ISSN: 2345-2897; Health Education and Health Promotion. 2021;9(3):287-293.

Qualitative Analysis of Nurses' Experiences during the COVID-19 Crisis

ARTICLE INFO

Article Type
Qualitative Study

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How to cite this article
Kheirandish E, Rahnama M, Noorisanchooli H, Rashki Ghalenow H, Abdollahimohammad A. Qualitative Analysis of Nurses' Experiences during the COVID-19 Crisis. Health Education and Health Promotion. 2021;9(3):287-293.

ABSTRACT

Aims Nurses are a key component of the treatment team in times of crisis and are currently at the front line of the fight against the COVID-19 pandemic. Since understanding nurses' experiences can help identify the relevant problems, this study aimed to explain nurses' experiences in the coronavirus crisis by content analysis approach.

Participants & Methods This qualitative study with a conventional content analysis approach conducted purposeful sampling in 2020. Ten nurses who were working in the COVID-19 wards of Amir Al-Momenin Hospital in Zabol were selected. The data collection method was semi-structured interviews. The data analysis process was performed according to the steps proposed by Graneheim and Lundman 2004. The trustworthiness of the data was checked by Lincoin & Guba criteria, and the research's ethical standards were observed.

Findings Two main themes of nurses and families under the shadow of coronavirus and the dual reaction of nurses to coronavirus crisis, as well as six categories (Nurse's family challenges, Joys and Concerns of nurses, Nurses and care injuries, Nurses and conflicting thought to the profession, Dual care reactions, Dual feeling reactions) and ten subcategories, were extracted.

Conclusion The results of this study indicate the individual, family, and occupational effects of the corona crisis on nurses, which can affect their care performance in addition to individual life.

Keywords Nurses; Coronavirus; Emotions; Experiences; Qualitative Study; Psychological Feedback

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Article History
Received: July 07, 2021
Accepted: August 26, 2021
ePublished: October 23, 2021

CITATION LINKS

[1] COVID-19 pandemic and comparative health ... [2] knowledge, attitudes and fears of healthcare workers towards the corona virus disease (COVID-19) ... [3] COVID-19 in Iran: A model for crisis management ... [4] COVID-19 epidemic: Hospital-level ... [5] Coronavirus: Origins, signs, prevention ... [6] An Italian sacrifice to the COVID-19 ... [7] Special attention to nurses protection ... [8] Knowledge, attitude, and practice regarding COVID-19 among ... [9] The experiences of health- care providers during the COVID-19 ... [10] Nurses experiences of care for patients with Middle East respiratory ... [11] Mitigating the psychological impact of COVID-19 on healthcare ... [12] Investigating the relationship between burnout and job ... [13] A qualitative study on the psychological experience ... [14] Exploring the life experiences of people with coronavirus ... [15] Qualitative content analysis in nursing research ... [16] Qualitative research in nursing: Advancing the humanistic ... [17] Nurses experiences on self- protection when ... [18] Experiences of home health care workers ... [19] COVID-19 exposure risk for family members ... [20] Psychological stress of ICU nurses in the time of ... [21] Psychological impact of COVID-19 outbreak on ... [22] Unknown disease management (COVID-19) in the world ... [23] Depression, stress and anxiety of nurses in COVID-19 pandemic ... [24] Nurses view about factors affecting the professional ... [25] Team work competence in disaster response ... [26] Military nurse professional competencies in disasters ... [27] Comparison between the attitude of nurses ...

Introduction

On March 11, 2020, the World Health Organization declared the emerging disease a global pandemic [1]. The coronavirus outbreak was first reported in December 2019 in Wuhan, China [1, 2]. In late December 2019, a group of patients with specific symptoms of pneumonia were reported, and the cause of this disease was a specific coronavirus called COVID-19 [3]. This new viral disease was identified as the third coronavirus epidemic in the 21st century after SARS (Severe Acute Respiratory Syndrome) and MERS (Middle Eastern Respiratory Syndrome) [4]. This strain of coronavirus primarily targets the respiratory system [5], and the elderly and people with weakened immune systems are more likely to develop severe disease. Patients with fever symptoms, dry cough, respiratory distress, and more severe forms of the disease are usually admitted to the hospital for further treatment [4]. Unfortunately, many cases of death have been observed due to this new virus [1].

