need.The government can open high quality online courses and virtual simulation experimental teaching resources for free. [15] Example – Currently, Trained Nurses Association of India (TNAI) is running certified free online course for students and nurses on "Essential upskills on COVID 19 pandemic management" [26]. Cost-effective data package can be offered by the mobile operators or institution itself to facilitate and continue the online education [24].

Systematic "online teaching" training for teachers needs to be given. It may be based on various themes such as utilisation of open and institutionally supported technologies; online resources; planning online learning; considerations while planning online activities; teaching skills for online learning; strategies for online assessment; strategies for engaging and motivating students; challenges about online teaching and management; evaluation of own online teaching practice etc [27]. The training can be provided by an institution by appointing "online teaching technology consultants" [15], conducting webinars or various online "teaching training" courses. An online platform named "DIKSHA - National Digital Infrastructure for Teachers" provides Teacher training courses, Teaching resources such as lesson plans, concept videos, worksheets, and enable assessments for teachers [28].

Teachers and students should attend webinar on cyber security. They should be informed about various measures for enhancing the security of video conferencing apps. These include keeping the "video conferencing app - Zoom" software up-to-date, setting strong, difficult-to-guess and unique passwords, enable "waiting room" feature to have control over participants, disable the "join before host" feature, restrict or disable file transfers, limit screen sharing to the host only, lock the meeting session once all participants have joined, restrict the call record feature and 'allow record' to trusted participants only [29].

Online learning environment for students can be made interactive and interesting. This will discourage students to browse internet, use other applications and concentrate more on the class. The sessions can be made more interactive by dividing the whole batch into sub-groups with limited number of students and involving them actively by questioning and soliciting questions [20]. Also, teacher can divide the teaching content into several small modules each lasting approximately 30-35 minutes. This will make them to focus more [30]. Teacher can involve students in various activities to make learning interesting. They can involve them in listening exercises (recommending podcasts and giving the questionnaire), watch and learn exercises (posting a video lecture from you tube), directing students to sites which provide authenticated free virtual labs/virtual learning environments, presenting a virtual case and involving in the discussion section etc [20].

Teachers can help students to motivate and cultivate independent learning abilities [15]. The offline self-learning and online teaching can be combined together. In the offline self-learning phase, teachers are required to provide content and then students need to submit short assignments after reading it. Teachers should evaluate and provide feedback to students' assignments. In the online teaching phase, they should use a discussion section for students after reading so that they students will experience deep learning [20].

The validity and reliability of the unsupervised online tests can be improved by conducting more number of tests with different thought provoking questions on the same topic instead of conducting one single test only [20].

The major challenge for teachers at the present time has been to replicate the experience of clinical encounters. Although there is no substitute, but there are various ways to mitigate this loss [7]. The pre-recorded "demonstrations" or "virtual simulation" resources can be provided to the students which they may watch remotely at any time. The students can access various video

libraries on nursing procedures provided by authenticated sources such as Elsevier, Medline with a single paid institutional account. They can also utilise the freely available videos online platform such as You Tube which vary in content quality, therefore the teachers can recommend the specific videos available You Tube for the whole group [17].

4. CONCLUSION

Amidst of this pandemic technology enables the education to be on the go when the world has physically shut down schools and colleges. Technology has emerged as a ray of hope for teachers and students from completing the syllabus to conduction of examination. Though there are certain uncertainties and difficulties faced by teachers and students due to this paradigm shift. This can be overcome by effective planning and implementation by proper and timely decision making. A key aspect of this pandemic is to make sure that teaching learning process is uninterrupted, continuous and equally accessible. This is the ideal time for a paradigm shift. Thanks to the technology and the internet which connect students and teachers in a "new normal" teaching-learning environment, the earlier we adapt the better it become.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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