Nurses' experience of caring for people living with HIV: a focused ethnography

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Funding

This study was supported by grant from Tehran University of Medical Sciences (number: IR.TUMS.VCR.REC.1398.911).

Declaration of Conflicting Interests

No conflict of interest has been declared by the authors.

Abstract

Background: Health care providers have been found to have limited knowledge and skills in interacting with people living with HIV. These factors can adversely affect providers' practice, jeopardize their safety, and compromise the care of the patients.

Aims: This study aimed to explore the experiences of Iranian nurses who were caring for HIV-infected patients.

Methods: A focused ethnography approach was used. Participants consisted of 12 nurses working in teaching hospitals affiliated to Urmia University of Medical Sciences and recruited by purposeful sampling. Semi-structured interviews, field observations, and field notes were used for data collection. Data were analyzed employing content analysis.

Findings: Three main themes emerged from the analysis of the participants' experiences of providing care to HIV - affected patients. These included: "excessive fear of being infected," "concerns about the possible consequences," and "lack of self-confidence in care provision."

Discussion/Conclusion: Nurses have experienced a great deal of fear of self and cross-contamination when providing care to people living with HIV. Social stigma and discrimination against people living with HIV amplified the nurses' experience of fear. Providing appropriate education and training for nurses can improve their attitudes, emotions, and self-confidence while providing care to people living with HIV and increasing the quality of care provided.

Implications for Nursing and Health policy: Planning more educational programs focusing on improving their misunderstandings about HIV could result in positive outcomes: for nurses to provide high-quality care and for people living with HIV who receive this care. The health care system should consider the culture of care provided by nurses to people living with HIV.

Keywords: Focused Ethnography, HIV, Iran, Nurses, Nursing Care, Qualitative Research, Nurses, Nursing Care

Introduction

The human immunodeficiency virus (HIV) continues to be a significant public health concern globally. In 2019, about 38 million people were living with HIV, of whom 25.4 million were accessing antiretroviral therapy, and the rest needed treatment to maintain a healthy immune status and prevent the spread of the infection (UNAIDS, 2020). The low and middle-income countries, where the prevalence of the infection is generally higher, may have a higher share of untreated patients than the rest of the world (Update, U.G.A., 2019). It is estimated that 59000 people are living with HIV in Iran, of whom only 25000 are on antiretroviral therapy (UNAIDS, 2019). Although the HIV virus has been known for a long time and significant advancements have been made in its treatment in the last decade, some studies have shown that there is still a significant stigma towards people living with HIV (PLWH), and the knowledge of the society of HIV infection is low, particularly in low and middle-income countries (Pudpong et al., 2014; Smith et al., 2020). This can adversely impact the affected people's help-seeking behaviors and the quality of care they receive (Athley, Binder & Mangrio, 2018; Duby, Nkosi, Scheibe, Brown & Bekker, 2018). PLWH often deal with multiple health issues caused by their poor immune system; therefore, there is a potential for frequent referrals to the healthcare system and frequent healthcare team visits (Fraihn, 2017).

With the advances made in the treatment of AIDS, the chance of survival has increased for PLWH (Johnson, Klepser, Bares, & Scarsi, 2020), which indicates that their frequent need to visit health care centers and more interactions with health providers (Stutterheim et al., 2014). On the other hand, research shows that nurses have limited knowledge of interacting with and providing health care services to PLWH (Frain, 2017). They may also have negative attitudes in

facing these individuals, which can negatively affect their practice and the quality of care they provide (Genberg, 2019).