Since this disease is highly contagious, many countries are now affected by it [4], so that along with China, the United States, Italy, Spain, and Germany, Iran has also been under severe pressure from the outbreak of COVID-19 [1].

According to a Newsweek report, on April 4, 2020, COVID-19 killed more than 100 physicians and nurses worldwide. This report can indicate the magnitude of the problem [6]. In this regard, Hong writes, nurses are highly vulnerable to COVID-19, and it is necessary to establish specific hospital protocols to reduce the risk of infection in nurses who care for COVID patients [7]. Therefore, all possible efforts should be made to prevent infection among these employees [8]. In principle, since health care providers are vital resources for any country, and their health and safety are vital for continuous and safe patient care and control of outbreaks [9], it is necessary to determine their problems. It needs to establish a safe health care system capable of delivering an effective response to the pandemic. In addition, strategies need to be developed to protect health care providers against severe physical and mental problems [10]. As the results of a 2020 study by Liu *et al.* Entitled The Experiences of Health Care Providers During the COVID-19 Crisis show, the intense workload of health care workers has drained them physically and mentally [9].

In particular, the psychological effects of a pandemic on staff will have negative consequences for the health care system and patient care [11]. This is especially important as the inadequacy of this workforce will bring irreparable results because of the important role in the recovery of patients. Therefore, it is vital to identify the factors affecting their performance, and measures must be taken to promote and improve their physical and mental health [12].

Qualitative research is recommended when a deep understanding of a particular phenomenon is required [10]. This has never been as important as today, particularly when COVID-19 is an emerging disease and the medical systems and culture of different countries are vary [13], and there are differences in the care experiences of nurses in different countries [10]. Especially since the outbreak of Coronavirus disease can change people's experiences [14]. Overall, since understanding nurses' experiences can help establish a safer health care system in an infectious disease outbreak, nurses' experiences in this field should be used to identify and solve related problems. Thus, the present qualitative study was conducted with a content analysis approach to explain the experiences of nurses working in COVID wards.

Participants and Methods

In the present qualitative study, the experiences of nurses working in the COVID wards of Amir Al-Momenin Hospital in Zabol were examined by a content analysis approach in 2020. Participants were nurses with experience caring for COVID patients who participated voluntarily in the study and had experience with the coronavirus crisis. The sampling method was purposely that it continued until data saturation and no new information was received from the participants, and finally, the sample size reached ten people.

The data collection method was semi-structured and in-depth interviews using open-ended questions. The focus of interview questions was on nurses' exposure to the coronavirus crisis. Some of these questions included: "What is the difference between corona days and other working days? Please tell me if you have any memories of the corona days. Can you tell me your description of the coronavirus crisis?" During the interview, the researcher helped the participants to share their experiences without giving direction to the conversations. Exploratory questions such as "How?" "Why?" "Can you explain more?" "Can you give me an example?" were also used.

Before the study, ethical approval (IR.ZBMU.REC.1399.049) was obtained from the faculty of medical sciences at Zabol University. The ethical principles of autonomy, confidentiality, and anonymity were considered for the participants. To enter the study, all participants were asked to provide oral and written informed consent, and their participation in the study was optional. Before taking part in the study, the participants were informed about the purpose and method of the study, and written informed consent was collected. All ethical measures, including honesty in providing results, data confidentiality, and anonymity, were considered with care. The participants were free to exit the study whenever. Data collection was done

by attending the Amir Al-Momenin Hospital in Zabol, and sampling was continued until data were saturated, where no new concepts and codes could be extracted from the subsequent interviews. Also, according to the principle of maximum variation in sampling, we tried to enroll the participants with differences in age, sex, work experience, and marital status. The interviews took place in a quiet environment. The duration of each one-to-one interview was 45-60 minutes, depending on the participants' circumstances and patience, which took place in one or two sessions. All interviews were typed verbatim, reviewed, coded, and immediately analyzed by the researcher. Data analysis was performed simultaneously and continuously with data collection.

