



Original Article

# Explaining the Experiences of Operating Room Nurses From Surgery of Patients With Blood-Borne Diseases: A Phenomenological Study

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## Abstract

**Background:** Operating room nurses are exposed to blood-borne diseases, so it is important to examine their experience to prevent possible injuries. Based on this, the present study was conducted with the aim of explaining the experience of operating room nurses in the surgery of patients with blood-borne diseases.

**Methods:** The research design is a descriptive phenomenological study. Sampling was performed purposefully, and participants were selected based on the inclusion and exclusion criteria. Data were collected using semi-structured oral interviews and then analyzed using Colaizzi's method.

**Results:** In this study, data were obtained through interviews with 15 operating room nurses. As a result of data analysis, 5 main themes and 16 sub-themes were identified, including a tense role, respect for patients' privacy, functional compatibility, desire to have an experienced team, and the heroic feeling.

**Conclusion:** Nurses experience negative and positive emotions while attending the surgery of the mentioned patients. In order to increase the quality of care and reduce burnout of nurses, these feelings should be paid attention to.

**Keywords:** Human immunodeficiency virus, AIDS, Nurse, Nursing personnel, Operating room nursing, Blood-borne infection, Blood-borne diseases



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## Introduction

Blood-borne diseases are diseases that are transmitted through direct contact of blood with damaged skin or mucous membranes (1). Hepatitis B and C and human immunodeficiency virus/ acquired immunodeficiency syndrome (HIV/AIDS) are blood-borne diseases that cause high costs in developing countries (1).

Infection with HIV and AIDS is one of the major public health challenges in modern society (2). In recent years, HIV/AIDS has been considered a major health problem worldwide due to its high morbidity and mortality rates and high treatment costs (3).

Hepatitis B, another blood-borne disease, is the most common chronic infectious disease, and it is estimated that more than 400 million people in the world are infected with this virus, the prevalence of which varies in different regions of the world (4,5). In 6%-10% of cases,

this disease progresses chronically and can lead to serious consequences such as asymptomatic chronic carriers, liver cirrhosis, liver cancer, and ultimately death (6).

Another blood-borne disease is chronic hepatitis C virus (HCV) infection. An estimated, 58 million people are living with chronic HCV infection, and there were approximately 300 000 deaths from HCV-related cirrhosis or hepatocellular carcinoma in 2019 (7).

Among the ways of transmission of these diseases are skin contact (needle tip penetration or cuts with sharp objects), contact of unhealthy mucous membranes and skin with blood, and secretions contaminated with blood or fluids such as cerebrospinal fluid, pleura, peritoneum, pericardium, and synovial (8). Studies show that there is a 3% chance of transmission of the infection following the wounding of the skin with blood-contaminated items containing HIV, and this chance is 0.1% if the mucous



membrane of the eyes, nose, or mouth comes into contact with infected secretions (9,10). In this regard, two decades ago, the Centers for Disease Control and Prevention introduced standard preventive precautions as a major factor and primary prevention strategy for healthcare-associated infection (11). Standard precautions are a set of preventive measures designed to prevent the transmission of blood-borne infectious diseases (12). Technological advances, including safety engineering for sharp instruments or adding physical barriers such as using two gloves to prevent exposure to these pathogens, are striking (13). However, the infection with these pathogens is spreading increasingly, thus new cases are reported daily (14). Therefore, due to the high risk of contracting these diseases, the only way to deal with them is prevention so that not to get infected. Accordingly, the greatest and most important health education measures should be implemented to prevent the spread of this disease by governments and volunteer organizations (15).

Accidents may result from low levels of knowledge, failure to observe all precautions, and lack of availability of necessary equipment to prevent transmission of these pathogens; some parts of these accidents, especially in healthcare jobs, can be considered occupational accidents and hazards (16). According to the reports of the World Health Organization (WHO), 2.5% of AIDS cases and 40% of hepatitis B and C cases worldwide are the results of occupational exposure among healthcare workers (17). In general, hepatitis C and B and HIV infections transmitted through occupational contact account for 37%, 39%, and 4% of all cases of blood-borne diseases among healthcare workers, respectively (18).

Healthcare system employees are exposed to contamination and the risk of exposure to blood-borne infections in various ways, including injuries caused by sharp objects and contact with the blood and body fluids of the patient (17). Occupational contact with blood and body fluids has been considered one of the most important professional problems of healthcare workers in the last 50 years due to the potential risk of transmitting blood-borne infections (18). The WHO has estimated that 3 million of the 35 million health workers worldwide are exposed to blood-borne pathogens every year (2 million to HBV, 0.9 million to HCV, and 170 thousand to HIV). These injuries led to 70 thousand HBV infections, 15 thousand HCV infections, and 500 HIV infections (19).

