



Experiences of Nursing Students in the Care for Patients Diagnosed With COVID-19: A Qualitative Study

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Abstract

The present study examined the experiences of nursing students in the care of patients diagnosed with coronavirus disease 2019 (COVID-19). This qualitative study was performed based on inductive qualitative content analysis in 2020. The samples were 10 nursing students who were selected purposively from the emergency and intensive care unit wards of hospitals affiliated with Mazandaran University of Medical Sciences in Iran. Data were collected through semistructured and individual interviews and analyzed simultaneously and continuously by Granheim and Landman inductive qualitative content analysis. Experiences of nursing students in the care for patients with COVID-19 include 3 main categories and 7 subcategories: (a) psychological stress (fear of ward and patients and mental conflict), (b) social isolation (rejection by the family and friends, isolation, and concealment of the workplace), and (c) coping strategies as an adaptation strategy (a positive impact of spirituality and an effective role of increasing information). According to the findings of this study, the education system and university administrators can help reduce psychological stress and improve the quality of care in nursing students.

Keywords

Nursing student, COVID-19, qualitative study

Introduction

In December 2019, a viral disease was reported in Wuhan, China (1) and its outbreak was soon announced as an international health crisis by the World Health Organization in January 2020. After SARS and MERS viruses, the new coronavirus is the third pandemic caused by coronaviruses led to global panic (2). The disease has a variety of symptoms, including respiratory and gastrointestinal signs, ranging from limited and mild symptoms to pneumonia, severe dyspnea, septic shock, and even defects in various organs of the body (3).

As the forefront of the fight against this disease, nursing students and nurses are involved in issues as the diagnosis, treatment, and care of patients with this disease. Therefore, they are exposed to a high workload and the risks of infection with the disease for them and their families, leading to some levels of psychological burden (4). Due to the high global prevalence of coronavirus disease 2019 (COVID-19) and the mortality rate caused by the disease, health care workers were more exposed to psychological disorders and anxiety than others due to being at the forefront of fighting

this disease. Moreover, health care workers should wear masks and heavy protective clothing, which limit their movement and cause difficulty in performing medical procedures and practices compared to normal conditions (5). Studies showed that those health care workers feared contagion and infection of their family, friends, and colleagues (6), felt uncertainty and stigmatization (6,7), reported reluctance to work or contemplating resignation (7), and reported experiencing high levels of stress, anxiety, and depression symptoms, which could have long-term psychological

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implications (8). Similar concerns about the mental health, psychological adjustment, and recovery of health care workers treating and caring for patients with COVID-19 are now arising (9). Creating emotional problems and mental disorders such as stress, anxiety, and fear is one of the inevitable consequences of this disease that can cause stress, depression, and even suicide. Given that students, as a critical element of the educational system, have a unique role in achieving the educational system, it is essential to pay attention to their mental, emotional, and physical health (10–12).

The nursing workforce has required rapid worldwide expansion in a short period of time. In the United Kingdom retired nurses and undergraduate nursing students have become part of the workforce (13). However, with predictions of significant staff shortages as patient care needs increased and as health workers themselves became unwell, the possibility for nursing students to support the clinical workforce was explored (14,15). On the other hand, nursing internship students, due to their close interaction with the hospital are affected by various conditions such as fear of being a Coronavirus carrier and its transmission to the family, high job fatigue, reduced sleep quality, malnutrition, fear of death, lack of proper communication with the family, frustration, violent behavior, etc. Research on sources of anxiety among health professionals during the COVID-19 pandemic illustrates the need to be heard, prepared, and supported (16). So, concerning the nursing community is essential to at the time that they are directly fighting this disease. Due to the job prospects of many nursing students depend on this. The ignoring of nurses needs could create a pessimistic vision for the nursing students, followed by a lack of interest in education, academic decline, dropping out of school, changing the field, etc (17).

The combination of an uncertain and stressful environment and impaired support for nursing students is a recipe that could jeopardise the nursing students' learning outcomes. It is, therefore, important for nursing schools to gain insight into the experiences of students (18). Interventions can be developed to facilitate transitions and provide support to ensure better outcomes, expertise, and minimize the impact on students' wellbeing. Hence, it is essential to understand the experiences of nursing students, especially under the unique circumstances of the COVID-19 pandemic, which could help develop better responses in future health care crises (19).