Data analysis was performed using the content analysis approach conventionally. In this way, first, each interview was read carefully to gain an initial understanding, and its important statements were underlined and recorded as codes (initial coding). The participants' words and the signifying codes (researcher's perceptions of the statements) were used for the initial coding. The similar codes were summarized to clarify the meaning and categorized into themes, categories, and subcategories. The data analysis process was performed according to the steps proposed by Graneheim & Lundman, including 1. Write down the entire interview immediately after it is done 2. Read the entire text of the interview to gain a general understanding of its content 3- Determining the units of meaning and basic codes 4—classification of similar primary codes into more comprehensive classes 5. Determine the content hidden in the data [15]. To identify the rigor of this research, Lincoin & Guba criteria, including credibility, dependability, confirmability, and transferability, were used [16]. For the credibility of findings, participants were given the texts of coded interviews to confirm their compliance with their lived experiences, and in some cases, corrections were made. To achieve dependability, the resulting codes and concepts were consulted and reviewed with experts and collaborators of the research project, and also several colleagues were asked to encode some parts of the interview text, and then, the coding was agreed upon by the research team. To confirm the transferability of the findings, we tried to use nurses with different demographic characteristics and different experiences, and the researcher assessed all aspects of behaviors, events, and live experiences. The confirmability of the findings was achieved by providing a detailed description of the research stages so that any researcher could repeat the study. In addition, the details of the study were carefully documented to enable the evaluation of external observers.

Findings

The individual characteristics of the participants are presented in Table 1. Analysis of data collected from participants led to the extraction of 2 main themes, six categories, and ten subcategories (Table 2).

Table 1) Results of demographic characteristics

No	Age (Year)	Gender	Work experience (Year)	Education level	Marital status
1	42	Female	16	BSc	Married
2	33	Female	11	BSc	Married
3	30	Male	7	BSc	Married
4	41	Female	17	BSc	Married
5	30	Male	8	BSc	Married
6	42	Female	10	BSc	Married
7	44	Female	18	MSc	Single
8	51	Male	25	BSc	Married
9	28	Female	5	BSc	Single
10	25	Female	2	BSc	Married

Table 2) The main categories, subcategories, and subsets

Category	Subcategory
Nurses and families under the shadow of coronavirus	
Nurse's family challenges	
Joys and Concerns of nurses	The Joys of nurses The concerns of nurses
Nurses and care injuries	Physical care injuries Physiological care injuries
Nurse and conflicting thought to the profession	Optimistic thoughts to the profession Pessimistic thoughts to the profession
Nurses and dual reactions to the coronavirus crisis	
Dual care reactions	Avoidance care reactions Accepting care reactions
Dual feeling reactions	Positive feeling reactions Negative feeling reactions

Nurses and families under the shadow of coronavirus

The nurses' experiences reflected the effects of the coronavirus crisis on the nurses and their families during the pandemic, which faced them with family challenges, along with some joys, many worries, many physical and mental harms, and even conflicting views about their profession.

-Nurse's family challenges: The participants stated that dealing with the coronavirus crisis had some family effects on them, and they have experienced challenges in this regard, including facing family anxiety about them being infected, parents' concerns about their nurse child if he/she gets infected, the nurse distances herself from her child despite her inner desires, the feeling of family disintegration in corona days, unhappiness about being a source of fear for others, warring about the child losing his mother, difficulty caring for the child, not kissing the child due to the fear of transmitting the disease, worrying about infecting the spouse, disruption of family relations, child grief over the separation of his nurse mother from himself, and the negative impact of nurse's anxious behaviors on children, etc. "My family was under much stress during coronavirus crises, and my husband was under much stress. My

mom and dad were also very worried and upset." (P10)

-Joys and concerns of nurses: According to the participants, the coronavirus crisis, along with some joys, has been a source of great concern for them. The nurses' joys during this period included increased intimacy with colleagues in the face of a common problem, the nurse's pleasant memory of patient discharge, wearing protective clothing to protect themselves, being on a shift with long-term colleagues, knowing more about self-worth, family and life moments during coronavirus pandemic, knowing more about each other in the family following coronavirus pandemic, being a hero in the eyes of others, knowing more about the value of colleagues, etc. "With the coronavirus outbreak, I realized that life is very worthless, and we should appreciate the blessings we have much more. Coronavirus taught me that I should be more self-conscious, use every single moment of my life happily, and think less about the future and more about the things that bring me joy." (P2)

Nurses' concerns during the coronavirus crisis included; the anxiety of being a carrier, financial anxiety, doubling the difficulty of work with the start of coronavirus outbreak, bilateral stress of dealing with an unknown illness, colleagues and the new environment, and also lack of information about coronavirus at the beginning of the pandemic, difficulty communicating with new colleagues, the bitterness of shifts in the absence of emotional connection with colleagues, worrying about the future of coronavirus outbreak, worrying about every moment of life, worrying about own health, worrying about family's health, worrying about patients, etc. "During coronavirus pandemic, there were also economic problems, and within a month or two, my financial situation became very bad, and this made me very worried, and I was afraid that I would not be able to pay my bills. I had this concern every day." (P5)

