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The experience of nurses caring for patients with infectious diseases in isolation rooms: A qualitative approach.

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Abstract

Background: Nurses proved unique experiences while caring for patients with several infectious diseases in isolation rooms.
Purpose: This study aimed to explore the experiences of nurses caring for patients with infectious diseases in isolation rooms.
Methodology: The study used a descriptive phenomenological approach using face to face in depth interviews from recruiting ten participants. The data were analyzed using Moustakas thematic analysis approach.
Findings: The experiences of being a nurse caring for isolated patients were reflected in four major themes: (a) Risk perception and negative emotions, (b) Challenged with limited resources, (c) Isolation precautions interfere with optimum care, and (d) Knowledge and education.
Discussion: Nurses encounter many challenges in caring for patients in isolation rooms, including fear and stress, inability to use precautions that increase disease transmission, and communication difficulties. Nurses should update their knowledge and competence regarding infection control precautions through a new standard of education and training.

Keywords: Infectious diseases, Isolation rooms, Jordan, Distress and uncertainty.

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Introduction

Healthcare-Associated Infections (HCAIs) cause many major problems that threaten professionals, patients', and families' safety worldwide [1]. It is considered the most serious reported acquired problem in many health locations. By the end of 2019, the newly emerged COVID-19 virus increased the global awareness toward the problem. Several guidelines were developed to combat HCAIs such as transmission-based precautions as well as single-room isolation to deal with patients who are known or suspected to be infected or colonized with pathogens transmitted by droplet, air, or contact routes [2]. However, using guidelines and isolation a precaution is influenced by the organization's structure, resource availability, and changing epidemiological picture of HCAIs [3]. Nurses have different experiences with those patients, there is a strong need to explore, discuss, and describe these experiences.

Although isolation precautions are essential to prevent the transmission of infections in healthcare locations, patients perceive isolation as a barrier to their sensory, physical, and psychosocial needs; patients link isolation to emotions of negligence, loneliness, abandonment, inferiority, boredom, frustration, and stigmatization [4]. Isolation precautions negatively affect the therapeutic communication between nurses and patients by reducing visual, auditory, and sensory cues [5,6]. Isolated patients receive fewer staff visits than other patients usually, which negatively affects the quality of the provided care and thus patient's satisfaction [7]. Nurses play a vital role in satisfying isolated patients' needs to reduce the associated stressors with extended periods of segregation and enhance patients' experiences during residency [8].

The uncertainty and the lack of knowledge about isolation precautions and their role in preventing pathogens transmission lead some nurses to misinterpret isolation guidelines and exacerbate the perceived personal danger; hence, it will limit visits and the capability to meet patients' needs [9]. On the other hand, trained and knowledgeable nurses' behavior might be influenced by their awareness about the importance of isolation precautions and their role in reducing the risk of

getting infections; hence, they can provide adequate evidence-based practice to their patients [10]. The efforts towards quality and safety outcomes developments might be improved by taking into consideration the perception of patients, nurses, and other healthcare professionals toward isolation practices [11]. Few studies tackled nurses' and nursing students' knowledge and experience about infection control precautions. Most of the conducted studies were quantitative and did not touch nurses' experiences with isolated patients with infectious diseases directly [12]. There is a scarcity in qualitative studies that discussing the significant challenges and experiences that nurses face while providing care for infectious patients in isolation rooms.

There is a need for a qualitative study that supports researchers to better understand nurses' lived experiences while they are taking care of patients with infectious diseases in isolation rooms. This study would be significant because it shed light on the significant aspects of nurses' experiences under-investigated in the literature and fill the knowledge gap in this literature. Therefore, the purpose of this phenomenological study was to explore the experiences of nurses' meaning, perspectives, beliefs, and practices during their care for patients isolated with infectious diseases.

Research Questions

The main question to be addressed in this study

What are the lived experiences of nurses caring for patients isolated with an infectious disease?

Probing questions were then utilized to explain areas of interest related to nurses' experiences, include:

- What are the relationships between nurses and patients' families?
- How do nurses working with patients in isolation differ from nurses working with patients, not in isolation?
- What is nurses' perceived role in caring for patients isolated with the infectious disease?
- How do nurses perceive the barriers to provide care for infectious isolated patients?

