



Original Research

## Remote Learning in Clinical Nursing Education: A Lesson Learned from The Pandemic Covid-19

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### ABSTRACT

**Introduction:** The clinical education program offers students a chance to gain practical experience, enabling them to acquire the skills and knowledge necessary to provide safe and effective nursing care. However, During COVID-19, modifying clinical education programs is essential to ensure continuity of nursing training while adapting to safety protocols and limitations on in-person interactions. This study aims to investigate how educational institutions modify and innovate nursing clinical education during pandemic situations.

**Method:** The study employed a descriptive exploratory design. The informants included ten mentors from various nursing education institutions in Indonesia who guide professional nursing students. The data were collected through in-depth, unstructured video call interviews. The data were collected through in-depth, unstructured video call interviews. Data analysis was conducted using content analysis.

**Results:** The research found themes with 15 subthemes. These themes are: 1) learning constraints, 2) student challenges, 3) clinical educator challenges, and 4) teaching and learning opportunities.

**Conclusions:** Professional education processes during a pandemic require better preparation in developing educational content, mastering various information technologies to support enhanced learning and the periodic evaluation of student competencies. This evaluation is necessary to ensure that students achieve the minimum competencies set by professional organizations.

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## 1. INTRODUCTION

The pandemic COVID-19 has affected various aspects, one of which is education, which has experienced changes in the process of carrying out learning activities. The change is that there is no direct face-to-face process and switches to distance learning or online (Beth et al., n.d.; Kaveh et al., 2022; Lobão et al., 2023). This policy is implemented to prevent and reduce the number of COVID-19 transmissions. The implementation of this online learning system applies

to all levels of education, including universities (Hargreaves et al., 2021). The government issued several policies, such as the Ministry of Education and Culture issued a circular regarding online learning and the prevention of COVID-19 in educational units.

Clinical teaching is an important part of nursing education for the development of personal, professional, and clinical skills (Hassan et al., 2022). Through clinical education, nursing students gain not only theoretical knowledge, but also the practical skills needed to provide direct patient care. With good

clinical experience, students can develop a deep understanding of the practical aspects of the nursing profession.

The impact of the pandemic COVID-19 has significantly changed the landscape of clinical nursing education. Many educational institutions face obstacles in organizing clinical activities due to both physical limitations and concerns about virus transmission. Nursing students are also struggling to gain adequate clinical experience as many hospitals have reduced clinical activities and implemented strict health protocols (Daniel, 2020; Kuru Alici & Ozturk Copur, 2022; Seah et al., 2021).

Given the challenges facing clinical nursing education during the pandemic, research is urgently needed. Research on challenges and innovations in clinical nursing education can help identify barriers faced by students and faculty. In addition, research can explore new innovations in the delivery of clinical education that are adaptable and responsive to pandemic conditions.

The benefits of exploring the challenges and innovations in clinical nursing education during the pandemic are significant. It can provide a deeper understanding of effective strategies to overcome the barriers that arise. In addition, the research can serve as a basis for the development of policies and guidelines that support the delivery of quality and safe clinical nursing education during a changing pandemic situation

## 2. METHODS

### 2.1 Design

This study employs a qualitative descriptive exploratory design. A descriptive exploratory qualitative approach is useful in summarising and understanding an area of interest, and was appropriately selected for this study to describe and explore the clinical nursing education during the pandemic. This method emphasis is on describing rather than on conceptualising or interpreting phenomenon. In the interpretation of data, this approach emphasizes direct performance without excessive variation.

### 2.2 Population, Sample, and Sampling

To understand nursing professional education comprehensively, this study will conduct interviews with various nursing programs in Indonesia, mainly focusing on those on Java Island. The aim is to ensure representation from Java's eastern, central, and western regions. The target respondents for the study are ten educational institutions in the Java Island region. Participants will be selected using purposive sampling, ensuring a diverse and representative sample. Data will be collected through interviews.