-Nurses and care injuries: The participants stated that the coronavirus crisis had caused numerous physical and psychological injuries. Physical injuries included varicose veins, sleep disorders, lower back problems, osteoarthritis, and physical symptoms of stress. "During coronavirus crises, we had breathing problems and shortness of breath, because we always had to wear a mask in the COVID-19 wards. I was short of breath as I climbed a few steps." (P5)

Nurses' psychological injuries included; feeling nervous, having a sense of impending doom, getting nervous disorders during coronavirus pandemic, having the stress of working in the new ward with new colleagues, having difficult conditions when facing patients' deaths, seeing nurses suffering from obsessive behaviors, feeling of mental and psychological fatigue after the shift, etc. "I remember a 32-year-old patient in the ward. When I received the patient from my colleague, her blood oxygen level was low, and she was very scared and told me; nurse, don't leave me alone because I would die and I have a 6-month-old girl. I comforted her, but she said, I know I will die, and she insisted not leave her room. I stayed there for 10 minutes and calmed her down as much as possible, but she was getting worse. At the night shift, the patient went to the ICU, and unfortunately, she expired there, and God knows how much I cried for this patient. I have a very bad memory of that day in my mind." (P4)

Nurse and conflicting thought to the profession: The nurses argued that dealing with the coronavirus crisis has led to optimistic and pessimistic thoughts on the nursing profession. The optimistic views included; highlighting the important role that nurses play in society, the caring role of nurses compared to the therapeutic role of physicians, understanding the effectiveness of nurses in recovery, hoping for a better future of nursing, and understanding the usefulness of the nursing profession. "During the coronavirus pandemic, I realized how useful I can be as a nurse." (P7)

Pessimistic thoughts also included; nursing is one of the hardest jobs, the future of nursing is regression instead of progression, nursing is tedious, nursing is stressful and dangerous job compared to other jobs, having regret over choosing the nursing, pessimism about the future of work, and seeing nursing profession surrounded by major problems. "The nursing job is tedious, so much so that even on holidays, we have to come to work and face dangerous and contagious diseases like COVID-19, while other jobs may not be like that. Other people stay at home during the quarantine, but we have to come to work and take care of these patients. This job is stressful and dangerous." (P7)

Nurses and dual reactions to the coronavirus crisis

Nurses' experiences revealed their different reactions to the coronavirus crisis.

Dual care reactions: The nurses' experiences showed two efficient and inefficient reactions to the coronavirus crisis. Accepting care reactions included; approaching the COVID-19 patient and caring for them despite being scared, being accustomed to crises, performing nursing duties despite fear, teaching protective principles to patients and families, having closer contact with patients in the absence of support, striving to make patients happy and hopeful, updating families about the patient condition by phone, implementing self-quarantine when suspecting of being infected to avoid infecting the family, etc. "We did not have a problem with the COVID-19 patient, although we had to do the patient work from top to bottom and we were totally afraid of being in close contact with patients, it was a task, and we had to do it." (P4)

Avoidance care reactions included; a desire to retire due to the fear of outbreak of another unknown illness, leaving the job, spending less time with

patient bedside due to the fear of disease transmission, superficial care for COVID-19 patients, simplification of COVID-19 disease by nurses, waiting for work hours to end in COVID-19 wards, the insignificance of COVID-19 patients' death for some nurses, the lack of motivation of some nurses during the coronavirus pandemic, the irresponsibility of some nurses during coronavirus pandemic, etc. "I saw some nurses, who had become careless and indifferent during the coronavirus pandemic, and patient's death did not matter to them. They had become unmotivated, and their responsibility to patients had diminished due to fatigue and discouragement by managers." (P7)