There are limited studies on the experiences of nursing students in the care of patients diagnosed with COVID-19. A study in Spain showed that nursing students' experiences of care were in the forms of learning classes, 2-way emotions, patient communication, adaptation, teamwork, unclear care processes, and coping mechanisms (19). Also, some studies have been conducted on the level of stress in experiences of nursing students or nurses (20–22).

To the best of our knowledge, no study has examined the experiences of nursing students in the care of COVID-19

patients in Iran. This study is necessary for Iran because qualitative research deals with understanding people's experiences in the natural environment without intervention and people have different experiences in various research fields. The issue of maintaining the mental health of health care workers is important for improving the quality of care during exposure to COVID-19 disease (5, 23–25). Therefore, the present qualitative study aims to examine the experiences of nursing students in the care for patients diagnosed with COVID-19.

Methods

Design

In the present study, therefore, the experiences of nursing students in the care for COVID-19 patients were examined by the qualitative method of inductive content analysis in 2020 (26).

Qualitative research provides the opportunity to explore experiences in the natural environment. The choice of method depends on the aim of the study (27,28). The aim of this study was to explore the experiences of nursing students in the care for patients diagnosed with COVID-19. When there is not enough knowledge about a phenomenon or existing knowledge is not integrated, the inductive content analysis approach is recommended (27). Thus, considering that there was not enough knowledge about the experiences of nursing students in the care for patients diagnosed with COVID-19 in the mentioned context and to achieve the research goal, a qualitative method was used with content analysis approach.

Setting and Participants

The study setting was the emergency and intensive care unit wards of hospitals affiliated with Mazandaran University of Medical Sciences in Iran (26). Samples were selected purposively among nursing students at Mazandaran University of Medical Sciences. The research subjects were experienced in the care of COVID-19 patients so that they visited different wards as nursing students and performed the care of COVID-19 patients. The inclusion criteria consisted of being able to communicate, nursing students in the seventh or eighth semester who are spending the last year of their studies and having experienced in the care of COVID-19 patients. After interviewing 10 nursing students, data were collected continuously until no new data or codes about the phenomenon were added in the last interview. The sampling process aimed to select different gender (male: 5, female: 5), age (23–25), and cultures (Bojnourd: 1, Tehran: 1, Tonekabon: 1, Amol: 3, Babol: 2, and Sari: 2) to provide rich, wide, and deep information so as to gain possible maximum variation in sampling.

Data Collection Procedures

In order to collect data and access valid and reliable information, a semistructured and in-depth interview was conducted (27) which began with a general and open question, such as “please talk about your experience of the care for a patient diagnosed with COVID-19”. Or, “how did you feel when caring for a patient diagnosed with COVID-19?” To achieve the research objectives, the process of interviews was then directed based on the described content and by asking progressive and illustrative questions, such as “please explain more. Or, what do you mean”. The subjects were interviewed individually in a quiet environment at the participants’ workplace and were recorded on an audiotape with their consent. The interviews lasted for 40 to 60 min and were conducted individually in a quiet environment at the participants’ internship place.

Data Analysis

Granheim and Landman’s (2004) data analysis method was used in this study. The inductive content analysis method was used to analyze the data. Granheim and Landman suggested 5 steps for analyzing the content of qualitative data: (a) Implementing the entire interview immediately after each interview, (b) reading the entire text several times to get an overall understanding of its content, (c) determining semantic units and basic codes, (d) classifying primary codes in more comprehensive categories, and (e) determining the main theme of categories (29). The researcher tried to make sense from the data and find out what was happening and gain a sense of the whole. First, each interview was transcribed and listened to several times by the researcher to have a general mentality and to obtain complete familiarity with the text. During reading the interviews, notes were written in them. The written notes were reread and necessary codes were written in the margins to describe all the aspects of the content.

Then, the codes were transferred from the margins to a code sheet and subcategories were produced at this stage. The subcategories were classified under the categories with a higher level of abstraction. Table 1 presents a sample of this analysis process.

Trustworthiness

Trustworthiness was established via the 4 criteria of credibility, dependability, confirmability, and transferability (26). To ensure credibility, the first author had direct communication with participants over 12 months. The researcher tried to be adequately sensitive to the participants with prolonged engagement; she obtained the data and performed the interviews by asking the later probing questions based on the participants’ previous answers without personal bias. The member check method was also used so that, the extracted codes were given to some of the participants and they were

Table 1. Categories, Primary Categories, and Primary Codes Extracted From the Data.

