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Contents lists available at ScienceDirect

Teaching and Learning in Nursing

journal homepage: www.journals.elsevier.com/teaching-and-learning-in-nursing

The solitary and uncertain learning process: A qualitative study of nursing students' experiences in the initial phase of the COVID-19 pandemic

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ARTICLE INFO

Article History:
Accepted 18 May 2023

Keywords:
COVID-19
Learning objectives
Motivation
Nursing students
Stress
Teaching

ABSTRACT

When the Coronavirus disease 2019 (COVID-19) pandemic broke out, the nursing students clinical practice period was abruptly interrupted by the lock down. The present study aimed to investigate the nursing students' learning experiences during the initial phase of the pandemic. A qualitative study was conducted investigating nursing students' written assignments (n = 48) of reflections according to their learning process. The qualitative data analysis revealed three main themes, namely the solitary and uncertain learning process; from collective learning process to digital devices; additional learning outcomes. The students' anxiety about the virus affected their motivation to study, but they also expressed enthusiasm and gratitude for having the opportunity to learn about the health system in a time of crisis. These results point towards the health care authorities can rely on nursing students' ability to take part and cover important emergency functions. The use of technology helped the students to achieve their learning objectives.

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Introduction

In March 2020, the World Health Organization declared the novel Coronavirus disease 2019 (COVID-19) a global pandemic. The pandemic was a challenge for nursing education globally. Mobilizing nursing students was necessary and influenced practice and nursing students as well. This article will focus on students' learning experiences during the start of the pandemic.

The COVID-19 pandemic put the healthcare system under immense pressure to provide effective patient care in safe environments. Information from healthcare institutions worldwide informed of healthcare workers being exposed to the virus during their work, and they are amongst the high-risk group to acquire the infection (Shaukat et al., 2020). The due diligence requirements in health legislation necessitated access control and even stopping visits to all public and private health and care institutions (Norwegian Directorate of Health, 2020). Owing to uncertainty, nursing students' participation in their clinical practice in the health institutions was also stopped. Thus, their education had to be postponed. However, it turned out that the health services needed additional resources and expected the need to increase in the near future. Based on reported needs from

the health services, the Norwegian Directorate of Health (2020) and the Ministry of Education and Research (2020) found that there was a need to mobilize healthcare students, including nursing students. The Norwegian Ministry of Education and Research informed all health professional educational institutions that healthcare students were to be regarded as health personnel. Thus, the students could be appointed auxiliary healthcare workers and be part of the health service's emergency preparedness system and cover important emergency functions. Although the students lost the placements they were supposed to fulfil during their practical training, they were able to fulfil their learning objectives in this way instead. Some of the students at our university were hesitant about entering their clinical practice period during the pandemic for different reasons. The extraordinary situation, with a rapidly increasing number of patients, put the students themselves at risk of being exposed to the virus, and their families accordingly. Hence, the impact of the COVID-19 pandemic on nursing students is profound. The lockdown of society can increase students' stress levels and influence their economic situation, life situation and family relations (Gallego-Gómez et al., 2020). Concern for society, health, social activity, and personal finances also affect people during a pandemic (Skogstad et al., 2021). A study of nursing students' mental health describes the four most frequent health problems during a pandemic, with depression as the most prevalent, followed by fear, anxiety, stress, and sleep disturbances

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(Cygan et al., 2021). Other studies have highlighted the increase in perceived stress among nursing students as the most evident impact (Aslan & Pekince, 2021; Hamadi et al., 2021). Another study found that although the COVID-19 pandemic represented a variety of challenges for students and faculty over the past year, the students' learning outcomes remained consistent. Several studies have investigated the pandemic's impact on nursing students' learning environment, but less is known about how the students experienced the pandemic's initial phase, characterized by uncertainty about the virus and somewhat overwhelming information. In addition, less is known about how they managed the new learning situation, which required a new technological solution for digital communication in order to comply with social distancing rules.

Aim of the Study

The aim of this study was to explore how the nursing students experienced their learning process in the initial phase of the COVID-19 pandemic.

Material and Methods

This qualitative study investigated nursing students written assignments. Data assessment was based on the agreements between the Norwegian Ministry of Education and Research and the universities, arrangements were made for the students to fulfil their learning outcomes at the university during the pandemic lockdown. These arrangements included either a clinical or a theoretical pathway. The clinical pathway included assignments, group sessions with their peer students and their teacher and 150 hours of clinical practice where the clinical practical placements were not obliged to provide the students with guidance. The students' clinical practice took place mostly in municipalities and health institutions. The theoretical pathway included weekly digital meetings with their teacher where they were given group assignments from the curriculum which include themes within mental health and old age issues. With a pedagogic structure, the students gave response to each other together with the teacher. The themes included reflections about ethics, law, clinical assessments and nursing process, medication and COVID-19.