Methodology

Design

A descriptive phenomenological qualitative approach was used to explore nurses' lived experience, needs, and concerns while providing care for infected patients in isolation rooms. The qualitative researcher attempts to describe, understand, and interpret human and behavioral phenomenon. The qualitative research approach is employed when there are no, or insufficient studies conducted in the area of interest, a researcher wants to listen to the participants' perspectives regarding specific phenomena, and quantitative design is insufficient to answer questions about human experiences. Alternatively, the qualitative phenomenological approach is more appropriate for obtaining a holistic and in-depth meaning of nurses' lived experiences utilizing the nurses' description from nurses themselves. Using the descriptive phenomenology approach in the current study has provided a lengthy description of nurses' experiences, needs, and concerns. Furthermore, it gives 'participants' experience a central focus, which may result in greater understanding, richness, and high quality of data rather than the generalization of the findings.

Study participants

A purposive sampling approach was used to collect data from nurses working in Jordanian University Hospital in Amman Governate. The interviews were conducted face-to-face in a special room in the hospital. This location where participants feel comfortable and relaxed to share their experiences. Furthermore, the hospital was chosen as the place to enhance and motivate the nurses to express their real feelings and be fair in their provided information. The inclusion criteria were: registered nurses who worked in a targeted hospital and provided direct patient care for more than one year, and had at least three and more contact with patients with infectious diseases in isolation rooms in the last six months before their participation. Furthermore, nurses should be able to speak and read Arabic. This helps us to obtain the information and ensure that they can read and comprehend the consent form.

According to Creswell et al. [13], three to ten subjects could be enough in a phenomenological study. Ten participants were recruited in this study, utilizing the purposive sampling technique. The investigators recruited participants because they are purposefully informative regarding the phenomena under study. The researcher asserted that all participants included in the study have a sufficient background that enables them to reveal a maximum description of their experience [14].

Ethical considerations

Ethical approval was obtained from the Jordan University hospital Institutional Review Board committee to conduct this research study with ethical approval NO: (10-12018/2737). Potential ethical issues such as privacy, confidentiality, participants' well-being, and human rights were addressed throughout the research process. Informed consent was obtained from participants before commencing the interviews. Participants were reminded of their right to withdraw from the study at any time, and they could refrain from answering any questions or terminate the interview at any time. Participants had the right to request the deletion of any part of the tape-recorded content. All audiotapes and participant information were kept confidential in a secured place. The audiotapes were deleted directly after transcription; electronic data were saved in the personal computer of the primary investigator and protected from being read by irrelevant personals. Throughout the study, participants were encouraged to ask questions and express uncertainties.

Data collection procedure

Data were collected using face-to-face, semi-structured, audiotaped in-depth interviews between December 2019 and

March 2020 by two authors (ZA and NA) in a private room. The interview questions were open-ended, specific, clear, and not leading. These questions were formulated in a relevant way to the experience under investigation and derived from studies that discussed similar issues. Further, the questions were validated by a panel of experts in qualitative studies. The interviews are composed of two sections; the first section includes demographic information of the nurses, such as age and educational level. The second section includes the interview questions which are open-ended questions related to the perceptions, beliefs, and practices of nurses' lived experiences caring for patients with infectious disease in isolation rooms. The researcher conducted three pilot interviews to ensure that the collected data from answering interview questions reflected what the researcher was intended to know. This was done to guide the modification of the interview questions; which reflects the emerging design in qualitative research. Then, data collection began and was completed over three month's duration.

All interviews began with obtaining the participants' permission based on their understanding and signing the informed consent form. The researchers encouraged participants to speak freely and to tell stories about their feelings and thoughts. This allowed the researcher to gather in-depth information about the phenomenon and allowed participants to voice their experiences of caring for patients with infectious diseases in isolation rooms. The interviews were held according to the participants' preferences and each interview lasted approximately 45-60 minutes. Questions were asked appropriately and understandably, considering the participants' educational level and emotional status. Finally, the researchers reminded the participants about a second contact by telephone calls to check the findings and verify the understanding of their experience. These member check calls were collected through telephone calls by another two authors (HA and EO). All interviews were audiotaped and transcribed verbatim by the researcher. Then they were translated into English by the researcher and confirmed later by a bilingual translator.