### 2.3 Instruments

The researcher will use in-depth interview guides tailored to the research objectives and scope. The interview guides are designed considering the

study's goals, following the guidelines outlined by Creswell (2012).

The interview will focus on:

- 1) What are the preparation stages for nursing professional students during the Ners pandemic period?
- 2) What activities are conducted to prepare nursing professional students during the pandemic?
- 3) How is the learning process in nursing professional education? What media are used? What are the assignment formats for students? How is preceptorship managed, and what is the learning process for each stage? What innovations have been implemented in nursing professional education during the pandemic?
- 4) How is the evaluation conducted for nursing professional education, and how are competencies assessed?
- 5) What challenges have emerged during nursing professional education amid the pandemic, and what are the solutions if challenges arise in nursing professional education?

### 2.4 Procedure

This research was conducted by contacting 10 mentors of professional nursing education students from various nursing educational institutions in Indonesia as research respondents. After agreeing to become respondents, interviews were conducted with in-depth interview guides tailored to the research objectives and scope. The interview guides are designed considering the study's goals, following the guidelines outlined by Creswell.

### 2.5 Data Analysis

Data analysis will be performed using content analysis.

### 2.7 Ethical Clearance

Has been reviewed by the ethics commission of the Faculty of Health Sciences, UIN Syarif Hidayatullah, Jakarta No. Un.01/F.10/KP.01.1/KE.SP/04.08.017/2022.

## 3. RESULTS

A total of 10 informants from nursing education institutions in Java Island participated in this study. These institutions were in East Java, Central Java, West Java, DKI Jakarta, and Banten. The following are the characteristics of the respondents (Table 1).

Ten nurse education involved in this study. Eight female and two male participants and they had working experience more than 5 years. All informants had experience as clinical educators during the pandemic. Four categories and 15 subcategories were extracted regarding the exploration experiences of nursing education during the COVID-19 outbreak.

Tabel 1. Respondents Characteristics

Characteristic	N	%
<b>Education</b>		
S3	5	50
S2	5	50
<b>Sex</b>		
Male	2	20
Female	8	80
<b>Working experience</b>		
> 5 years	10	100

Tabel 2. Themes and Sub-Themes

Themes	Sub-Themes
Learning constraint	a. Hospital policy changes b. Increased spending c. Limited Personal Protective Equipment d. Lack of learning opportunities
Student Challenges	a. Anxiety b. Lack of competency achievement c. Unprepared for distance learning
Clinical educator challenges	a. Finding the right teaching method b. Technology information mastery issue c. Coping with rapid changes
Teaching and learning opportunity	a. Online clinical education b. Cross campus educator c. Video supplement d. Expertise of clinical educator e. Clinical assessment

**Learning Constrains**

During the pandemic, clinical nursing education was faced with significant learning constraints, including hospital policy changes, increased spending, limited Personal Protective Equipment (PPE), lack of learning opportunities. There were changes in hospital policy regarding clinical nursing education during the pandemic. The hospital reduced the number of nursing students or even refused to accept students for nursing education. The hospital reduced the number of nursing students or even refused to accept students for nursing clinical education in hospital. This policy was to prevent the transmission of COVID-19. During the pandemic, many educational institutions reduced the number of students practising in hospitals or, in some cases, wholly suspended student placements to prevent the spread of COVID-19. One respondent stated, "Several hospitals stopped accepting nursing students for practice during this pandemic, especially at the beginning of the outbreak." Another respondent mentioned, "During the pandemic and the enforcement of the PPKM restrictions, clinical education for community nursing students conducted all activities online."

Both students and educational institutions experienced increased costs during the pandemic. Institutions had to allocate more funds for PPE and subsidize internet quotas for faculty members and students. This situation was exacerbated by the fact that some of the students' parents had passed away, were no longer working due to "termination of employment", or the parents' businesses had declined significantly due to COVID. One informant expressed, "During professional education, the institution spent a lot on PPE and internet subsidies for both faculty and students." Another provided further insight, "Some students even considered dropping out due to financial issues related to the cost of personal protective equipment. Fortunately, many helped."