Main categories	Primary categories	Primary codes
Psychological stress	Fear of ward and patients Mental conflict	Fear of exposure to coronavirus disease 2019 (COVID-19) patients, fear of being affected by the disease, fear of the disease spread in the family, negative effect of past mental image on fear, fear of ward-specific clothing and the unknown disease, the stress of being affected by the disease after the care Mental conflict due to the family opposition to care for COVID-19 patients, patient loneliness, possible spread of the disease among family members and their death, and distress after facing patients’ problems
Social isolation	Isolation by the family and friends Isolation Concealment of workplace	The reluctance of friends to have a relationship, discomfort of being forced to have less contact with others, a sense of rejection after facing the patient Separation from family members by entering the ward, eating places separated from family members, non-participation in family gatherings, allocating less time to attend at home, and disconnecting from others Concealment of the workplace from family members, concealment of working with COVID-19 patients from the family to reduce their stress, feeling guilty conscience for concealment from family members
Coping strategies for adaptation	Positive effects of spirituality Effective role of	A positive effect of belief in God in the reduction of anxiety and the effect of trust in God on the

(continued)

Table 1. (continued)

Main categories	Primary categories	Primary codes
	increasing information	peace of mind A positive role of reading nursing books in the control of self and situations, trying to reduce anxiety, and a positive effect of doing crossword puzzles in the reduction of stress

asked to confirm the extracted codes and express their corrective opinions. For confirmability, the data were coded and classified independently by the researchers, and the extracted codes were reviewed by the research team. Then, the categories obtained from the analysis were compared with each other. In case of a disagreement over the categories, the debate continued until an agreement was reached. To ensure the dependability of the study results, methods utilized for coding concepts and themes, as well as textual and audio data became available. Sampling with maximum diversity in terms of age, gender, and different cultures also helped ensure transferability (26,30).

Ethical Considerations

Interviews were made after gaining the approval (IR.MAZUMS.REC.1399.882) of the ethics committee of Mazandaran University of Medical Sciences. Before starting the interview sessions, the necessary information about the study and its objectives was explained to the participants. Agreements were made with the participants about the time and place of the interviews. The interview sessions were recorded with the consent of participants, who were ensured of stopping interview recording in each section upon their request.

Results

The results of data analysis showed nursing students' experiences in the care for patients diagnosed with COVID-19 included 3 main categories and 7 subcategories. The categories were (a) psychological stress (fear of ward and patients and mental conflict), (b) social isolation (rejection by the family and friends, isolation and concealment of the workplace), and (c) coping strategies for adaptation (a positive impact of spirituality and an effective role of increasing information) (Table 1).

Psychological Stress.

Psychological stress was one of the concepts extracted from the experiences of nursing students in the care for patients

with COVID-19. Nursing students experienced stress when taking care of patients. The dimensions of psychological stress include fear of ward and patients and mental conflict.

Fear of Ward and Patients. The subcategory "fear of ward and patients" specifies the concept of psychological stress. The results showed that the majority of participants were afraid of being affected by the disease when caring for patients with COVID-19. The participants believed that the unknown disease, peculiar symptoms in patients, and insufficient knowledge about the disease were the reasons for the fear. Some participants attributed their fears and anxieties to the past negative backgrounds and the information they heard beforehand about the disease.

In this regard, a female participant stated: "Well, it was something new and unknown; it is still unknown. We do not know about it and the news that we heard on the Internet... Well, the news that we hear or something that we encounter have an effect on us, making me being afraid of getting close to the patient" (M2).

Mental Conflict. Mental conflict is another dimension of psychological stress. Participants were mentally preoccupied with the possibility of family members and companions being affected by the disease due to its transmissibility following the patient care. They also attributed their mental conflict to the loneliness, problems of patients, and the family opposition in the care for patients with COVID-19. Some participants stated that their mental conflict was due to the possibility of family members being affected by the disease because of their underlying disease.

A male participant stated: "I had a busy mind mostly because I saw my family be a center of danger... for example, my father has an underlying disease or my mother has diabetes. I cannot guarantee that if my mother gets sick, she will survive. "That is why I have a busy mind mostly for the sake of other people" (M1).