The operating room is considered one of the most dangerous areas for exposure to blood-borne pathogens because the personnel is exposed to possible contact with sharp objects, infected devices, and patient secretions (13). The interactive effect of occupational hazards mentioned in this environment, the high probability of contamination, the nature of the mentioned diseases, and the incurability can cause severe psychological stress to operating room nurses, making them anxious, worried, and exhausted (19). This can directly and seriously reduce the quality of life, the quality of work life, and the quality of provided

care. Therefore, operating room nurses need to be studied in terms of the unpleasant experiences they may have had in caring for these patients. Hence, the present study was designed and implemented with the aim of explaining the lived experience of operating room nurses from surgery of patients with blood-borne diseases.

## Methods

### Design

This qualitative study was conducted using a descriptive phenomenology approach. Descriptive phenomenology deals with revealing the nature or basic structure of any phenomenon under investigation; in other words, it deals with investigating the characteristics of the phenomenon that make its nature and separate it from other phenomena (20). Considering that it is necessary to immediately record data in qualitative research, in this research, the interviews were typed after listening several times and then analyzed accordingly. The obtained data were analyzed by the Colaizzi method (20). For this purpose, the text of the typed interviews was carefully read, and its important phrases were identified, and the meaning of each phrase was written down in code. Next, the codes resulting from the initial analysis were noted separately. The codes that were conceptually similar to each other were classified and a name was considered for each class. Then, by merging different classes based on common concepts, more general categories were created and finally combined as a complete description of the studied phenomenon and organized in the form of themes and sub-themes.

### Participant Recruitment and Selection

The participants were selected from operating room nurses working in Shahid Beheshti Hospital, Hamadan, using the available method based on the purpose, and the sampling continued until data saturation. In the selection of the samples, the gender, level of education, age, and experience of the nurses were not taken into account. Entry criteria included having experience caring for patients with blood-borne diseases and showing a willingness to participate in the interview.

### Data Collection

Participants were allowed to choose the location and time of the interview, and written informed consent was obtained before starting the interview. All the participants chose the hospital environment for the interview. The interviews were conducted in the personnel restroom, which had sufficient silence. Each of the participants was assured that their privacy would be maintained, their information would be kept safe, and a letter code would be used instead of their names. All interviews were conducted by a single researcher. The time of interviews was between 35 and 50 minutes. The interview questions were related to the participant's experiences and feelings of caring for these patients. Open-ended questions were used that allowed the participants to determine the direction of the

interview and define the important dimensions of the phenomenon. This also allowed them to explain what was relevant to them rather than discussing what was relevant to the researcher. Phenomenologically, an important question was *“Tell me a story about how you participated in surgery on a patient who has a blood-borne disease”*. Sometimes, nurses may not even be aware of the effects of this care until they are allowed to talk about it. This allowed participants to discuss how to care for these patients and how these patients affect their work and express the involved challenges. Other questions asked were *“Tell me how participating in the care of these patients has affected your work”*, *“The speed of your work”*, *“The quality of your work”*, and *“The accuracy of your work”*. Subsequent questions explored the highlights of the discussion to clarify the meaning or gain a deeper understanding of the context. During the interview, participants were given time to share their stories, thoughts, and feelings about caring for these patients and talk about anything that would help the researcher understand their experience. The interview continued until each participant finished describing their experience of working with these patients and no new information emerged. Non-verbal and verbal communication techniques were also used to facilitate participants’ discussion of their experiences and feelings, allowing them to describe their experiences in detail. Verbal communication techniques included reflection, review, and clarification. Non-verbal communication techniques included nodding, eye contact, and silence.

### Data Analysis

Immediately after each interview, the audio tapes were transcribed verbatim. The primary researcher then reviewed and compared each tape to the typed text to ensure the accuracy of the data transcription. Using Colaizzi’s approach to familiarization, the researchers familiarized themselves with the available data by reading the texts several times. The next step in the analysis was to identify the important phrases. For this purpose, the researchers identified all the statements in the reports that were directly related to the under-investigation phenomenon. In the stage of formulation of meanings, the researchers identified the meanings related to the phenomenon by carefully examining the important phrases. At this stage, the researchers actively attempted to bracket their presuppositions to fully investigate the phenomenon using the experience of the interviewees (Though Colaizzi recognizes that complete bracketing is never possible). In the theme clustering phase, the researchers grouped the identified meanings into themes that are common to all utterances. Again, the presuppositions were put into brackets actively to prevent the potential impact on the existing phenomenon. The researchers then developed a comprehensive description of the phenomenon in such a way that it included all the themes generated in the previous step. Then, the researchers summarized the obtained comprehensive description into a short and dense