Before the pandemic, students used masks and gloves when practising in general hospital wards. However, the usage of PPE changed during the pandemic. Initially, hazmat suits were required when practising in hospitals, following the regulations or protocols of the educational institutions. At the beginning of the pandemic, medical masks were difficult to obtain and expensive. One respondent said, "Students could practice in hospitals under certain conditions and had to wear complete PPE, especially at the beginning of the pandemic." Another

informant mentioned, *"The commonly used PPE during the pandemic included masks, gloves, and hazmat suits."*

Some hospitals eased restrictions after the pandemic, allowing students to resume their learning activities. However, the pandemic decreased non-COVID patient visits to hospitals and health centres for outpatient and inpatient services. In hospitals, low non-COVID cases, especially inpatients, affected students' competencies. One respondent mentioned, *"...students had difficulty finding obstetric cases in hospitals because giving birth in hospitals became more complicated after the pandemic."* Another stated, *"...during the pandemic, the number of non-COVID cases in hospitals decreased, so students' competencies were often unmet."*

### Student Challenges

Nursing education placed a primary focus on students as they developed the skills and knowledge necessary to provide patient care. From the interview, three subthemes were found within the student challenges. Those were anxiety, lack of competency achievement and unprepared for distance learning. Informants reported that students experienced anxiety, feelings of incompetence, and fear of hospitalization, particularly at the beginning of the pandemic. This anxiety was due to changes in clinical education patterns, which shifted from almost entirely face-to-face to online or distance learning (PJJ), as well as concerns about COVID-19 transmission.

One respondent explained, *"Some students were worried because their parents also contracted COVID-19, so they were constantly anxious."* Another supportive statement was, *"We are currently trying to find a suitable educational approach during this pandemic, so this might also impact students, causing anxiety among them."*

Nursing professional education was structured, with each nursing field having specific educational targets that students had to achieve during the professional phase. During the pandemic, clinical mentors felt that students were struggling to meet the competency targets set for them. It was due to suboptimal learning processes during the pandemic, the limited of varied and expected cases, and limited guidance from experts who were also focused on managing COVID-19 patients. One informant emphasized, *"One important thing that needs attention is that competency achievement is not optimal during education in this pandemic period."* Another statement supported this: *"The number of cases in hospitals, especially non-COVID cases, decreased during the pandemic, impacting students' competency achievement."*

### Clinical educator challenges

Faculty members or clinical mentors played a crucial role in nursing professional education. Clinical mentors, often called Clinical Instructors (CIs), provided instruction to students, guided them during

patient encounters, evaluated their abilities, and served as role models in communication, attitude, and actions towards patients, families, and colleagues during nursing education. Faculty-related issues included finding the right teaching methods, limited IT proficiency, and coping with rapid changes.

During the pandemic COVID-19, the learning system in nursing professional education shifted from primarily in-person to entirely online. The learning methods focus on online discussions, provide assignments, and integrate evidence-based nursing (EBN). However, this transition to online learning, which mainly involved case discussions and no direct patient encounters, dissatisfied some faculty members. They felt that various limitations existed within the online learning system. These limitations were considered a cause of suboptimal competency achievement in nursing students. One respondent noted, *"When interacting directly with patients and students, many things can be taught, such as caring skills, communication, nursing procedures, and more. With remote learning, often many things cannot be taught, and sometimes learning focuses only on the cognitive aspect."*

Before the pandemic, learning was primarily face-to-face and hands-on, focusing on practical skills. Research results show that the learning process mainly consists of discussions during online-based professional education. Discussions were initiated with cases provided by clinical mentors, cases from journal references, and cases students managed at home. Meetings between clinical mentors and nursing students increased, aiming to optimize the teaching and learning process to help students achieve their learning goals. *"During the pandemic, I engage students in discussions more frequently."* Real patient cases were often given for discussion. *"I provide real cases for students, and their tasks involve discussing the nursing process."* Case discussions involved various relevant references. *"We discuss cases using multiple relevant references."*