As the largest professional group in the healthcare system, nurses are involved in caring for PLWH. They are often well aware of the contamination risk when handling HIV-infected needles, sharps, cutting objects, and the patients' body fluids (Bouya, et al., 2020; Hasak, Novak, Patterson & Mackinnon 2018). Awareness of the risk may affect nurses' willingness to provide caring services to PLWH (Smith et al., 2020). Nurses report negative experiences, such as stress, fear, fatigue, and burnout, when providing care for PLWH (Wagner, McShane, Hart, & Margolese, 2016). Some studies from low-income countries suggest that nurses feel fear and worry about becoming infected with HIV virus when providing care to patients (Athley, Binder & Mangrio, 2018; Smith et al., 2020). In this regard, Lui, P., (2014) found fear of injury with infected needles and accidental exposure to a patient's blood and body fluids among nurses. The nurses' common feelings were worry and fear of providing caring services to PLWH with unsafe protective equipment, increasing their risk of infection (Lui, Sarangapany, Begley, Coote, & Kishore 2014). Misconceptions regarding AIDS/ HIV infection may influence nurses' attitudes and practices that are arisen from various sources, including simple ignorance and misinterpretations regarding scientific knowledge about HIV infections as well as the cause of AIDS to misinformation propagated by people and with ideological stances that deny the causative association between HIV infection and the AIDS progress (Sano et al., 2016). Since there is a risk of infection during care provision, some nurses and healthcare staff may refrain from providing care or minimize their exposure to PLWH, compromising the patients' health and safety (Athley, Binder & Mangrio, 2018; Levy, 2016). It was indicated that the risk of infection following a needlestick injury is higher with the hepatitis B virus (HBV) compared to HIV, 6%–

30% vs. 0.3%, respectively (Bouya et al., 2020). The negative feelings and attitudes towards PLWH may be due to inadequate training and preparation of health care providers. Nanayakkara and Choi (2018) found that nursing students expressed feelings of fear and worry when encountering PLWH, and they were reluctant to provide care to them. They suggested that the nursing curriculum be revised to provide adequate training about HIV and the necessary clinical skills to enable nurses to provide appropriate care to the patients while also protecting themselves from the infection (Nanayakkara and Choi, 2018).

While the life expectancy has improved among the PLWH due to the therapeutic advancements (Teeraananchai, Kerr, Amin, Ruxrungtham & Law, 2017), providing healthcare services to these people is still associated with significant fear and stress in some cultures (Reddy, 2015). There is limited knowledge of the experiences of nurses while providing care to PLWH in Iran.

Aims

This qualitative study aimed to explore the experiences of Iranian nurses who were caring for PLWH.

Methods

Design

This qualitative study employed a focused ethnographic method. This method enables the researcher to gain a deeper understanding of a specific socio-cultural issue and has been increasingly used in health care research (Leslie, Paradis, Gropper & Reeves, 2014; Zakeri Hamidi & Latifnejad Rodsari, 2016). Using focused ethnography, the researcher, who is familiar with the research context, can develop an in-depth exploration of a specific topic (Roper &

Shapira, 2000; Higginbottom et al., 2013). Therefore, focused ethnography is a pragmatic form of traditional ethnography, where societies are explored, and research objectives are broad (Murchison, 2010). In the current study, the first author, who had long-standing employment within the study setting, completed data collection, including focus group interviews, field observations, and field notes. As an insider, he was able to carefully observe nurses' practice when providing care to PLWH, and interpret and understand their verbal and non-verbal communications, which enriched the study findings and provided greater insight into nurses' experience of caring for PLWH.

Sampling and study setting

The study was conducted in Urmia, the capital city of West Azarbaijan, Iran. Participants were recruited from teaching hospitals affiliated with Urmia University of Medical sciences using the purposive sampling method. Overall, 12 nurses employed in internal or infectious diseases wards were recruited from five teaching hospitals. They were approached using several methods. The clinical educator (a member of the research team) was present in the clinical setting and advertised the research. The study flyers describing the study's objectives and containing contact information were distributed at monthly staff meetings. The flyers were also made available through the clinical educator's office to increase the chance of participation. Data collection was ceased when data saturation was achieved. This decision was supported by the firmly consistent accounts of the nurse participants. The inclusion criteria included working as registered and having cared for at least one patient with HIV over the last six months before the interview.

Data collection

Data collection consisted of focus group interviews with nurses, field observation, and field notes. The first author (AM) completed the interviews (n = 12), observed nurses' practices in the participating hospitals, and took filed notes over five months in 2020. After explaining the research objectives and obtaining informed consent from each of the participants, they were invited to take part in a focus group interview to discuss their experience of providing care to patients with HIV. Overall, three focused groups were organized, with four participants in each group. Each focus group session took about 2 hours. The focus group method is a form of qualitative study in which participants are asked to discuss their perceptions, opinions, beliefs, and attitudes towards a service, concept, advertisement, idea, or packaging (Tausch & Menold 2016). Interactive discussions where participants talk freely with other group members are encouraged (korstjens, & Moser 2018). A facilitator guided the discussions using a semi-structured interview guide, and the assistant took notes of the key points raised by the participants. An example of the interview questions was: "how do you feel when providing care to people living with HIV?". The focus group discussions were also recorded on a tape recorder. Data collection ceased when data saturation was achieved.