Sample/Participants

All students in the second year of their bachelor program in nursing at the university were invited to participate in the study. Out of a total of 380 nursing students who received information about the study, 48 students (11 males and 37 females) gave their consent to the project researchers collecting their assignments from the teachers' online teaching platforms where all students' work is stored.

Data Collection

Recruitment took place through information about the study in the form of digital audio recordings and written material. The students who accepted to contribute to the study received a written informed consent form which they confirmed by mail. The students were assured confidentiality. Their participation was voluntary, and they were informed that they had the right to withdraw at any time without stating their reasons. Data were collected from the students' own descriptions of their learning objectives and from their reflection notes on their own learning process half-way through the 8-week period of practice and on completion from March to May 2020. The study was approved by the Norwegian Centre for Research Data (NO 203758).

Analysis

A content analysis inspired by Kvale and Brinkmann's three-step phenomenological-hermeneutic analysis of text (2015) was used, i.e., (1) self-understanding, (2) common sense and (3) theoretical interpretation. In step one, all assignments were read individually by researcher HB, NG, AB, CA-R and TS several times to establish an overall impression of its content. Each researcher formed a preliminary impression of each statement, and possible meaningful interpretations in the context of self-understanding were noted. In step two, the analysis involved a second probing dialog between the researchers and the data from the texts. The researchers used critical common sense which include a wider frame of understanding to interpret and comment upon the students' statements. The statements were then analyzed as a whole to find common patterns or disagreements within and between the students' assignments, and to gain an impression of the meaning units. In this third step, the meaning units were condensed and coded individually by the researchers to increase dependability and were further discussed before consensus was achieved. Further, the third step involved the discussions of several studies and theories of mental health issues and pedagogy in the interpretation of the meanings of the statements and expressions of the informants in a circular relation of whole and parts. When doubt or disagreement occurred between the researchers, the researchers re-assessed the material and reconsidered their perception by discussing the students' self-understanding and the main themes again. Through this process, a broader understanding and deeper insight arose. The analytical process was integrated with the researchers' prior academic knowledge and experience of the topic as teachers. The researchers maintained their impartiality to and distance from the text material.

The scientific rigor of the findings was maintained through the rich statements from the students and the data analysis process, and consensus was reached within the research team. The richness of the students' descriptions might fulfil the criteria for saturation (Malterud et al., 2016) and thus the number of participants was not a key focus but rather the richness of the descriptions of each students' account of their experience.

Results

Out of the total of 48 students, 40 took part in the clinical practice, while 8 students chose to take the theoretical option. Three categories emerged from the analysis: 1. the solitary and uncertain learning process, 2. variation of motivation, and 3. Additional learning outcomes, see Table 1.

The Solitary and Uncertain Learning Process

With limited knowledge of COVID-19 and the overwhelming amount of news about the pandemic, the students' plans for their

Table 1
Overview of Subthemes and Themes

Subthemes (Common sense)	Themes (Theoretical interpretation)
Reactions of worry and exhaustion to the lockdown.	The solitary and uncertain learning process
Lonely learning together on Zoom	
Disappointments and loss of motivation	From collective learning processes to digital devices
Concerns created new solutions for interacting with the patients	Additional learning outcomes
Increased enthusiasm in taking part in the health care services and becoming a nurse	

studies were abruptly changed. Due to the sudden lockdown of Norway, the students faced several challenges.

Reactions of Worry and Exhaustion to the Lockdown

Many of the students were concerned and anxious. They worried about their studies as the university closed and about having to engage in clinical practice with a high level of risk to their own health. The students attending the clinical pathway found the learning situation exhausting, working full-time as well as studying, and being in the midst of the pandemic, with the sense of insecurity from the mass media focusing on the global crisis:

When I came home, I was very exhausted, not because the work itself was so very heavy, but because it was a big transition from being a student to working a hundred percent as a nursing assistant over a long period. At the same time, the ever-pessimistic news was grinding in the back of my head.

The opportunity to attend to theoretical pathway to fulfil their learning objectives made it possible for the students to go home or stay with their families. However, they found little space for themselves, sharing the housing with parents working from home and siblings doing home schooling. One of the students described major limitations and obstacles in studying and concentrating on her studies as follows: “During the first two weeks of my stay, the whole family was working from home. There wasn't a quiet place left in the house.”