The discussion and assignment also implemented evidence-based nursing (EBN). Evidence-Based Nursing (EBN) was evidence-based care in nursing. The philosophy of EBN was that nursing practices provided to patients were practices that had been positively tested for outcomes. EBN was intended to improve the quality of nursing care given to patients. Many aspects related to nursing during this pandemic were still unknown. Therefore, based on the interview results, students were assigned to find EBN materials related to the discussed topics. *"I assign students to find articles related to the topics and link them to pandemic-era care."* Many things about pandemic-era care are still unknown. *"There is much we don't know during this pandemic. Currently, research is easily accessible, so it's the right time to encourage students to use EBN in their practice."* Another supportive statement is, *"Care during the pandemic differs from before. I believe we*

*can utilize many published articles for student learning."*

The pandemic led to rapid changes and different teaching methods, requiring faculty members and students to adapt to technology use in education quickly. Faculty members and students had to rapidly learn the use of technology, such as Zoom, Google Meet, video creation, and more. One respondent mentioned, *"Sometimes, students request different learning media during mentoring because it supposedly saves internet data. However, I might not be familiar with their media, so I must learn a lot."*

The various changes during the pandemic affected clinical mentors' stress levels and adaptation. Some coping strategies and adaptations included learning new skills, attending online training or seminars related to their field, and participating in training provided by their institutions. One respondent had shared, *"At the beginning of the pandemic, I was confused about the changes, but I learned gradually."* Another supportive statement was, *"...participating in webinars related to our issues or fields, which increased my knowledge significantly."*

### **Teaching and learning opportunities**

The pandemic provided lessons in new things, including in nursing clinical education. In this study, themes were found regarding teaching and learning opportunities. These included online clinical education, cross-campus educator collaboration, video supplementation, the need for expertise as a clinical educator, and clinical examination. The pandemic has led to changes in teaching methods, including in nursing professional education, such as online learning and social media, focusing on discussions and meeting intensity, and post-pandemic education and evaluation. Since the pandemic outbreak, online lectures have been implemented in response to COVID-19 prevention efforts. The online learning expanded significantly despite initial limitations, offering valuable lessons. Educational institutions quickly embraced online systems to facilitate distance learning, providing flexibility for students and teachers and fostering self-learning skills. Both clinical educators and students used platforms like Zoom, Google Meet, and other similar tools. *"Since the pandemic started, the program decided to conduct online lectures, which also align with government guidelines on social restrictions while ensuring the continuity of education."* Students also submit assignments online. *"I sometimes ask students to save their assignments on cloud storage or upload them on social media platforms like YouTube".* However, there were challenges in online classes, such as signal loss. *"There are indeed challenges in online classes, like unstable or lost signals, so students sometimes turn off their cameras for smoother discussions."*

Learning without time and space constraints led to innovative education programs, including inviting experts or clinical instructors from other campuses, both nationally and internationally. The use of

experts to share knowledge with students became widely accessible during the pandemic, leveraging institutional networks and individual collaborations. *"Here, we use expert lecturers, which has become easier during this professional phase."* Experts are invited explicitly for vital and specific skills. *"For specific and essential skills, I have a friend I ask to teach at my place."* Online learning has been beneficial in enhancing collaboration. *"We can utilize collaboration agreements, such as inviting guest lecturers online for professional students."*

The rapid development of information technology was extensively used for the learning process, including platforms like YouTube and Facebook and various practical applications. Professional education during the pandemic encouraged innovative learning methods, such as producing and using instructional videos. *"Some clinical mentors create videos with their patients, of course, with the informed consent of the patient, serving as learning resources for students."* Learning videos were often sourced from platforms like YouTube. *"Many videos on YouTube can be used as student learning resources."* Clinical mentors themselves created some instructional videos. *"Sometimes, mentors create videos for students' learning purposes."*

