

*Original Article***Experiences of nursing students in caring of patients in source isolation***Leila Mardanian Dehkordi*, Khosrow Tavakol*****Abstract**

BACKGROUND: Infectious disease control is one of the important components of patient care which can assist in reducing morbidity and mortality. Source isolation is one of the strategies that have used in order to prevent from the spread of contagious infectious diseases. Since nursing student should be able to do the caring in source isolation patients after learning the principles, it's necessary to assess the students' perception of caring for this client group in order to prepare them for the role of caring.

METHODS: This is a qualitative phenomenological study; its participants were selected with maximum variation by purposive sampling from first to fourth year nursing and midwifery students of Isfahan School of Nursing and Midwifery. The students used to do the patient caring during the clinical internship. The sampling done until 10 interview data saturation was obtained. In order to collect data, researcher used depth interview method. Data analysis was performed by seven-stage Collaizzi method.

RESULTS: The findings of this study included 6 main concept (themes) from participants' experiences as following: 1. Stressor agents of caring, 2. Response to stress, 3. Care requirements, 4. Care provider performance, 5. Consequence of care, and 6. Improper caring.

CONCLUSIONS: Providing educational programs in terms of isolated patients can reduce anxiety in students which this can lead to more control and prevent the spread of infectious diseases. In addition, studying about patients' needs can be useful for improving practical interventions and clinical care.

KEY WORDS: Life experiences; nursing care; nursing students.

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Infectious disease control is one of the important components of patient care which can assist in reducing morbidity and mortality.¹ Source Isolation is described as one of the strategies used to prevent the spread of contagious infectious diseases. Using isolated rooms are for the patients known or suspected to be infected with pathogens which can spread through the air, droplets or contact with others.²

In patients' point of view, source isolation is a restricted environment and isolation procedures had brought about obstacles for physical and psychological needs of the patients.³ The results of a study on stressful effects of hospitalization and isolation on adaptation indicated that the anxiety and depression were more

common among isolated patients in comparison with other non-isolated patients ($p < 0.001$). This finding also indicated that isolated subjects experienced a lower self-esteem than non-isolated group ($p < 0.001$).⁴

Isolation precautions lead to limitations in visual, auditory and sensory senses. Consequently it may influence the relationship between patient and the nurse⁵ and also affect the patients care. Evans et al showed that isolated patients were visited fewer times than non-isolated patients and had generally less contact time.⁶

Considering the fact that a nurse is one of the components of a medical team that spends the most time in contact with the patients in com-

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parison with other members of the team, he/she should have a good interaction with the patients and inform them in order to reduce their anxiety. As a result, he/she can help patients reduce their anxiety and help them gain their health more rapidly. Caring, based on the individuals' needs also helps them reduce their stress associated with extended periods of separation and replace it with positive experiences of isolation.^{7, 8} Finn believed that some nurses lack the necessary knowledge and skills to plan and evaluate the appropriate infection control care⁹ which could lead to ineffective precautions or over isolation and placement of patients in a single room while standard precautions can suffice.

Farokhi et al indicated that 44% of the subjects had a little knowledge on infection control standards and the performance of the majority of them in infection controlling during invasive procedures was not acceptable (changing the wound dressing 84%, tracheal suctioning 81%, bladder catheterization 83% and changing IV line 78%).¹⁰

Cassidy presented the findings of his research in the form of four main concepts including organizing the concept of care, obstacles and breaking the obstacles, theory and practice and only one student. He expressed that unfortunately physical, psychological, social and emotional obstacles of isolation dramatically alter the caring experiences.³

Since nursing students should be able to take care of patients in source isolation, expressing their experiences and preparation of general nursing students is important in illuminating the issues to their experiences in providing this care. Therefore, this research was carried out in order to discover the experiences of nursing students regarding patients in source isolation. Researchers have accomplished this qualitative study because of low quantitative and qualitative surveys about the source isolation of the patients.

Methods

In this descriptive phenomenological study, purposive sampling with maximum variation

was used. The samples were nursing students from first to fourth year of education in Isfahan Faculty of Nursing and Midwifery who did patients care during clinical internship. The sampling was done until 10 interview data saturation was obtained. The interviews were carried out in the presence of the researcher and participant in a single room. Each session of interview lasted between 30 to 40 minutes based on interest of the participants. In order to collect the data, deep semi structured interviews were used. Some of the questions of the interview were as following:

1. What would you think when you hear the word "isolation"?
2. What did you feel when you realized that you are accountable for the care of the isolated patients?
3. What was your reaction against accountability of isolated patients care?
4. What was your feeling when you were taking care of the isolated patients?
5. Tell us a reminiscence of the time you were with the isolated patients.
6. Describe your feelings after caring of an isolated patient.