Apart from focus group interviews, the first author spent 12 hours at different times, on different days, and in different wards, observing nurses during their scheduled shifts while providing care for a person living with HIV. The observations were non-participatory, which meant the researcher did not interact with patients and nurses and was not involved in providing care to patients at the time of field observations and field notes. Field observations helped researchers observe nurses' practice and identify nurses' behavior and their interactions with PLWH. The researcher also took notes during the observations, which included nurses' verbal and non-verbal communications and the researcher's interpretation. The triangulation approach to data collection

and data analysis enhanced the researchers' understanding of the nurses' experience of providing care to PLWH. The triangulated data shed more light on the caring culture for PLWH, helped with validating the meanings and interpreting the rich points observed during observations.

Ethical considerations

This study was conducted following principles of ethics in human research (World Medical Association, 2013) and approved by the Ethics Committee of Tehran University of Medical Sciences (Approval ID: IR.TUMS.VCR.REC.1398.911**)**. Nurses who assented to participate were informed about the purpose and expectations of the study. No participants were interviewed or observed without informed consent being obtained. Participants were assured of their voluntary engagement and confidentiality of provided information.

Data analysis

At the end of each interview, the researchers reviewed the key points raised with participants. The recorded interviews were listened to several times and then transcribed verbatim after each focus group. All interviews were conducted in Persian, the native language of participants. The interviews were transcribed in Persian, and data analysis was completed. The findings were then translated to English by an expert translator, and they were validated by the third author (LG), who has vast experience in translation of English texts to Persian and vice versa. After carefully reading the transcriptions and matching them with the taken notes, coding was completed at three levels. First, semantic units were identified and coded. This included generating explicit and implicit codes. The units were then categorized at the second level, leading to the emergence of the study themes at the third level (Thomas, 2006). Observations were coded similarly to the

focused group interview transcripts. The preliminary analysis results were returned to the four participants to confirm that the findings accurately reflected their experiences.

Observational and interview data was interpreted jointly to offer comprehensive understandings, and agreement on the major themes was reached through discussions among the researchers.

Findings

Participants' mean age was 32.41 (28-36) years, of whom seven were males and five females. Ten participants had a bachelor's degree, and two a master's degree. Three main themes emerged from the analysis of the qualitative data: "excessive fear of being infected", "concerns about possible consequences", and "lack of self-confidence in care provision". These themes reflected the participants' experiences in providing care to PLWH.

Theme1: Excessive fear of being infected

Participants expressed feeling a great deal of fear and worries when interacting with PLWH due to a perceived high risk of being infected during care provision and the possibility of transferring the infection to their family members. They were found to be generally reluctant to be engaged in providing care to patients with HIV. Although the participants were aware of the infection transmission routes and knew the strategies to protect themselves, this fear continued to be present and negatively affected their quality of caring services. In addition, they were dissatisfied with finding themselves called upon to care for patients living with HIV. This unwillingness and reluctance to provide caring services led to negative attitudes and the persistence of wrong beliefs about these individuals. Two sub-themes emerged from analyzing the participants'

experience of fear and worry when providing care to the patients. These included "concern about self-contamination" and "fear of cross-contamination of family members".

Sub-theme 1.1: Concern about self-contamination

The nurses lived in persistent fear of becoming contaminated with HIV during their care provision to the affected patients. They used concepts such as 'having nightmares' and 'terrifying feelings' to describe their perceived fear of interacting with HIV affected people.

"Working with an HIV-positive person has become a nightmare for me. I feel like I face death each time I have to work with these patients. Sometimes, I come to this decision that I better quit my job." (P 1)

Observations show that when the HIV affected patient was admitted in the ward, nurses often talked to each other about her/his care challenges. They were always afraid of being infected while caring for the patient.

Another participant reported living in constant fear of being contaminated with the virus. However, she had never experienced needlestick injuries or come in direct contact with patients' body fluids.