-Dual feeling reactions: The nurses' experiences suggested that they experienced both positive and negative feelings in the face of a coronavirus crisis. Negative feelings included; sense of sadness during care delivery, feeling of not being understood by anyone, feeling of being captive during coronavirus crises, feeling of mental inefficiency, feeling of fatigue and discouragement, feeling bad about increasing society's distance from nurses, feeling of being a carrier, feeling unhappy about patients' instability, feeling that the co-workers are getting older while working in the COVID-19 ward, the nurses' conscience feeling about being away from their children, feeling of exhaustion and burnout during the pandemic, the nurse's reluctance to work, feeling of depression on the corona working days, the head nurse's indifference feeling towards the nurses' health, feeling that no one cares about nurses, feeling deprived of emotions caused by reduced socialization with others, fear of becoming hard-hearted following the reduction in socialization, not being happy due to COVID-19 disease, complaining of being underestimated as nurses, complaining of tiredness caused by consecutive shifts, feeling frustrated with the coronavirus, feeling nervous with the start of coronavirus outbreak, the dual feeling of joy and anxiety during care, the feeling of imminent death, feeling that corona days are passing slowly, feeling upset that there is nothing that can be done for patients, feeling sad about untimely death of patients, having constant conflict with negative emotions, feeling sad that others are running away from nurses, etc. "From the very first days of the COVID-19 pandemic, I was very upset about the situation because we could do nothing for patients. It was really like most patients needed help, and we could not help everyone." (P5)

Positive feelings included; feeling calm by caring for COVID patients and pleasing God, feeling God's spiritual support, feeling happy to be trusted by the patient, feeling of being important to others, feeling happy about receiving spiritual support of the family, feeling happy about helping patients, feeling like a hero during the pandemic, a pleasant sense of community appreciation, a sense of closeness to God, a sense of having a greater interest in life, a pleasant sense of meeting the patient's needs, etc. "In some places in the community, people sort out my work as soon as they realize I am a nurse, and that is a pleasant feeling for me." (P7)

Discussion

The results showed that coronavirus had cast a shadow over the nurses and their families, and nurses have dual care and feeling reactions to this crisis.

According to the results, the nurses working in COVID-19 wards have experienced some family challenges. In this regard, Blake *et al*. believe, given the challenges associated with family and child care during shifts due to irregular working hours and high workload, there is a clear need for immediate action to protect the health of health care workers [11]. Saffari says nurses are at the forefront of the fight against this disease, the high workload and risks of the disease for themselves and their families is a double psychological burden for them [17].

In addition, the nurses under study had several concerns due to their work in COVID-19 wards. Their major concerns were being a carrier and transmitting the disease to family members, colleagues, and others. In confirmation of this, Eghbali believes that nurses may feel the risk of transmitting the virus to their families, friends, or colleagues [4]. In the study of Sterling *et al.*, which examined the experiences of health care workers at home during the coronavirus pandemic, the high risk of transmitting the virus was one of the themes extracted [18], which is in line with the results of the present study. However, a study investigating the risk of exposure to COVID-19 in the families of health care workers stated that despite the perception that health care workers are spreading SARS-Coronavirus-2 infection, these employees are not the main source of risk for their families [19].

Another major concern of nurses was the concern over their family members. According to the results of a study by Sun *et al.*, one of the psychological experiences of nurses caring for COVID-19 patients was anxiety and worry for patients and family members [13]. Shen *et al.* also confirmed that nurses caring for COVID-19 patients are concerned about their families and vice versa [20]. In a study by Sterling *et al.*, some of the other concerns of nurses included being at the forefront of the fight against the COVID-19 pandemic despite not being acknowledged, being at high risk of transmitting the virus and being forced to strike a balance between personal life and work difficulty, which were extracted as the main themes [18]. Some of these concerns are common to the concerns of nurses in the present study.

In addition to these concerns, the nurses also had some joys, so that according to the results, the

nurses in the present study considered the difficulties and problems caused by coronavirus as a factor that increased their self-esteem and quality of family time. According to the results of a study by Sun *et al.*, the psychological experiences of nurses caring for COVID-19 patients included growth under stress, increased emotion, and appreciation [13].

According to the results, the nurses under study had suffered a lot of personal (physical and psychological) injuries due to their work in COVID-19 wards. In confirmation of this result, Liu *et al.* in their qualitative study concluded that intense work during the COVID-19 crisis in China had drained health care workers physically and mentally [9]. Nie *et al.* in a study also concluded that COVID-19 disease had had significant psychological effects on frontline nurses [21]. Saffari *et al.* have also identified the long working hours and the cancellation of many personal and recreational programs in the nurses working in COVID-19 wards as the cause of physical and mental complications [17].