Clinical mentors were crucial in direct supervision and instructing nursing students during clinical education. Clinical mentors were chosen based on their expertise. Due to limited professional practice opportunities in hospitals or practice settings during the pandemic, clinical mentors became crucial. *"The role of clinical mentors is very noticeable, especially those from the hospital; they learn a lot from pre-CI experiences since they cannot see or meet patients directly."* Clinical mentors share a lot of knowledge with students. *"Clinical mentors provide a lot of input and share knowledge with students."*

Professional education evaluation measured how students had mastered the predetermined competency targets. Pre-pandemic assessments were conducted in person and included methods like mini-Cex, DOPS, case presentations, and others. During the pandemic, evaluations primarily focused on students' responses, assessing their assignments and some procedures students performed in videos sent to clinical mentors. *"The competency evaluation for professional education involves assessing students' assignments. Some tasks require students to interact with patients in their environment and create videos."* Some clinical mentors find online evaluations to be better. *"The competency evaluation since the pandemic is less satisfactory because we cannot assess directly."* Since direct evaluation of patient care is not possible, students' critical thinking skills are also evaluated. *"We also evaluate by assessing students' critical thinking regarding the given cases or the cases they handle."* Some respondents feel that direct assessment is still ideal. *"Direct assessment is still ideal*

*for evaluating students' professional abilities. Since the pandemic, students' competencies seem suboptimal, so after completing all stages, they undergo comprehensive exams at the campus."*

#### 4. DISCUSSION

The COVID-19 pandemic presented unparalleled challenges and disruptions to numerous sectors, including education (Mahdy, 2020). The clinical nursing education was one sector that was significantly affected. Resilience theory could be applied to understand and analyze the clinical nursing education during Covid-19. The resiliency paradigm suggested that resilience was innate in all people and was the product of human growth (Yates et al., 2015). By applying the resilience theory to analyze the qualitative result of clinical nursing education during COVID-19, it was observed that students faced numerous challenges and limitations such as limited access to clinical placements, decreased hands-on learning opportunities, and increased stress and anxiety. Despite these difficulties, the qualitative data from clinical educators revealed their resilience in adapting to the new circumstances. During the COVID-19 period, to prevent the spread of the virus, alternative options emerged to relocate learning participants from nursing field learning centers, including hospitals and communities, and change the learning methods. Hospital policies not to accept nursing profession students at the beginning of the pandemic were also common in various institutions in Indonesia (Suryaman et al., 2021). Several institutions or hospitals that allowed the use as practice facilities generally implemented strict procedures if students were to practice. These procedures or regulations included using adequate personal protective equipment by hospital rules, allowing practice in specific areas, students being required to sign a consent form agreeing to the hospital's regulations, and some institutions requesting students to obtain parental consent letters to resume nursing profession education.

The increased use of Personal Protective Equipment (PPE) during this nursing profession education aligns with the reports presented by Nurhayati (2020). During the pandemic COVID-19, health protocol became a significant concern during nursing education. This included the proper use of Personal Protective Equipment (PPE) such as gloves, head covers, foot covers, masks, face shields, goggles, and hazmat suits. Students who practised in settings like hospitals, community health centres (puskesmas), or nursing homes (panti werda) generally worked with non-COVID-19 patients to prevent potential COVID-19 transmission to the students. The use of PPE in these practice settings was categorized as level 1, involving the use of level 1 PPE. Level 1 locations included triage services, non-COVID-19 outpatient care, non-COVID-19 inpatient

care, general practice settings, and activities not involving aerosol generation (IDI, 2020).

Nursing students felt the cost increase in nursing professional education during the pandemic COVID-19. The various difficulties related to internet quotas were responded to positively by the Ministry of Religious Affairs and the Ministry of Education, namely by assisting in the form of 15 GB of internet quota per month for each student (RI, 2021a; RI, 2021b; RI, 2021c). The Ministry of Religious Affairs provided internet quota assistance for distance education (PJJ) for teachers, lecturers, students, and students, with the most considerable quota assistance reaching 15 GB per person. The Director-General of Islamic Education stated that this quota assistance had been distributed several times during the pandemic COVID-19.