"I am always worried that I may have been infected already." (P 4)

Sub-theme 1.2: Fear of cross-contamination of family members

Apart from the fear of self-contamination, participants were concerned about the possibility of transmitting HIV to their family members. The excerpt below reflects the level of perceived fear by the participants.

"I have a lot of fear. I am scared of getting a needle stick when providing care to them (PLWH). I may infect myself. I may infect my husband too." (P 7)

Feeling responsibility for maintaining the health of family members and the fear of compromising their health added to the participants' concern when providing care to the patients.

"It's not just me. I'm afraid of transferring the infection to my family. I'm scared that they may get into trouble due to my negligence." (P 6)

The nurses were particularly scared of infection risk if they had already known a colleague being contaminated with the HIV while providing care to the patients. The following quote reflects this fear.

"I heard one of my recently-married colleagues got infected with HIV when taking care of a patient with HIV, and after some time, she realized that he had transferred it to his wife too. He committed suicide because he couldn't get along with it. I am scared of ruining my life because of the possibility of transmitting the infection to my family." (P 11)

Participants seemed to view AIDS as a non-curable disease that could potentially destroy their personal, family, and social lives.

"AIDS is not like other diseases, it's not a cold that heals after some time. The infected individual and his/her family have to live with it for their entire life. Many lives have been ruined because of this disease." (P 2)

Participants perceived their fear of becoming infected with HIV as a normal reaction. They felt it reasonable that most nurses would be reluctant to be involved in care provision to clients with

HIV, as nurses should also be responsible for maintaining their own health and their family members' health.

"My family is my most valuable asset. I am responsible for keeping the health of my own, my wife, and my children. This responsibility makes me do my work with great caution. If I get infected, everything will collapse in my life." (P 5)

Observations show that the nurses were upset that they had to take care of the disease, which was likely to infect themselves and spread to the family.

Theme 2: Concerns about possible consequences

The participants tended to hold beliefs that AIDS/HIV was not a curable disease, and the infection was associated with significant limitations. These beliefs seemed to heighten the participants' concerns about losing life opportunities in the case of becoming infected. This theme consisted of three sub-themes of "concerns about risking marriage opportunities", "concerns about losing job", and "concerns about being subjected to social stigma, prejudices, and discrimination.

Sub-theme 2.1: Concerns about risking marriage opportunities

The participants were worried about becoming infected, despite using protective measures, which led to fears about risking their opportunities to marry. They believed that few people would be willing to marry someone who lived with the HIV condition. The participants perceived the HIV infection as equal to the ruination of one's future and the end of their life.

"We admitted a patient who was a prisoner, with tattoos all over his body, it was very clear that he was not a normal person. His wife said, "I didn't know my husband was infected; so he transmitted the infection to me". I'm scared to work with such a person. I have not yet married. I have many plans for my future. My whole plans and wishes will be ruined if I get infected." (P 9)

The possibility of HIV transmission through several routes, including sexual contact, blood, and lactation, caused the participants to be disinclined to provide care to PLWH, as they feared to risk their marriage opportunities.

"I am now at the marriage age. I am worried about my future, and whether I can marry anyone at all? Will someone marry me if I get infected? These worries draw me crazy." (P 12)

Observations show that nurses who were still single were afraid of becoming infected, and their suitors definitely dump them and would never come back to them again.

Sub-theme 2.2: Concerns about losing job

Participants were also concerned that they would lose their job and risk their academic achievements if they became infected by HIV. They believed that employers would be reluctant to offer a job to PLWH.

"I studied hard at university to get a good job to cover all the family's expenses by myself. The matter that bothers me is if I get infected with HIV, would the hospital itself accept me as a nurse again?! They would surely fire me. They wouldn't care if we get infected while caring for a patient." (P 10)

Observations identified nurses' worries about job insecurity if infected with HIV. In this regard, one participant stated:

"I tried hard for my university education. Furthermore, my family supported and encouraged me to study a course so that I can get a job. Now, I may lose my job if I get infected". (P 9)

Sub-theme 2.3: Concerns about being subjected to social stigma, prejudices, and discrimination

Findings from the interviews showed that the culture in which there are negative judgments and prejudices about those with HIV seemed to add to the nurse's worries. Participants narrated stories about PLWH and the present negative attitudes and prejudices towards them. They expressed that society viewed PLWH as offenders, guilty, and dangerous.