Lonely Learning Together on Zoom

Communication with teachers and fellow students was conducted digitally. Neither teachers nor students were acquainted with digital communication, and they found it challenging communicating only through digital learning. They had to try out different digital arrangements: “Tried different communication methods in the group that did not work properly before ending up with Zoom, which worked well.” The new way of meeting fellow students and teachers digitally was challenging. They had not met face-to-face before having to cooperate in group sessions. Not knowing anybody made student life and learning more demanding. One of the students expressed the discomfort: “I did not know the others in the group and did not dare to speak up about things that were difficult.”

However, they adapted quickly to the new situation and became familiar with digital meetings. One of the students expressed the experiences in positive terms: “. . . more accepting towards each other because of the corona.” The students acknowledged each other's way of acting in the group in another way than before and supported the group members in a mutual aid: “There was a low threshold for questions and good cooperation within the group.”

From Collective Learning Processes to Digital Devices

Most of the students had been looking forward to and planning their clinical placements during this last part of their second year. However, the lockdown and subsequent changes to their possibilities to fulfil the learning outcomes in practice affected their motivation to study. The learning process had to be framed by digital devices to be able to meet and socialize, and in this way, the students were able to achieve their learning objectives.

Disappointments and Loss of Motivation

Some of the students were disappointed when they realized the lockdown would last due to the enormous spread of COVID-19 and the students having to find alternatives. “Therefore, at first, it was disappointing and downright demotivating to hear that the practice could not be carried out as planned.” Students who took part in the

theoretical pathway described loss of motivation due to the students' own thoughts about the best way of learning. Studying theory without any practical experience in nursing and the opportunity to integrate their practical experience into theoretical understanding of nursing was lost. One of the students reflected upon how motivation decreased by having to follow the theoretical pathway: “Another aspect is that I learn best by experiencing things in practice and reading the syllabus before or after the experience. It provides hooks to hang the knowledge on, which gives me more understanding and motivation to learn and understand the knowledge better.” Another reason why motivation changed was the workload attending the theoretical pathway: “I was highly motivated for the theory in the first few weeks and felt that I was in control. Eventually, I felt that my motivation disappeared, and I had problems getting the full benefit from the learning activities.” Students also described how their minds and energy were occupied with the pandemic, and that learning theory and engagement in the learning outcomes came second when attending the clinical pathway: “My motivation and work capacity were more about the actual work at the home and infection control, both at work and outside work.”

Additional Learning Outcomes

The students described an increased engagement when receiving new work tasks and responsibilities in their role as auxiliary nurses. However, at the same time, they became extremely worried about spreading the virus to frail patients and thus being extremely happy with the success when no patients were infected.

Concerns Created New Solutions for Interacting with the Patients

The students experienced what it was like to be a facilitator of interaction between patients and next of kin. Due to the risk of infection, next of kin were denied access to the nursing homes. In order to comply with the health authorities' instructions on creating a safe distance, the students took part in arranging meetings out of the ordinary visiting arrangements. The students learned to use communication technology to help the patients and their next of kin to keep in contact. “Most of the relatives understand that they can't come and visit. We call relatives on FaceTime and mobile. This is hugely appreciated by the relatives.” Digital equipment was useful in quite a different way than before and became a new way for the families to meet.

Students taking part in home-based care experienced an extraordinary reduction in the number of visits to the patients due to the anxiety of spreading infection. Home visits were reduced to a minimum and replaced with telephone calls. This new way of offering the patients' healthcare made the students extremely worried. “Many visits from district nurses have been turned into calls in recent weeks. I have thought a lot about the elderly who sits alone at home and wait for the phone call from us during the day.”

Another aspect of being a nursing student was their own concern and anxiety of becoming infected and thus spreading the virus to the frail patients. However, looking back after 8 weeks of study during the pandemic, their anxiety was turned into happiness and satisfaction when managing to prevent the virus from spreading, as expressed by one of the students: “The greatest joy is probably that none of the patients or staff at my practice site was or became infected with COVID-19. That is a small victory in itself!”

Increased Enthusiasm in Taking Part in the Health Care Services and Becoming a Nurse

On their way to becoming nurses, the nursing students' new experiences and knowledge focused not only on the patients, but also on

how the health care system has dealt with the pandemic and the risk of illness and death. Students expressed how the change of role had given them more knowledge and reflection about working as a nurse. "It's been extremely interesting to be a part of the health service because of this situation. This has also made my choice to become a nurse even stronger and makes me prouder." Another student summarized the experience of studying nursing during the pandemic in positive terms: "Overall, I would say that it has been a somewhat different practice than I had expected, but a good practice anyway. I have been able to go through the learning outcomes as well as possible during practice, and the rest theoretically. It has demanded more of me as a student, as I have struggled a bit with motivation. It's probably because I have not been physically present at school with the class and lecturer."