For data analysis, seven-stage Colaizzi method was used. At the first stage of Colaizzi, all of the manuscripts were read and important phrases were extracted carefully several times. At the next stage, based on the second step of Colaizzi method, the meaning of each important phrase and words related to the studied phenomenon were extracted. At the third stage, each of the extracted important sentences, were given a special meaning. At the fourth stage, the concepts for each sentence were described and repeated for the participants. then, they were coded and categorized and these categories were referred to initial protocols for confirming their validity. At the fifth and sixth stages, all ideas derived within a complete and comprehensive description were combined as a comprehensive description for the phenomenon and then were reviewed to obtain clear meaning and any ambiguity were avoided. At the last stage, the results were referred to the participants to confirm its reliability.

In order to confirm the reliability of a qualitative study, four criteria (credibility, confirmability, dependability and transferability of the data) are used.¹³

In order to gain credibility, after data analysis for each interview, the interviews were re-referred to the participants for confirmation and accuracy. In addition, for confirmability, the researcher tried to avoid her own prejudice presumptions about the studied phenomenon. For dependability of data analysis, she used guidance of the colleagues. Ultimately, for transferability of the data in similar situations, students of different years were participated in the study.

Ethical Considerations

This study was approved by the ethical committee of Isfahan Faculty of Nursing and midwifery. The aim of the study was explained to the participants and a written consent was received from all.

Results

The findings of the study were around six main concepts:

1. Stressor agents of caring, 2. Response to stress, 3. Care requirements, 4. Care provider performance, 5. Consequence of care and 6. Improper caring.

1. Stressor agents of caring

Unpleasant mentality of the nurses about the isolated patients suffering from depression and isolation and being ostracized by the society on one hand and invasive procedures that they should have done for the patients, contacts with their body secretions, inappropriate environmental conditions, isolated rooms and nonobservance of cautions on the other hand (which as a result could increase the probability of being infected) were cases which created tension and stress at the time of caring. The following comments are some of the samples quoted by the participants:

"I'm so afraid of AIDS, because, if you suffer from it, you're going to be depressed and ostracized. Because, earlier, in an AIDS conference, a guy had come with his family all suffering from

this disease, He said that they had been given a house far from the city"

"God forbid, if I suffer from AIDS, then I won't be afraid of death, because others have a bad opinion about it. I will be disappointed because others believe that this guy might have moral perversion"

"Because my patient had tuberculosis and had a bad respiration, there would be fewer problems if that isolated patient needed a serum analysis, that's again thrilling, but through respiration, the possibility of transmission would be more."

"I am so afraid, because I've heard one of the nurses was infected by hepatitis virus"

"I am afraid to touch them; I thought it would be dangerous to put IV line or do the blood sampling"

"In our country, the standards are not observed, perhaps his disease will be transmitted. Even on the door, it was not written that "the patient is isolated"".

"His/her companies could probably be transmitters, this person was sitting near the patient without a mask, he was constantly walking around in the waiting room, there was this big probability to get other staff involved".

2. Response to stress

Another concept was response of the participants to stress. Facing the isolated patient and being afraid of caring led to the simulation of affective responses, in which students were upset and requested for replacement of the patients and expressed by inclination or sometimes they were excessively cautious during caring:

"When I realized that he's my patient, I started crying involuntarily."

"I was afraid; I didn't want him to be *my* patient".

"I got sad, I said: why you have given me *this* patient?".

"I told them to replace my patient with someone else. I don't want this patient".

"I put more than two pairs of gloves and two masks on, because every moment I felt that the basil of tuberculosis might enter my respiratory system and I would be infected in a few years"

"I really did not want to take care of him without gloves; however I knew that it could not be transmitted through skin contact."

3. Care Requirments

From the perspective of participants, having experience and knowledge about the care of isolated patients is an important factor, and as a result, lack of enough experience and knowledge inhibits the proper care of patients.

"Since then, I've never studied about infectious disease, I was afraid to stay there".