"Here if they find out someone is infected, they look at her as a disreputable person. People have negative views about HIV. They look at PLWH as if they are corrupt. They do not even think that he/she might have been infected in a beauty salon, dental care center, or in a hospital." (P 3)

Participants perceived PLWH as a socially disadvantaged population group that lacked reputation and good status in society. The cultural context of the Iranian society devalued PLWH and viewed them as perpetrators who committed crimes.

"I was going out one day when I witnessed an argument between two taxi drivers. One was cursing the other: you are an HIV- positive damn person, you have viruses all over your body!" (P 8)

Observational data showed that the participants were afraid of being subjected to negative judgments if they became infected. This fear led to their unwillingness to provide care to PLWH or minimize the time they spend on care provision to PLWH. In line with this, one participant stated:

"My life is bad enough right now without the disease; you know what will happen to my life if I get infected? The person will have no value even for their close relatives. They will become a burn notice." (P 9)

Theme 3: Lack of skills in providing caring services

Participants in this study expressed a lack of adequate knowledge and skills to ensure their applied protective measures' adequacy, leading to their perceived low self-confidence and persistent fear and worries that they may be inadvertently infected when caring for PLWH. Consequently, they were always worried that they would be inadvertently or mistakenly infected. Their perceptions about the lack of sufficient skills caused a lack of self-confidence in them. This theme consists of two sub-themes of "lack of confidence in care provision and "lack of adequate education".

Sub-theme 3.1: Lack of confidence in care provision

The lack of self-confidence and the fear that they cannot protect themselves from the risk of becoming infected was another experience among the participants. Furthermore, observations showed that many of them acknowledged that this lack of self-confidence was due to the lack of attention to students' educational needs in university and that clinical educators ignored the issue. One participant stated:

"Well, I do not trust enough in my ability to do the caring tasks. I may do it like in a silly way and may get myself into trouble." (P 11)

The nurses were not frequently involved in the care of PLWH due to the relatively low prevalence of the disease compared to other diseases. As a result, they perceived that their lack of work experience of caring for HIV affected people contributed to their low self-confidence. A participant stated:

"I have the fear. How often have I dealt with PLWH? How many skills do I have to provide caring services for them?" (P 4)

Despite the high prevalence of HIV in underdeveloped and developing societies, participants' statements indicated the lack of sufficient relevant training opportunities for nurses both in universities and in the form of continuing education. Little attention was paid to providing safe and caring services to those with HIV. The participants believed that the topic of HIV was largely overlooked in the clinical training of nursing students as well as hospital authorities. Nurses claimed that they very much developed their skills gradually through work experience.

"They have not taught us how to deal with PLWH at the university. All of my colleagues try to avoid the responsibility for caring for PLWH. I wish there was more focus on this topic at the university." (P 5)

Sub-theme 3.2: Lack of adequate education

The participants believed that the way their clinical facilitator treated PLWH during their course of study or subsequently by their colleagues influenced their attitudes towards this issue and

reduced their confidence in providing care for the PLWH, which contributed to their fear of providing care to these people.

"There have been few if any, educations on how to take care of PLWH. Even if we had such a patient during our internship course, the staff and the educator would not let us get anywhere close to the person, let alone to provide care. From the beginning, we developed this belief that they are risky." (P 3)

Some of the participants in this study were unaware of the protocols for post-exposure management of occupational exposure. Another participant expressed:

"I do not know what to do if I get a needlestick while caring for patients." (P 2)

Observations identified that the participants did not have enough knowledge to care for the PLWH. As one of the participants stated:

"I think they have not taught us how to deal with PLWH in the university. All of my colleagues try to avoid the responsibility of caring for HIV positive patients. I wish there were more focus on this issue at the university." (P 8)

Discussion

The present study showed that nurses felt a great deal of fear and worries when providing care to PLWH. Several factors contributed to this perceived risk, including the fear of self-contamination during care provision and fear of possible consequences of being infected. Feelings of fear and worries are common among health care providers during care provision to patients with HIV, mainly because they are apprehensive about the risk of self-contamination

(Athley, Binder & Mangrio, 2018; Smith et al., 2020). This fear results in health care providers' hesitance to be involved in providing care to HIV -affected persons or may even refrain from care provision (Garus-Pakowska & Górajski, 2019). Similar to our finding, Gurubacharya et al. (2003) found that although nurses had a fair knowledge about the transmission routes of the HIV-virus and were aware of preventive measures, they were still reluctant to be involved in providing care to these patients.