The decline in the number of non-COVID patients visiting hospitals, both educational and non-educational, was a significant challenge. The pandemic COVID-19 also affected non-referral hospitals. The coronavirus outbreak led to a decrease in outpatient and inpatient visits for non-COVID cases. This situation resulted in a decline in occupancy rates (Ambarwati, 2021). Indeed, besides the reduction in nursing education cases, hospitals also felt a decrease in their financial condition.

The use of dormitories during nursing professional education still needed to be discussed in the research literature. Only a few hospitals or practice facilities had dormitories for nursing students. This was because nursing students often needed to move to different locations during their professional education to align with the practice site and the competencies they needed to achieve according to the targeted nursing professional education competencies. Clinical education anxiety was defined as the perceived threat to the goals or expectations of students during clinical education caused by stressors, including unfamiliar environments or situations leading to psychological issues (Allegranzi et al., 2021).

Several limited studies on the psychological effects of the pandemic, especially on nursing students, found a relatively high level of anxiety within this group. This was due to nursing education itself, which was often a stressor for students, as well as the difficulties in finding educational materials, long study hours, and the physical and emotional demands of the nursing program. Studies also found a correlation between anxiety and gender, parental status, income, concern about future careers, family support, feelings of helplessness, and doubts among nursing students. Additionally, stress was also triggered by the fear of getting infected with COVID-19 (Kuru Alici & Ozturk Copur, 2022).

Professional nursing education, which generally involved hands-on learning and direct patient interaction, shifted to online or remote-based education. Students often needed help to fulfill competencies, especially regarding practical aspects

of online learning systems. Online education could be enhanced by making it more interactive, demonstrating clinical procedures in real-life situations, providing clear and easily understandable information, and offering virtual 3D tools to reflect real-world problems (Mahdy, 2020).

Other studies suggested that students' experiences and academic achievements in the new educational processes must be evaluated. This was because academic achievement served as an indicator of educational quality (Oducado & Estoque, 2021). One interesting conclusion from other studies was that online education could enhance theoretical learning. Still, hands-on learning remained irreplaceable for practical nursing skills and could not be substituted by online methods (Divya K Y & Binil V, 2021).

Regarding anxiety, nursing students' exposure to the pandemic caused significant stress as they feared getting infected by the COVID-19 virus. This reluctance among students and healthcare professionals to work in healthcare services was due to the fear of being in a high-risk environment and the inadequacy of infection control and isolation measures. COVID-19 had become a source of stress for individuals and groups with varying psychological levels. Achieving competence had indeed become one of the challenges for nurse educators. During the pandemic, several studies indicated dissatisfaction among educators regarding students' achievements (Mahdy, 2020).

Studies showed that information technology greatly supported online learning success during the pandemic COVID-19. The most frequently used applications were E-learning and WhatsApp. It was said that WhatsApp was the most effective application for online learning as it did not require a lot of data and worked well even with weak signals. Some obstacles in online education included students living in areas with limited access to information technology and financial constraints in purchasing data (Kumalawati et al., 2021). Another study indicated that the success of e-learning also depended on adequate internet connectivity. Issues like electricity problems and lack of computer literacy still needed to improve for effective online learning (Divya K Y & Binil V, 2021).

COVID-19 had led to a sudden shift to "emergency remote teaching." This situation had forced nurse educators in educational institutions and hospitals to make significant changes by adopting simulations, distance learning, and telehealth. Online learning had already evolved over the previous decade but was generally carefully designed and purposeful. With COVID-19, nurse educators needed more time and often found themselves limited in their awareness and proficiency with online teaching technologies (Nowell et al., 2021).

At the beginning of the pandemic, numerous webinars were organized by institutions, professional organizations, and other scientific organizations. The

development of technology and information during the Industrial Revolution era had influenced human life, including education. One of the impacts on the education sector was the availability of education programs without barriers of distance and time. Teaching or education could be provided anytime and anywhere. Additionally, higher education teaching had become more flexible for students. Instruction integrating online and face-to-face classes could expand access to learning, student enrollment, and retention. Especially during the pandemic, in-person learning was recommended to be avoided, and online education was prioritized. One aspect of this online education was the ability to invite guest lecturers in a more flexible manner (Mahadewi & Pudjawan, 2021).