Data analysis

Data were analyzed using the steps that were described by [15]: 1) Initially, the researchers wrote a full description of their own experiences in caring for infected patients in isolation rooms to bracket their preconceived ideas. 2) The researcher analyzed the transcripts for statements about the meaning of being a nurse caring for patients with infectious diseases in isolation rooms. 3) The statements were listed to develop non-repetitive, non-overlapping statements. 4) The statements were grouped into units (labeled meaning units) with a textual description of the experience for each of the meaning units. 5) The researchers' descriptions of the lived experience and the transcripts were examined for meanings of how caring for patients with infectious disease in isolation rooms was experienced and perceived by nurses. 6) The essence of the experience was described in a thorough, written text.

Quality and trustworthiness

The interviewers' guide was reviewed by expert qualitative researchers to verify that the questions met the study purpose. Consistency in data collection was maintained through providing dense descriptions and researchers' triangulation (peer examination). The credibility was maintained through prolonged engagement with the participants, reflexivity, and member checking (where the participants verified that the analysis describes their own experiences). The neutrality (free from bias) was maintained by providing an audit trail that describes the context, methodological issues, our decisions, and reflection on data analysis. In phenomenology studies, each participant must provide supportive ideas of the lived experience and thematic description. Thus, the more saturation the researcher will obtain, the more dependability of results will be achieved.

Findings

Ten nurses, including eight males and two females, with a mean age of 25 years (range 22 to 30 years), participated in this study. The analysis of the nurses' experiences identified four themes: Risk perception and negative emotions, challenges with limited resources, isolation precautions interfere with optimum care, and knowledge and education.

Risk perception and negative emotions

Nurses' described several experiences that captured the meaning of risk perception to get the infection and related emotions as a central theme. All participants illustrated that their behavior is influenced by uncertainty and fear of transmitting the disease to themselves, their families, or other patients in the department, which is an acceptable human response to the infection transmission. One of the participants said: *"*Me and other staff are afraid to enter the isolation rooms, even if we complied with the isolation precautions to protect ourselves and prevent disease transmission*"*. Another participant clarified that *"*the Ministry of Health declared that dealing with isolated infected patients is very dangerous, which made us very assertive with using the personal protective equipment". Another participant commented that "During providing care for isolated patients I keep thinking that if I did anything wrong, I may harm myself, my children, my family, and other patients".

Some participants confirmed that the perceived risk raises some negative emotions such as fear and stress when dealing with isolated patients. One of the participants said: "I feel stressed when I receive patients isolated with infectious disease, also some of the nurses feel panic and refuse to provide direct care for isolated patients". On the other hand, the participants mentioned that nurses should try to alleviate these negative emotions; three participants referred to their feelings of caring toward the patients to control the negative emotions, one of the participants said: "The secret to successful care is to maintain a balance between giving passionate care and preventing the spread of infection".

Challenged with limited resources

On the other hand, nurses shed light on implementing isolation precautions within a busy general hospital in a limited resource country, they described that not having enough isolation rooms or PPE would evoke feelings of stress and anxiety. Many nurses explained how difficulties in the work environment could exacerbate the feelings of fear and stress, as one nurse clarified that: “Sometimes we don’t comply with isolation precautions because of the workload, as we try to finish the assigned duties within the shift”. Another nurse mentioned that: “sometimes the types of equipment are not available …, or sometimes the need for an isolation room with negative pressure”, another nurse said that: “usually there are many patients need isolation, but there is no single room for isolation, so we keep the patient in their original room between six patients, and we should deal with him with precautions”.

Isolation precautions interfere with optimum care

Nurses described that applying isolation precautions to one of the patients acts as a physical barrier and interferes with providing the optimum care. They clarified that during busy shifts, using PPE becomes a burden; therefore, nurses try to gather care procedures and minimize entering patient’s rooms. Two of the participants said “I try to minimize contacts with isolated patients and making the assigned job at minimal numbers and time, usually at the beginning and at the end of shift duty” another nurse said, “I am afraid of being limited with patient contact and doing an appropriate assessment will affect my nursing care plan with those patients” another nurse said “for all activities can be done by patients themselves I just remind the patient from outside to do it alone without entering the isolated room” This will decrease contact with the patient and postpone care activities till the end of the shift. In the same context, several nurses described using isolation precautions as an emotional barrier to communication, which may reduce the quality of care.