expression that only shows the aspects that are considered necessary for the structure of the phenomenon. Finally, the researchers referred the obtained basic structure to all participants to answer the question of whether the obtained basic structure represents their experience or not. The researchers conducted the analysis independently and then collaborated by discussing the themes. Agreement between researchers was achieved by exchanging ideas and revisiting original interpretations. Each of the themes was supported by direct quotes from participants, illustrating the experience of caring for patients with a blood-borne disease. Although this process of data analysis may seem linear, researchers often went back and forth between “stages” of data analysis.

### Rigour

The four-dimension criteria of credibility, dependability, confirmability, and transferability were applied to assess the rigour of the study (21). The researcher, as an operating room nurse, was involved with the subject and the research environment for 2 years; he fully interacted with the surgery of patients and patients with a blood-borne disease, which led to in-depth interviews and valid data. For the credibility of the study, the researcher had long and persistent involvement with the data and the participants and employed the review technique for the participants. For dependability, the peer review method was used, meaning that, after initial coding and categorization, the researcher provided his teammates with the early analysis of the collected data seeking their evaluation and correction. Due to dependability and confirmability, data collection methods (semi-structured interviews, observations, and library studies) were carefully utilized in interview and data analysis techniques. Providing nurses’ citations and full descriptions of categories, as well as characteristics of participants, data collection, method of analysis, and sampling with maximum diversity, are the components that made this study transferable.

### Results

Overall, 15 nurses participated in this study, all of whom had experience of being in the surgical team of the mentioned patients. The average age of the participants was 39.06 years. The average working experience of the participants was 14.73 years, and 73.33% of them were men. All the participants in this study had a bachelor’s degree (Table 1).

After analyzing the statements of the participants, 5 themes and 16 sub-themes were obtained from the lived experience of operating room nurses in dealing with patients with blood-borne diseases (Table 2). The first theme obtained from the participants’ statements was the tense role of nurses, which reflects the psychological changes of operating room nurses in performing their role when facing these patients. The second theme was respecting patients’ privacy, showing the lack of curiosity of nurses to know how patients get infected. The third

**Table 1.** Demographic Characteristics

Participant	Age (y)	Experience (y)	Level of Education	Gender
P1	26	3	Bachelor's degree	Male
P2	40	18	Bachelor's degree	Male
P3	50	30	Bachelor's degree	Male
P4	26	3	Bachelor's degree	Male
P5	40	20	Bachelor's degree	Male
P6	46	22	Bachelor's degree	Female
P7	45	21	Bachelor's degree	Female
P8	41	18	Bachelor's degree	Male
P9	26	2	Bachelor's degree	Male
P10	40	12	Bachelor's degree	Male
P11	41	14	Bachelor's degree	Female
P12	52	28	Bachelor's degree	Female
P13	29	4	Bachelor's degree	Male
P14	40	10	Bachelor	Male
P15	44	16	Bachelor	Male

theme was the functional compatibility of nurses. This theme represents the functional changes of nurses in dealing with the mentioned patients. The fourth theme was the desire to have an experienced team. Nurses prefer to work with an experienced team in dealing with these patients. The last theme was the heroic feeling. Nurses get a good feeling when caring for these patients.

### Having a Tense Role

Caring for these patients due to having a specific disease has differences compared to the care of other patients. Often, nurses face tensions in their role, and these tensions, in turn, affect nurses' mental states. All these reasons cause the care of these patients to always be accompanied by mental and emotional tensions.

### Experiencing Increased Mental Tension

The nurses stated that when taking care of these patients, their minds are always involved and they think about the consequences of getting infected, and this increases their mental tension.

*"...during the surgery, I always thought about what would happen to me if I got infected, and I used to get headaches after the surgery..."* (P12).

### Experiencing Increased Physical Pressure

According to the nurses' statements, the precautions taken during the surgery of these patients for personal protection increase their fatigue and physical pressure.

*"... In the surgery of these patients, I always pay more attention and do things with great patience, and this makes me very tired..."* (P1).