In regard to psychological injuries, Blake states that stress, anxiety and depression may be seen as natural psychological reactions in the face of a pandemic [11]. Saffari *et al.*, in a qualitative study entitled: "Nurses' experiences in previous epidemics caused by other types of coronavirus such as acute respiratory syndrome and Middle East respiratory syndrome, showed that the nurses had no desire to take part in social activates due to the possibility of transmitting the infection to others as well as social pressure caused by the disease, and had a high level of symptoms of psychological problems such as stress, anxiety and even depression [17].The incidence of stress and anxiety in nurses caring for COVID-19 patients was also confirmed in the study of Hedayatzadeh *et al.* [22]. Sarboozi Hosseinabadi *et al.* reported moderate depression, anxiety, and stress among nurses during the COVID-19 pandemic [23]. Shen emphasizes that high level of stress can even lead to suicide in nurses who care for critically ill patients [20].

According to our results, facing the coronavirus crisis has formed an optimistic thought in some of the nurses under study and a pessimistic thought in others. Acquiring a negative thought is probably due to the ignorance of some nurses about the important role they play in dealing with crises, which is due to insufficient training of nurses in this field. Meanwhile nurses, as important members of the health care system, are expected to respond to the changing and growing needs of society [24], especially in times of crisis, when nurses as one of the most important members of the crisis team [25] play an important role in responding to natural disasters [26]. In confirmation of the need to educate nurses about their roles, Ali Akbari *et al.* suggested that, due to the sensitive role of nurses, their level of knowledge about nursing roles should be enhanced during their university education in order to increase the quality of services [27].

According to the results, the nurses in present study had two types of avoidance and accepting care reactions to the coronavirus crisis. In regard to the accepting care reaction of nurses in the present study, in the qualitative study of Liu *et al.* entitled: "Experiences of health care providers during the COVID-19 crisis in China", one of the extracted themes was full responsibility towards the well-being of patients [9]. Probably part of the misconduct of nurses in the present study was due to their lack of knowledge in this regard. According to a study conducted by Zhang *et al.* in China, 89% of employees had sufficient knowledge about COVID-19 and 89.7% had appropriate performance, because knowledge about a disease can affect employees' attitudes and practices, so that incorrect attitudes and practices directly increase the risk of infection [8]. Saffari talks about various reasons for the possible improper performance of nurses, such as lack of personal protective equipment (particularly at the beginning of the disease), lack of specific drugs or vaccines to control and prevent the disease, media pressure and psychological climate, and feeling of not receiving the necessary support from the relevant authorities, which can overshadow the performance of health care staff, especially nurses, and affect their accuracy and skill in providing effective services. Therefore, it is necessary to reduce the psychological pressure caused by the disease to improve the nurses' performance as much as possible [17]. According to the results, the nurses in the present study showed both positive and negative feeling reactions to coronavirus crisis. In confirmation of this result, Sun *et al.* in their study entitled: "Psychological experiences of nurses caring for COVID-19 patients", concluded that during the outbreak of COVID-19 pandemic frontline nurses have experienced positive and negative emotions. They also reported that nurses were experiencing negative emotions including fatigue, restlessness and helplessness due to the high workload and fear of infection [13].

Conclusion

The individual, family, and occupational effects of the corona crisis on nurses, which can affect their care performance in addition to individual life. Therefore, taking comprehensive measures by the authorities to solve the problems facing these valuable workers is recommended because appropriate policies in this regard and their implementation is vital.

Acknowledgments: The authors of this study would like to express their gratitude to Zabol University of Medical Sciences, the nurses who participated in this study and all those who helped us in this project.

Ethical Permissions: Ethical approval (IR.ZBMU.REC.1399.049) was obtained from the Faculty of Medical Sciences, Zabol University, Iran.

Conflicts of Interests: This article is part of a master's degree thesis in medical/surgical nursing in Zabol University of Medical Sciences. The authors declared no potential conflicts of interest for the research, authorship, and/or publication of this article.

Authors' Contributions: Kheirandish E. (First Author), Main Researcher (%35); Rahnama M. (Second Author), Discussion Writer (%35); Noorisanchooli H. (Third Author), Methodologist (%10); Rashki Ghalenow H. (Fourth Author), Introduction Writer (%10); Abdollahimohammad A. (Fifth Author), Assistant Researcher (%10).

Funding/Sources: Not declared.

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