Social Isolation

The concept of social isolation implies that nursing students tried to isolate themselves from their family and friends, and sometimes after encountering patients with COVID-19 and providing care. Some of them concealed their workplace and isolated themselves to reduce family concerns. Rejection by family and friends, isolation, and concealment are the dimensions of this concept.

Rejection by the Family and Friends. Rejection by the family and friends is a feature of the social isolation concept, implying that students are rejected by friends and relatives who are reluctant to have connections with them when they enter wards to take care of COVID-19 patients. Participants clearly stated that friends were reluctant to communicate with them and that this negatively affected their mood and caused their distress.

In this regard, a male participant stated: “I feel rejected. The more you isolate yourself for the sake of others, the more they look at you with fear that as if they may get ill from you. They somewhat reject you ” (M4).

Isolation. This dimension of the social isolation concept shows that nursing students isolate themselves from family members after the care for patients with COVID-19, due to the disease transmissibility and possible affection of the family. Also, they do not attend family gatherings such that they eat alone and do not have a close connection with their families. Some participants stated that they were away from their families for a long time and were afraid of transmitting the disease to the family. They could not stay with their families even if they visited them or felt homesick and depressed.

A female participant stated: “I was afraid to go home on Yalda night for the sake of my parents. Every time I go home, I have more stress if they get ill. I miss them so much. When I go home, my father cannot hug me ... I do not have the previous happiness at all; it affected me a lot”(M6).

Concealment of Workplace. Participants concealed their workplaces from their families and companions to reduce the anxiety and concerns of families. Participants stated that they preferred to conceal their workplaces from friends and relatives due to their negative attitudes toward the care for COVID-19 patients. They preferred to conceal their workplaces from their families so as not to increase their anxiety and worry about the workplace. This concealment had a negative effect on the participants such that they suffered from a guilty conscience.

A male participant stated: “I did not like to say that I work in a place where there are COVID-19 patients. Sometimes, I noted that they should keep distance and observe protocols, but I did not like to say that I was caring for the patients in this dangerous situation so that they would become concerned, as it upsets me and may indirectly affect my mood” (M1).

Coping Strategies as a Solution for Adaptation

The concept of coping strategies as a solution for adaptation means that nursing students used coping mechanisms to cope with ward conditions and care for COVID-19 patients. They tried to achieve the adaptation with the help and support of their families, belief in God, hobbies such as doing crossword puzzles and reading books and raising their level of information. The positive impact of spirituality and the effective role of increasing information are the features of this concept.

The Positive Impact of Spirituality. Students realized that religious beliefs and trust in God were effective in reducing their fear and stress. Also, they started that reciting the Qur'an (holy book among Muslims) and trust in God

helped them to achieve peace and to adapt to the ward conditions. Participants believed that belief in God and the supernatural force always accompanied them to reduce stress and achieve adaptation.

A male participant stated: “I have faith in God, who knows himself that our goal is to help and thus he helps us. Trust and hope in God help me to lower my fear. After the prayer, I recite a sura from the Qur'an (holy book among Muslims)” (M3).

The Effective Role of Increasing Information. Participants found that raising the level of information by reading scientific books, along with hobbies such as doing crossword puzzles, could effectively reduce stress and help achieve adaptation. Nursing Students initially experienced stress when they faced COVID-19 patients, but they adopted the situation over time using strategies such as reading books.

In this respect, a female participant stated: “To calm down, I try to do crossword puzzles, listen to music, read books, raise my knowledge, etc. These helped me to be the only one who takes care of a patient that is lonely and everyone is afraid of her. It makes me feel good” (M6).

Discussion

According to the findings of this study, the perceptual elements and experiences of nursing students in the care for patients diagnosed with COVID-19, including psychological stress, social isolation, and coping strategies, can be employed as an adaptation strategy.