"Students believe that it can be transmitted in other ways which have not been yet discovered, that's why no one wanted to take care of them, I also had little information about his illness. There, I provided a book and read it. That time, I hadn't passed the course of infectious disease yet".

"Students should not be forced to do the blood sampling from an isolated patient for the first time".

"I don't accept the accountability of injections, that's because we are newcomers here and there would be more risk for us and besides we ar3e not yet experienced"

"I didn't talk to him about his illness due to lack of experience. Caring of these patients needs experience, not everyone can deal with them".

4. Care provider performance

One of the main concepts extracted from the students' experiences was the care provider performance.

From the perspective of the participants, despite the tensions when confronting such patients, someone must take care of them. They have usually accomplished this task with the support and help of the staff, instructor or classmates.

"When I saw that other students were not interested in taking care of him, I walked toward him. Since I knew that this disease will not be transmitted by the ways the students thought, I took care of him".

"Since they did not replace my patient, I went up to him with someone else. After all, when you go with someone else, it gives you more assurance and confidence. If you want to go there alone, that's going to be scary, but along with someone else, that would be normal".

"When you visit the patients with someone else or your instructor, it gives you more confidence. Because your instructor has come to the patient, you will understand that patient had no problem. Consequently, next times you could have gone easier"

5. Consequences of care

From the perspective of the participants, the taking care of the isolated patient would be accompanied by promoting cognitive and mental skills, which are factors that specifies the theoretical concepts for the students clinically.

"It's like driving; if you're not a driver, you may not pay attention to many things. Taking care of patients increases accuracy. Experienced people work better with such patients".

"Well, certainly, it makes a difference whether you had this experience before or not, otherwise, someone should have helped me, one who has had experience in this field".

"Now I think that isolated patients need more support, you should communicate with them".

"I have not read anything about it before. When I confronted with them, I studied all the possible articles about it"

"We had studied about it earlier. In the ward also, when they realized that the patient has meningitis, I saw they were closing the door and putting on their gowns, then I wore my mask, gloves and gown and worked with him"

"The professor had explained about the disease and the ways of transmission earlier. Others also wore their masks and gloves for visiting the patient"

"We had studied about preventing strategies before. When the physician said that the patient has cholera, everybody started to wash their hands"

6. Improper caring (good communication and interaction with the patient)

The other concepts being extracted from the experiences of the participants were related to the lack of suitable care and interaction with the patient. As, students pointed out in their descriptions, anxiety or fear prevented them from taking good care of patients.

"The pipe in his windpipe was so shuddering. It was the first time I saw such a thing. I said to

myself: I had to tell him to cough, but no one will come and see whether he have done it or not, I said "forget it" I don't care"

"I did nothing for him at all. I did not go to sit next to him or take his hand. I promised to myself not to do any injection for infectious patients anymore. Because I was so afraid, I could earn a low score but I could not risk my life"

Discussion

In this study, the experiences of nursing students in caring of the isolated patients and the *stressor agents of caring* have been mentioned. These findings have been confirmed by other studies.

The result of the study done by Shiao et al which was about the effective factors on resignation of the nurses from their professions at the time of the spread of SARS disease showed that 32.4% of nurses who participated in this study said that people try to be away from the nurses because of their profession. The results also showed that 25.9% of the participants quit their job due to the risks of this job or they were looking for another jobs, as 17.7% of nurses said that their protective utensils were unsuitable.¹⁴

The above mentioned cases show that undesirable and unpleasant mentality and negative attitude towards the isolated patients may influence the patients care.

The results of the study of Obi et al also showed that surgeons in developing countries are exposed to the dangers of HIV virus, because of the lack of sufficient facilities, being wounded by a needle, or the blood spatter or other dangerous clinical measures. The reports indicated that during the past five years, needle stick injuries and sprinkling of the blood on the face consisted 40.2% and 26.5% of the injuries, respectively.¹⁵

Based on the findings of Sadala, the fear of the transmission of a disease, despite taking necessary precautions, was another factor leading to fear in nursing students.¹⁶

The Response to stress in students was different. it could be presented with affective reactions or being extremely cautious.