### Having a Stressful Role

Nurses have mentioned that because of working with sharp tools and dealing with patient secretions that can

**Table 2.** Themes and Sub-themes

Themes	Sub-themes
A tense role	Experiencing increased mental tension
	Experiencing increased physical pressure
	Having a stressful role
	Having fear of infection and transmission
Respect for patients' privacy	Having professional obsession
	Dealing with the patient normally
	Avoiding judging the patient
Functional compatibility	Avoiding exploring the patient's personal life
	Increasing caution and accuracy of work
	Decreasing work speed
Desire to have an experienced team	Trusting personal protective equipment
	Trusting experienced colleagues
Heroic feeling	Having a sense of peace with an experienced team
	Feeling a sense of dedication
	Feeling a sense of selflessness and sacrifice
	Feeling useful

cause the transmission, they bear very high stress, making them more tired.

*"... In the surgery of these patients, working with sharp instruments causes me a lot of stress, which I don't experience in the operation of other patients, and this makes me more tired after the surgery..."* (P3).

### Having Fear of Infection and Transmission

The most serious fear of nurses in caring for these patients was the fear of contracting these diseases. Nurses consider contracting these diseases as the end point of their lives.

*"... the first time I participated in the surgery of these patients, the only fear I had was that I might get infected..."* (P8).

Married nurses were afraid of transmitting this disease to their families. They were more worried about the transmission of this disease and expressed less concern about its consequences for themselves. One of the nurses who had a history of needle sticks in the surgery of these patients (with a negative test) indicated:

*"... After I got the needle stick, I didn't even want to kiss my child until the test results came, even though I knew that kissing wouldn't harm my child. But again, I was only thinking about my family. I didn't think about what would happen to me if my test was positive..."* (P7).

### Having Professional Obsession

In this study, the most serious concern of nurses while working with these patients was getting infected, and this made them show excessive obsession while working.

*"... in the surgery of these patients, I use all the personal protective equipment; sometimes, I even wear an extra glove under the special gloves, I wear protective glasses, and I also use a shield that completely covers the front of my face. These cause my body to get very hot during the surgery or the steam formed on the shield disturbs*

*my vision. I don't take my eyes off the sharp tools while moving. This decreases my working speed, but I still prefer to do like this..."* (P11).

### **Respecting Patients' Privacy**

The mentioned patients do not experience a normal life due to the special disease they have. Nurses prefer not to ask questions about their personal lives to reduce the patient's stress and not to make the patient feel different.

### **Dealing With the Patient Normally**

According to nurses, the patients feel separated from other patients because they know that the nurses have reviewed their files and are aware of their illness. To reduce their stress and eliminate this feeling, nurses tend to treat them like other patients so that they do not feel separated.

*"...When these patients come to the operating room, I see a sense of embarrassment in their faces. To eliminate this feeling, I treat them like the rest of the patients and I can feel the loss of embarrassment..."* (P9).

### **Avoiding Judging the Patient**

Nurses tend to take care of these patients without blaming the patient and being prejudice. Perhaps there are cases of contracting this disease that the patient himself is not guilty of in any way. Nurses do not want prejudgment about the patient to affect their care.

*"... for the first time when I went to the surgery of a patient who had the mentioned disease, I was very stressed and I said to myself that if this patient had followed the health tips and would not have contracted this disease, I would not have to deal with this stress now. Before anesthesia, the patient himself talked about his illness and said: I am a professional boxer and this disease was transmitted to me during the matches from my infected rival. I felt ashamed and I decided not to judge the patients anymore..."* (P5).

### **Avoiding Exploring the Patient's Personal Life**

The nurses talked about the reluctance of most patients to talk about their lives and how they got infected. Despite having a sense of curiosity about how the patients got infected or their personal lives, the nurses did not like to discuss these issues with them because they observed the patient's reluctance and embarrassment.

*"...once a patient who had the mentioned disease was present in the operating room and one of the new nurses was talking to the patient and asking him questions about how the patient got infected, we could see the feeling of embarrassment and unwillingness to talk to the patient. The patient somehow wanted to avoid answering the nurse's question, his face was red, and instead of looking at our colleague's face, he was looking elsewhere. It was not the right thing to do and it caused the patient's embarrassment..."* (P2).

### **Having Functional Compatibility**

The stress of caring for these patients and the fear of the personal and social consequences of being infected have caused nurses to make changes in their work during care. These changes, in the way care work is performed, have an impact on the quality and speed of work of nurses.

### **Increasing Caution and Accuracy of Work**

Compliance with safety tips and the use of personal protective equipment are highly important for nurses. Nurses increase their concentration and accuracy during care so as not to become a victim of unforeseen accidents. Safety tips that should be considered efficiently while working with any patient take on a more prominent role when working with these patients.

*"...Every time I am at the surgery of these patients, I fully observe all the safety points that maybe I do not observe in other operations. Many times, I put the scalpel blade with my hand on the scalpel handle, but I never do this in these surgeries. We prefer not to talk during surgery if it is not necessary..."* (P6).