Nursing education had often involved guest experts in the teaching and learning process with students. In skills labs, experts were frequently invited to teach nursing skills. Using guest experts was crucial in nursing education to enhance classroom learning, establish connections between the school and clinicians, and promote multidisciplinary collaboration (Zou et al., 2019). Guest experts were usually invited by the faculty based on specific discussion topics.

The pandemic had forced clinical educators to prepare and develop educational content online, including creating instructional videos. However, due to the shortage of healthcare workers during the pandemic and the lack of time to prepare teaching materials, educators were compelled to seek existing learning resources, such as open-access materials, including videos from YouTube (Nomura et al., 2021).

Educators and academic developers often used mixed learning methods in nursing education. Nursing education, in particular, emphasized preparing and training nursing students to acquire the clinical skills required in their profession. Several studies had shown that nursing students benefited from simulation situations, such as using videos in nursing skill education (Forbes et al., 2016).

Clinical instructors required individuals with excellent teaching abilities and strong clinical skills. However, clinical instructors were often appointed as clinical mentors due to their clinical expertise, and support to enhance their teaching abilities was frequently minimal. Moreover, clinical mentors often did not use questions that could stimulate critical thinking in students, even though, as clinical mentors, they needed interpersonal skills to manage students, nursing staff, and patient needs (Dahlke et al., 2012). Furthermore, it was stated that clinical mentors needed to understand the appropriate educational theories for classroom and clinical settings in guiding students.

Some of the skills required from clinical mentors included the ability to communicate, clinical skills and assessment, being a role model and source of support for students, knowledge of the clinical environment and curriculum, the ability to ask higher-level questions to stimulate critical thinking, and the skill

to focus on students in their approach to clinical education (Dahlke et al., 2012).

The use of Evidence-Based Nursing (EBN) during the pandemic was crucial. The COVID-19 virus was still relatively new, meaning a lot must be understood. With evidence-based practice (EBP) guidelines, clinicians could often make suboptimal or less-than-ideal decisions due to a lack of data. Furthermore, in the absence of EBP, interventions might be based on laboratory research or non-significant studies, and clinicians might choose treatments or actions based on what colleagues perceived as helpful, especially when the prognosis was poor. The lack of evidence led to poor treatment outcomes (UNCW, 2021).

During a global pandemic like this, information changes impacted the normalization of best practices. Clinicians must stay updated on providing interventions while continuously evaluating the quality and validity of information. Viruses did not wait for knowledge to catch up; they continued to evolve (UNCW, 2021). Recognizing the importance of Evidence-Based Practice (EBP) or Evidence-Based Nursing (EBN) in nursing, teaching EBN skills to students was crucial. However, there were several challenges in integrating the concept of EBN into the undergraduate nursing curriculum. Some of these obstacles included difficulties in accessing online databases, students' low understanding of data, and the perception among students that EBP did not significantly impact practice (Horntvedt et al., 2018). Based on this analysis, educators should build and apply collaborative teaching methods to enhance students' knowledge and improve the implementation of Evidence-Based Practice (EBP) in nursing education (Svoboda & Stevenson, 2021).

## 5. CONCLUSION

This study further highlights the need to provide special attention on nursing students for their clinical nursing education. Periodic evaluations needed to be conducted to determine the suitability of professional education in the context of the challenging situation, aiming to identify an appropriate educational pattern during the pandemic. This finding suggests that proficiency in IT among faculty and students had to be emphasized further to maximize the outcomes of nursing professional education. This approach may reduce misperceived in communication during the class, establish appropriate educational theories for classroom, and clinical settings in guiding students. Further studies should provide a comprehensive assessment of mechanisms underlying remote clinical nursing education outcomes competencies set by professional organizations.

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