Some studies confirmed the above mentioned concept. However Abazari quoting from Goldenberg and Lashinger wrote that the remedial staff considered AIDS as a threat to the integrity of existences themselves and one of the responses they showed for adapting themselves with the present situation was the verbal expression of fear.¹⁷

Regarding precautions approved by the student, Sadala wrote that using protective utensils helps students to do the roles that they are expected to do.¹⁶

Need of information and experience are parts of "*care requirements*" which have been explained.

Sadala expressed that if nursing students who took care of isolated patients do not have enough information, they will suffer fear and anxiety.¹⁶

Cassidy also showed that during taking care of the isolated patients, student who had enough information would expose themselves to lesser danger.³

In addition, Stawardson in his results pointed out that more training and practice are needed for confronting isolated patients.¹⁸

It is implied that those who were in charge of taking care of AIDS patients had a more positive view towards this disease than those who have never had such experience before ($p < 0.01$).¹⁹

The above mentioned points indicate the importance of providing necessary knowledge and experience for taking care of isolated patients.

Care provider performance was another subject mentioned in this study. Students have done their job based on their experiences along with asking for help and support. Other studies also mentioned such a concept.

Lohrmann et al referred to the point that the students of nursing were already aware of taking care of the AIDS patients and were ready to perform nursing cares for such patients. Even 71% of these nurses were ready to do the venous injections for these patients by wearing gloves.²⁰

White also has pointed out that support, training and feedback are necessary in such a way that staff be able to follow the proper procedure of controlling infection.²¹ Also, Stawardson in his result referred to the necessity of the presence of an assistant for decreasing the number of the possible problems.¹⁸

The results of the study made by Chang et al denotes that social support influences the attitude and the behavior of the nurses who encounter dangerous situations.²²

It seems that assisting students was an important issue which helped them in proper caring of the isolated patients.

Taking care of isolated patients had some consequences; one of them was the promotion of cognitive and motive mental skills which was the factor that specifies the theoretical concepts for the students clinically.

The findings resulted from the study of Cassidy was about the awareness of the students from the physical, mental and social effects of the isolated patients. The results also showed that they became familiar with the reasons of isolation and the importance of controlling the spread of infection. In addition, one of the themes of the study of Cassidy was "the theory and practice" and it showed the association between microbiology and infection control theory with nursing care.³

Applying theoretical knowledge in clinical practice and the relationship between theory and practice can be the main consequence of caring the isolated patients.

Unfortunately, one of the findings of this study was the "improper caring" for the isolated patients which somehow has been explained in other studies.

The results of the study by Chang et al confirmed that fear of the nurses in terms of taking care of the patients affected by SARS has had an influence on the relationship between (organizational or professional) commitments and the inclination to leave the job.²²

The results of the study by Knowles showed that meeting the needs of the isolated patients is under the influence of factors such as time shortage, physical environment and the limita-

tions of nursing interventions, and also the patients felt that they had been labeled and were alone.²³

Unfortunately, fear of disease transmission is related to the unsuitability of the quality of patients care.

Wilburn believed that ethical codes for the nurses (ANA, 2001) asks nurses to perform and offer nursing care without discrimination.²⁴

Conclusion

Considering the above mentioned descriptions, taking proper care of the patients, and communicating with them correctly are crucial points which should be considered in order to implement the suitable procedures for them.

Moreover, considering the importance of infection control and prevention of its release, providing educational programs regarding the diseases, how they are transmitted and preventing, will increase the students' awareness and lead to the reduction of anxiety during the care of the isolated patients.

Therefore, assignment of the students in the sections related to infection or to give them the responsibility in order to take care of the isolated patients after the educational programs will lead to accomplish theoretical knowledge into clinical practice at the bedside and will facilitate learning.

On the other hand, regarding to the importance of patients rights and the necessity to take care of them, changes in their attitude should be taken in to account by letting them participate in the associated seminars.

Providing some information about the influences of isolation on the patients will familiarize students with the needs of such patients and will help them to take care of the patients properly.

Since non-compliance of the standards by staff and fellows of the patients was one of the concerning factors for the students, providing educational programs for the staff and also training the patient and his/her family are of those measures which will lead to the reduction of anxiety and the risk of infection during caring.

Besides, in order to provide the proper care for the patients, assessing the educational needs of the remedial staff in case of isolated disease, the transmission ways and its prevention and evaluating the effects of educational programs in changing the attitude of the students of nursing and the patients, the rate of their contact with the patients and conducting researches about the effects of isolation on the patients seem necessary.

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