Discussion

This study aimed to explore how the nursing students experienced their learning process in the initial phase of the COVID-19 pandemic in one Norwegian university. The results revealed three main themes which consisted of the solitary and uncertain learning process, from collective learning processes to digital devices and additional learning outcomes. The students described their experiences about the initial phase of the pandemic as a stressful time, and they experienced a great deal of uncertainty, anxiety and even loneliness. This new situation created stress, worry and exhaustion among the students experience about the new circumstances surrounding their studies and their own health. These results are consistent with the findings of studies on students' views of the pandemic (Aslan & Pekince, 2021; Bhurtun et al., 2021; Hamadi et al., 2021). These authors describe how the students perceived moderate levels of stress, but the students scored their level of stress higher than students assessed in previous years before the pandemic occurred. They also point to many unfamiliar and new experiences such as loneliness in the pandemic process as the reason for the students' increased stress level. Additionally, loneliness due to a lack of peer interaction and social distancing affect nursing students' fulfilment of fundamental psychological needs and disrupt their motivation to study (Pineda et al., 2022). Considering this risk related to the pandemic, some students found it opportune to go home to have support from their family during their digital studies. Social support from family and friends is important to alleviate the distress as commented in the study by Wolf et al. (2015). In a study from the United States involving 2,500 students, the most reported changes were mental health conditions such as anxiety, stress, and lack of motivation during the initial phase of the pandemic. Overall, the students perceived that the pandemic had a negative impact on their psychological health (Browning et al., 2021). Our results differ slightly from the US study, though our students experienced uncertainty and stress in the initial phase as well.

Many of the students found that the pandemic affected their engagement in their studies and expressed disappointment, not being able to access to the original clinical placements and worrying about being infected or transmitting the infection to family members. Motivation changes with time and different situations. According to Rafi et al. (2019), motivation is not constant, and life changes interfere with one's motivation to spend time and energy on the courses. Our study revealed similar results in that most of the students' motivation decreased when the pandemic hit hard and forced changes to be made to the students' clinical placements. The students reported ups and downs in motivation during the 8 weeks of practice in the first phase of the pandemic. This is understandable, as the students were caught up in the seriousness of the pandemic and had little time or energy left for their studies. It is likely that their studies were not their top priority. Nevertheless, the students in the present study expressed uncertainty and worried about not achieving the learning

outcomes because the challenges in practice focused on coping with the COVID-19 pandemic situation, as reflected in other studies (Cygan et al., 2021; Dewart et al., 2020).

The students who followed the practical pathway described how they struggled with motivation and how this led to problems with learning the study objectives. As the students gradually found their clinical placements and the pandemic to be overwhelming, their motivation seemed to decrease. The structured theoretical pathway through digital group sessions offered by the university seemed to get them back on track. This can be compared with the study by Mäenpää et al. (2020) who found that a structured bachelor program influenced the students' willingness to study (Mäenpää et al., 2020). This reflects how moving from a chaotic situation into a clearer and more structured environment gave the students reassurance and motivation. These structural changes increased the students' inner motivation, which in turn increased their interest in the study objectives and in taking an active part in their study achievements. The students experienced the study progression as a positive process that inspired self-confidence, which can serve as an important factor in overcoming pedagogical barriers to learning. Students who are motivated internally have the required motivation to learn, work, and achieve success (Ryan & Deci, 2000). As their motivation increased, they also experienced an increase in academic engagement, similar to other studies (Ghasemi et al., 2018; Sveinsdóttir et al., 2021), who found that motivation play an important role in students' academic engagement.

Another motivational factor was their experience of attending the group sessions with their peer students and their teacher. The students expressed how a collective learning process by means of digital learning, changes in learning methods, and support from their peers and supervisors enhanced their motivation for their studies and for their work as nursing students. This corresponds with the study by Mäenpää et al. (2020), who found that peer support and encouragement from classmates were perceived as crucial for their engagement and interest in their studies, along with the teacher's supportive attitude, interesting subjects and engaging teaching methods (Mäenpää et al., 2020), and perhaps even more so during a pandemic (Sveinsdóttir et al., 2021). Studies indicate that students appreciate interactive learning sessions and an emphasis on active participation. This encouraged them to take ownership of and responsibility for their own learning (Stone et al., 2013). Furthermore, Stone et al. (2013) describe how social interaction and collaboration between students contribute to an increased learning curve and acquisition of further knowledge. This probably would not have occurred if students were studying in solitude (Stone et al., 2013). In our study, the more the students understood the learning objectives, the more they seemed to be motivated. As discussed in several other studies (Mäenpää et al., 2020; Stone et al., 2013; Sveinsdóttir et al., 2021), social interaction and peer support appear to play a key role in acquiring knowledge and motivation. For most of the students in our study, their motivation increased throughout the period. We attribute this to the shift from a sense of chaos to a more structured learning environment.