The health care providers must have access to safe and effective personal protective equipment and master skills in safe handling and disposal of medicals goods and the patients' body liquids. These skills need to be introduced to nursing students during their undergraduate degree and reinforced through subsequent continuing education and monitoring. In developing countries, nurses' lack of adequate awareness of preventive measures and lack of access to effective PPE were found to contribute to their fears (Gurubacharya et al., 2003). Despite improvements in occupational health and safety measures for health care workers over the recent years (Hashemi, Mamani, & Torabian, 2014), the prevalence of needlestick injuries is high among nurses(Yarahmadi, Dizaji, Hossieni, Farshad, & Bakand, 2014). Supportive measures such as safe handling of sharps, modification of working schedule for reducing the workload of nurses, improving access to and use of personal protective equipment and engineered safe devices are essential to reduce needlestick incidents among nurses (Jahangiri, Rostamabadi, Hoboubi, Tadayon, & Soleimani, 2016).

Nurses also feared possible consequences in the case of becoming infected with HIV. This fear included worries about possible contamination of family members, the possibility of losing marriage opportunities, and losing their job. Being infected with HIV was considered to be

associated with the ruination of the family. These negative attitudes towards the disease among the participants were developed through exiting significant social stigma and discrimination and their perception of non-curability of the disease. These factors augmented the nurses' fear of being infected during care provision to PLWH, affecting their behaviors, such as refraining from care provision or minimizing their interaction time with the patients.

Similarly, Buchalla, Kahan, Klewer, and Konde-Lule (2014) found that health care providers' negative emotions and attitudes towards HIV-affected patients can affect the quality of care provided to the patients. Wagner (2016) pointed out that several factors affect the delivery of appropriate and evidence-based nursing care to PLWH. These factors include fear of infection, discomfort, stigma, negative attitudes, or intimidation that nurses experience at the point of care. Care providers may rush themselves to complete the patient care; this may increase the risk of contamination by adding to the provider's stress and increasing the chance of injuries. Patient care quality could also be potentially compromised (Wagner et al., 2016).

Improvements in the treatment and management of HIV has made it possible for PLWH to work and be socially active. Nevertheless, the stigma attached to this disease and misconceptions about the productivity of them still limit employment opportunities for PLWH, and contributes to nondisclosure of HIV status at work. Fear of notoriety in society and jeopardizing job interests causes nurses not to be able to properly care for PLWH (Stutterheim et al., 2017). Stutterheim et al. (2011) pointed out that some healthcare settings in developing countries apply restrictions to HIV-positive staff work duties and employment opportunities, resulting in nurses' experience of fear of care provision to PLWH.

This study's findings also showed that society's negative perceptions, attitudes, misjudgments, and the perceived worthlessness of the HIV-affected had concerned nurses. In our study, nurses demonstrated negative attitudes towards HIV but not the PLWH; however, they expressed that there was a significant social stigma, prejudices, and discrimination against HIV-affected persons in Iranian society and were terrified of being in that situation. The negative attitudes towards HIV within the community can lead to prejudice and discrimination and ultimately deprivation of infected people's social and family rights. PLWH often become deprived of many life opportunities, and family and friends' support is discontinued. These attitudes and behaviors are mainly due to some misconceptions of society about PLWH (Levy et al., 2016; Stringer et al., 2016). These facts amplified the nurses' fear of being infected with the virus and, as a result, being subjected to social disadvantages. In the same line, Cummins and Muldoon (2014) found that stigma and negative attitudes toward individuals' with HIV contributed to nurses' fears and concerns when they provide care.

Studies from some other countries also suggest that HIV-affected persons frequently suffer from severe discrimination in clinical settings. Health care providers' discriminatory behaviors towards PLWH were found to be strongly associated with their insufficient knowledge of the disease and the presence of social stigma against them (Gurubacharya et al., 2003). Perceived stigma and discrimination from health care providers can adversely affect help-seeking for HIV-related concerns (Athley, Binder & Mangrio, 2018; Duby et al., 2018), increasing the risk of infection spread within the community. The attitudes of the public, and in particular health care providers towards these patients, need to be improved, and acceptance of these patients is increased by members of society (Mak, Cheng, Law, Cheng & Chan, 2015). This can encourage more people who are suspicious of contamination to approach health care services to undertake a

test and PLWH to continue their interactions with the health care providers and comply with their treatment regimen.