One of the participants said, “Wearing masks and gowns makes me hidden to the patient, also keeping distance between me and the patient restricts effective communication and decreases the provided direct care” .

Knowledge and education

Most participants recognized knowledge and education about infection control guidelines are essential to support their practice. In contrast, the lack of sufficient knowledge among healthcare professionals frequently contributes to insufficient isolation practices. One participant mentioned that: “main challenges that nurse’s face during caring for isolated infected patients is the knowledge deficit regarding isolation precautions” .

Nurses discussed their need to learn about the infection that leads to isolate the patient, the isolation type, and the needed personal protective equipment when dealing with infected patients. The need to learn mainly emerged from the stress and fears of being infected or transmitting the infection to them. One participant highlighted and said, “If the disease is new to me, I will feel stressed until I read about it, then it will become familiar, and care will be easier to me” . Another participant pointed out: “knowing and reading about the type of isolation and the required personal protective equipment decrease the stress and make me feel confident when I deal with patients isolated with infectious disease”. Three participants highlighted the importance of educational activities and special courses; one of them stated “being updated form infection control department, attending related lectures, reading and follow up with latest news will keep you informed. Then you will be able to protect yourself and your patient” .

Nurses discussed the importance of gaining knowledge to educate patients isolated with infectious disease, his or her family, and visitors. Patients, families, and visitors may feel anxious about isolation precautions if they did not get enough information about these precautions. Families and visitors may not comply with the isolation precautions because of lack of knowledge, one participant said: “the spread of infection may occur due to visitors’ non-compliance with the nurses’ instructions”. Besides, visitors frequently ask about the diseases and the isolation precautions, which cause stress for nurses and lead them to read more about the disease, type of isolation, and appropriate personal protective equipment to educate them. Most of the participants confirmed that: “it’s my role to educate patients isolated with infectious disease immediately after admission about his infection, type of isolation, and the required personal protective equipment” However, most of the participants confirmed lacking the appropriate knowledge and experiences to educate the patients and their families about this issue, “me and other nurses lack the appropriate knowledge to educate the patient and his visitors, while it’s our role to do that” .

Nurses advised integrating written and verbal education into care plans to meet patients’ needs and support nurses gain knowledge and confidence in providing a competitive education to patients and their visitors. However, work overload will negatively influence the process of patient education. As one of the participants mentioned: “actually from the workload, we didn’t teach any patient, although we should teach… but actually, we didn’t do this job, if we say something, we will do it rapidly, and briefly, we should comprehensively tell the patient” .

Discussion

The essence of the phenomenon’s common meaning is “distress and uncertainty about the unknown” caused by nurses’ risk perception and fear of disease transmission to themselves and their families and related negative emotions. These emotions can create a communication barrier between nurses and patients and negatively influence the quality of provided care. Knowledge deficit and a shortage of educational activities about infection transmission and isolation practice exacerbate the problem of fear and distress.

Nurses’ behavior might be influenced by their awareness of the risk of contracting infections during dealing with infectious

patients. Their fear and stress may exacerbate, and their decisions to use isolation precautions may become irrational and not based on evidence-based practices. This is consistent with a previous study, which described that uncertainty about the impact of infections exacerbates nurses' perceptions of threats regarding the potential of acquiring infections from patients in isolation. Furthermore, nurses may exaggerate concerns about the potential infectiousness of particular patient groups (such as patients with hepatitis B, C, or HIV), which will influence the quality of provided care for those patients.

Also, Alhumaid [16] and Purssell, Gould supported the idea that nurses' fears and stress of actually getting the infection may result in taking unnecessary measures, as washing hands more frequently than required, wearing PPE all the time, or reducing entry into isolation rooms. Hence, staff may follow irrational and non-scientific guidelines to protect themselves and their patients. According to Redulla [17], the use of PPE and other infection control precautions should be related to the mechanism of microorganisms spread and based on the updated evidence from the literature.