The students' possibilities for reaching the learning outcomes in the present study can be understood as a result of the students' own values and the teachers' coaching role. The sociocultural learning ideas from Vygotsky (1978) and Dysthe (2001) can be compared with the students' study and learning process. The students are working in practice, they study online on their PC at home, but have contact with other students and their teachers via digital platforms, and this represents a social structure despite being off campus.

The students did not receive guidance in their practical skills learning as usual; they were partly guided by nurses and partly working as auxiliary nurses due to the pandemic situation. Some were guided in the digitalized student group by teachers at the university,

which can be compared with Nielsen and Kvale (1999) learning as a social learning process. When the students' experiences of practice are reflected on together with their teachers and their peers, their learning outcomes will be influenced (Hannigan, 2001). As seen in our study, a pandemic outbreak will affect and worsen students' mental health and well-being (Pineda et al., 2022). Teachers must keep this in mind when planning students' learning processes and learning outcomes as the students undergo stressful periods. Cooperation between students and teachers is based on trust and communication, and in the highly stressful situation caused by the COVID-19 pandemic, we assume that the teacher's caring role for the students is extremely important. Similar to the study by Langegård et al. (2021), social interaction among students and between students and teachers is an important part of the students' learning process. Teachers' influence on the student's lives is described by Vygotsky (1978). Changes in the learning environment were necessary because of the ongoing pandemic situation; these were made through open communication between students and teachers parallel to basic pedagogical ideas (Goldstein, 1999; Vygotsky, 1978).

The students experienced that their learning outcome during their practical period was different than expected. They gained new learning outcome and new achievements. They had to take more responsibility during their practice as auxiliary nurses which increased their knowledge and insight into vulnerable patients and their next of kin. The students' concern about the patients' vulnerability and their loneliness challenged the students' creativity to find new solutions for interacting with the patient and for the patients to interact with their next of kin. Due to the pandemic, the students' relations with patients resulted in encounters with existential suffering, which can be compared with Eriksson (1992); theories on existential suffering (Eriksson et al., 2006), and emphatic reflection (Gholamzadeh et al., 2018). Another achievement was increased knowledge about the health care. The students even expressed gratitude and enthusiasm for having the opportunity to learn about the health care system in a time of crisis. This experience opened for reflections and engagement in becoming a nurse.

The study revealed that in times of crisis like the pandemic, the health authorities can rely on nursing students' engagement and their ability to perform good nursing care. Their engagement revealed both high standard ethical attitude and reflections that are necessary to maintain high standards in the healthcare system in times of crisis.

Limitations

A limitation in this study is that the students who participated in the study may not represent a random sample of students in the second year of their nursing studies. The sample was recruited through digital audio recordings and written information, but their motivation for participating was unknown. The students underwent a time of stress and uncertainty which might have influences both their learning process, their reflections and engagement to participate in the study. Hence, the students that gave their consent can have been the students that mastered the situation the best. The researchers in the study were also teachers for some of the students, which may have had an impact on the results. Response bias might have occurred due to the students' desire to please their teacher who collected their assignments. Nevertheless, the study assignments drew on many different reflections on their experiences, and we believe these may be transferable to other students in the learning process similar to the one described in this study. Both students and the researchers took part in restructuring the learning pathways and in digitalizing the students' learning process. This might have influenced the researchers' preconceptions, but the number of researchers taking part in the analysis provides a plurality in the interpreting

process. However, we are aware that there might be more than one correct interpretation.

Conclusion

The present study showed that the outbreak of the COVID-19 pandemic had an immense influence on the nursing students' learning process and their motivation for their clinical practice. The study revealed some interesting perspectives on learning when the learning condition changed. Despite the changed clinical practice, the students reached their learning outcomes, and even gained additional learning outcomes. Despite their anxiety, the students experienced having a new role in the health care system which they appreciated. They took more initiative and responsibility towards the patient and the patients' next of kin. Another achievement was increased knowledge about the health care in a time of emergency which they appreciated. This experience opened for reflections and engagement in becoming a nurse. These results point towards the health care authorities can rely on nursing students' ability to take part and cover important emergency functions. Further studies could invest nursing students experiencing the pandemic and how nursing students can be used to the best advantage in times of crises.

Declaration of Competing Interest

All authors confirm there is no conflict of interest.

Funding Sources

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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