Also, nurses in our study consistently raised their need for adequate training and preparations to provide quality care to patients with HIV. They stressed that the topic of HIV is often overlooked in nursing theoretical and practical curricula. One of the nurses stated that she developed her skills by herself gradually through work experience. These findings are concerning and indicate the importance of appropriate training and preparations for the nurses to enable them to interact with PLWH safely and effectively (Frain, 2017). In our study, some nurses were not confident about their skills and were unsure if they applied the preventive measures adequately to protect them from the HIV-infection. This indicates the significance of promoting awareness, education, and training about the preventive measures and reporting of exposure to patient blood and body fluids (Elmi, Babaie, Malek, Motazedi, & Shahsavari-Nia, 2018). Although there was an appropriate protocol for post-exposure management of occupational exposure in all Iranian hospitals (washing with water, alcohol, or betadine, referring to an infection control center, sending a blood sample to the laboratory) (Farsi et al., 2012), they were unaware of the approved protocol and right actions following a needlestick injury. This factor added to nurses' fear of interacting with PLWH. Their clear understanding of the level of precautions to be applied when providing care to PLWH could assure nurses of their practice and reduce their excessive fear of self-contamination and cross-contamination (Mak et al., 2015; Frain 2017). Nanayakkara and Choi (2017) found that an AIDS education program effectively improved nursing students' self-confidence and attitudes towards PLWH. Accurate and sufficient education could also improve attitudes and the health professionals' confidence in providing care to PLWH (Nanayakkara and Choi, 2018).

Limitations

Exploring nurses' experiences of providing care to patients HIV through focused ethnography design allowed the researchers to obtain detailed and in-depth information about the topic. Besides, to the best of our knowledge, this is the first focused ethnography study targeting nurses' challenges while caring for PLWH. This research is limited by the small, self-chosen, homogenous sample from one metropolitan city in Iran. Therefore, it is suggested that further qualitative studies are conducted to gain a more comprehensive understanding of the topic.

Conclusion

Nurses play an essential role in caring for PLWH. Negative emotions and attitudes of nurses towards HIV can negatively affect their care provision. Understanding nurses' experiences, perceptions, attitudes, and emotions about HIV disease and those affected is vital to improving the quality of care provided to these patients. Appropriate education and training of nurses about the disease can help reduce their negative attitudes, emotions, discriminatory behaviors against HIV-affected patients and protect them from self and cross-contamination. Social stigma and discrimination against PLWA need to be decreased to help better management of the disease.

Implications for health practice and policy

The nurses' experience of providing care to PLWH evolved around feelings of fear and concerns about being infected with HIV. The nurses were concerned about not being supported and fired if they are being infected while working in the hospital. The health care systems should define clear rules regarding healthcare workers' job security and their medical costs if they are being infected. Furthermore, nurses' fear of being contaminated by HIV, coupled with social stigma,

prejudices, discrimination, and lack of skills in providing caring services, led to high fears and worries. However, the evidence shows that it is significantly lower than that of patients with hepatitis B. The risk of contact with unbroken skin is negligible and even being contaminated with the needlestick injury is very low. Fear of being infected with HIV could result in a poor quality of nursing care. Therefore, the health care system should consider the culture of care provided by nurses to PLWH. Planning more educational programs focusing on improving their misunderstandings about HIV could result in positive outcomes. This would help nurses feel safe to provide quality care to PLWH and improve health outcomes for these patients. Additionally, education about HIV and the required precautions should be part of the nursing curriculum to reduce the associated stigma and better prepare future nurses for clinical practice.

Acknowledgements

This study was funded and supported by Tehran university of medical sciences (TUMS) with Grant no (IR.TUMS.VCR.REC.1398.911). We thank Urmia University of Medical Sciences for providing permission for this study and all participants for their intimate cooperation.

Author contributions

AM, FR, AO designed the study.

AM collected the data.

AM, AO and FR analyzed the data.

AO supervised the study.

AM, FR, AO and LG involved in manuscript writing

AM, FR, AO and LG were involved in the critical revision of the manuscript.

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