The experiences of our participants indicate that nursing students experience psychological stress in the form of fear, stress, and mental conflict by the care for patients with COVID-19. Results of similar studies show that nurses experience psychological problems in the form of fear, stress, and anxiety during the COVID-19 epidemic (31,32). Health care providers experience psychological problems, such as depression, anxiety, insomnia, and stress. Meanwhile, front-line nurses, in particular female nurses, experience even more severe psychological problems (9). In Hong Kong, a study by Kwok et al (2020) revealed that almost all nursing students (97%) were concerned about COVID-19, and this fear strongly disrupted their daily routines (33). Because expectations of nursing students are not similar to those for the nursing workforce, fourth-year students approaching graduation suffered from low self-confidence (19). These findings are consistent with those of our study, wherein some nursing students felt uselessness and worthlessness in patient care.

According to previous studies, factors such as the care for patients, lack of self-confidence in practical programs, insufficient support for educators, and communication problems with other health professionals affect the stress levels of students (34–36). COVID-19 pandemic is a life-threatening danger affecting all people emotionally. The effects of this experience will vary for each individual, group, and social

class. Fear of being affected, uncertainty about health, insecurity in society, and similar factors are other sources of anxiety in nurses (9,22). These are accompanied by separation from family members and fear of transmitting the disease to them when returning home (31,37). In the present study, the sources of stress and anxiety included the fear of their possible affection by the disease, mental conflict from the possibility of the disease spread among family members and others, and conflict and discomfort when facing patients' problems.

In this research, the concept of social isolation indicates that nursing students tried to observe their distance from companions and have less contact with family members and friends after exposure to COVID-19 patients. Some participants stated that they were rejected by their friends and families, and some concealed their workplaces due to the negative attitudes of others around them. The nurses somehow quarantined themselves due to the stress of transmitting the disease to a family member. They tried to keep their distance from others in different ways. The outbreak of coronavirus and social anxiety created a stigma in nurses, which varied from family members to colleagues and the general public (38).

The results showed that participants reduced psychological stress over time by employing coping strategies such as family support, seeking resort in spirituality, and reading books. They were satisfied with helping and the care for patients. In Japan, it was reported that the experiences of nursing students in the COVID-19 epidemic enhanced their sense of belonging and decision-making, and improved their thoughts, ideas, and understandings in turning to professional nurses during this period. They expressed interest in serving their country and patients (39). Other research has shown what was expected of them as students were not the same as those in the workforce. This is described as a transition shock. Thus, when students approach their graduation, they lack confidence (40,41). This is why participants conceived this experience as an opportunity to improve their training, gaining confidence and skills, and taking care of patients without having full responsibility for them. Learning to deal with adversity and improving autonomy was valued (19).

The nursing students, as facilitators to overcome stress, received full support from family and friends, resulting in beneficial expression of emotions. Family and social support were beneficial in achieving a healthy transition and also after traumatic experiences which may cause post-traumatic symptoms (42). Nursing students considered coping mechanisms for coping with stress and detachment from reality, such as running, reading, or practicing yoga, to be effective in the reduction of stress (19). Regarding the religious beliefs of Iranian people, our studied students considered trust in God, spirituality, reading books, and family support as effective strategies in reducing their fear and anxiety.

Limitations

The present study focuses on explaining the experiences of nursing students in the care for COVID-19 patients in one of the provinces of Iran. Limitations include that findings were focused only on one area; In addition, older students might have different experiences. A study with multiple sites or more variety of samples may have led to different findings.

Conclusion

According to the results of the present study, nursing students were afraid of being affected by the disease among themselves or their families. They tried to isolate themselves from family and friends. Some of them concealed their workplace and isolated themselves to reduce family concerns. Over time, participants alleviated stress by adopting coping strategies such as family support, seeking refuge in spirituality, listening to music, and reading books. They were satisfied with helping and caring for the patient.

It seems that psychological counseling will enable nursing students to provide better quality care to patients. In this respect, the presence of palliative care teams consisting of psychologists and religious experts is recommended in centers for the care of patients with COVID-19. The university education system can help reduce nursing students' psychological stress and improve the quality of care by holding web-based courses on stress management skills, teaching the use of personal protective equipment, and observing health protocols. Besides, safety infrastructure should be strengthened by administrators so that nursing students and nurses can provide care with minimal concern.

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Ethical Approval

This study obtained ethical approval from the Ethics Committee of the Mazandaran University of Medical Sciences (IR.MAZUMS.REC.1399.882).

Informed Consent

Agreements were made with the participants about the time and place of the interviews. The interview sessions were recorded with

the consent of participants, who were ensured of stopping interview recording in each section upon their request.

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