Nurse-patient relationships might be affected by nurses' perception of the risk of getting the infection. Ward [18] and Chua et al. [19] supported the idea that nurses may fear entering the isolation room or reduce their contact with patients, which would exacerbate the patients' social isolation. According to Wiklund et al. [20] placing patients in isolation rooms may expose them to inappropriate medical care, a higher risk of medical error, and dissatisfaction with the quality of their care. Nurses may give less priority to care for patients in isolation rooms in a busy ward resulting in a low quality of care [21]. Moreover, wearing PPE such as gloves, masks, and gowns may cause a physical barrier to communicate effectively with patients.

Patients seem to be anxious about being isolated and from the isolation precautions, they received [22]. Although these precautions are essential to prevent the transmission of infectious diseases, patients perceive them as an obstacle to their physical and psychological needs and raise many negative emotions, such as negligence, abandonment, and stigmatization. Although nurses play a significant role in providing psychological care for patients in isolation, they feel more responsible for delivering their physical care rather than psychological care. Cassidy explained the nurses perceive infection prevention and control practices planned to be task oriented to preserve ward routine rather than to meet 'special patients' requirements.

Here it is important to mention that patient' stresses and uncertainties about isolation precautions are not exacerbated by nursing interventions, and should be reduced to promote effective patients' coping. Also, nurses should ensure that isolated patients' psychological demands are met to reduce stressors associated with extended periods of segregation and enhance patients' positive experiences in the hospital setting.

Finally, nurses' level of stress and anxiety might be increased by the lack of knowledge about the required isolation type and the appropriate use of PPE, as nurses show uncertainty about how to provide competent care to their patients while maintaining their safety. Alhumaid et al. reported that poor knowledge and low awareness toward infection control measures among nurses increase the transmission of infectious diseases. Also, nurses' skills and knowledge regarding infection control are determinants to prevent confusion about the correct implementation of isolation precautions and reduce feelings of uncertainty. Therefore, nurses should update their knowledge and revalidate their competencies regarding infection control measures through good education and training.

In the case of inconsistencies in staffs' isolation precautions behaviors, patients become confused and distress, adding to their stress and anxiety of being isolated [23]. Also, inadequate information and knowledge about reasons for isolation negatively impact the patients' experience of isolation. However, patients' experience of being isolated can be supported by improving effective communication and providing adequate information.

Educating patients about their illness and associated infection control measures is vital to decrease their stress, anxiety, and suspected depression, as well as, to increase their self-esteem and sense of control. However, nurses may not consider patient and visitors' education as a priority because of time limitations and being focused on routines and physical care. This is supported by Barratt [24] who asserted the importance of having guidelines for structured education for visitors to infectious patients.

Study Limitations

The readers should be cautious in interpreting the data of the current study, as the study only explored the nurses' experiences as per their reflections and descriptions, which may lead to the loss of some immediate feelings and reactions.

Conclusion

This study discussed the importance of understanding Jordanian nurses' lived experiences of caring for patients with infectious diseases in isolation rooms. Nowadays, as nurses worldwide face similar situations, they gain similar experiences. However, future research studies are recommended to investigate these issues in the context of different countries and settings. The results of this study highlight that nurse are experiencing negative impacts of caring for patients in isolation, including being afraid and stressed, inappropriate communications, knowledge deficit that affect the quality of care provided, and being competent in practicing nursing care. Indeed, we suggest that administrators offer psychological support and provide sufficient staffing for nursing units. The findings suggest the need for new methods of continuous clinical education to reinforce nurses' understanding of disease transmission, types of isolation precaution, and personal protective equipment.

Implications of the Study

This study has implications for nursing practice and education and related policy and procedures. The findings suggest that providing enough resources and continuous education are essential to raising nurses' awareness about the negative experiences that affect optimized nursing care to isolated patients. Also, developing organizational policy and practice to improve working conditions can help nurses to manage their negative experiences and thoughts while they are providing care to this group of patients. In the same line, there is a need to sensitize education curricula to nurses' and patients' emotions by utilizing a holistic nursing care approach. Also, involving nurses in providing timely and adequate education and description of isolation procedures is essential to enhance the psychological welfare of patients in isolation rooms, which leads to a positive experience of being isolated.

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Conflict of Interest

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