### **Decreasing Work Speed**

Observing safety tips and showing obsession have reduced the work speed of nurses. The use of special gloves or the use of two gloves affects the work speed of nurses.

*"...I was in the operation procedure of these patients, I was wearing two gloves, and I felt that the sensation of my fingertips was reduced and it was more difficult for me to work with tools. I was working carefully to protect myself and the surgical team. I followed all the safety precautions. After the operation, when I looked at the clock, I realized that the operation process took about one and a half times longer than usual..."* (P4).

### **Trusting Personal Protective Equipment**

The protective role of personal protective equipment has made nurses demonstrate a great desire to use it. When using this equipment, nurses' self-confidence increases and they perform care tasks more calmly.

*"...using personal protective equipment reduces my stress significantly. And it's easier for me to focus on the procedure rather than being worried about getting a needle stick..."* (P15).

### **Having a Desire to Have an Experienced Team**

Nurses stated that experience has shown that contamination is more common among new nurses. In addition to the stress of getting infected, nurses also have the stress of getting team members infected. To reduce this stress, they prefer to work with experienced nurses in caring for these patients.

### **Trusting Experienced Colleagues**

Among nurses, there is a fear of being needle sticks by a colleague. Experienced nurses remember their early

careers and recall some of the wrong moves they made due to their inexperience.

*"... Early in my career, to prove myself to the surgical team, I entered my hand to expose the operating field, and the surgeon inadvertently needle-stick me..."* (P10).

#### *Having a Sense of Peace With an Experienced Team*

According to nurses, duties are easily divided in the presence of an experienced nurse. The presence of an experienced nurse in the surgical team makes them relax and reduces the stress of other nurses, especially less experienced nurses.

*"...At the beginning of my career, a patient entered the operating room with the aforementioned problem, and I was supposed to be in the surgical team of this patient. The stress overwhelmed me. I was going over in my mind how to handle the sharp instrument and kept thinking that I might make a wrong move during the operation and hurt myself or the surgical team. Then, I noticed that one of my experienced colleagues was supposed to be on the team. I breathed a sigh of relief and my stress decreased a lot..."* (P11).

#### *Having Heroic Feelings*

According to the nurses, taking care of the mentioned patients is extremely risky. At the same time, these patients also need care like other patients. Performing tasks in such special conditions has given nurses a good feeling that they did not have to care for other patients.

#### *Having a Sense of Dedication*

Being on the treatment team of a patient with a specific disease gives nurses a good feeling. Helping a patient who may not receive care by other nurses due to their unwillingness multiplies that good feeling.

*"...Whenever the operation of these patients is finished and I take off my surgical gown, I feel proud that I helped a special person because others might not even show a tendency to have skin-to-skin contact with them..."* (P13).

#### *Feeling a Sense of Selflessness and Sacrifice*

Nurses who participate in these procedures are aware of the risks, but their sense of responsibility towards patients makes them participate in the procedure with a sense of selflessness.

*"...As a nurse, I know that there is no definitive treatment if you are involved in this disease. Therefore, whenever I participate in the surgery of these patients, I feel a sense of dedication and sacrifice..."* (P14).

#### *Feeling Useful*

Some nurses who have little experience are afraid of attending the surgery of these patients and do not want to attend. Nurses who accept attending these surgeries see themselves as more efficient and useful than other nurses, and this feeling makes nurses more satisfied.

*"...I remember once such a patient came to the operating*

*room and my colleagues each gave an excuse for not being present at the surgical procedure of those patients. I agreed to participate in the operation. At that moment, I felt very good. Because each of my colleagues gave an excuse not to participate in the surgery, but I accepted and this made me feel useful..."* (P9).

## **Discussion**

In this study, we attempted to understand the phenomenon of operating room nurses' experience of attending the operation of patients with blood-borne diseases using the descriptive phenomenology method. Based on the result of this research, five main themes were obtained, including a tense role, respect for patients' privacy, functional compatibility, desire to have an experienced team, and the heroic feeling

Nurses talked about the increase in mental tension while working with these patients. The sense of fear and stress always accompanies them while working with these patients. Through interviews with 80 nurses and midwives, Weyulu (22) concluded that nurses/midwives experience sadness, fear, stress, anger, or joy after nursing HIV/AIDS patients. However, these feelings are influenced by various factors such as the patient's condition, workload, lack of knowledge, lack of personnel, and risky working conditions. Nurses talked about increased physical pressure in caring for these patients. They stated that being on the surgical team of these patients puts more physical pressure on them than on other patients. In this regard, Mammbona and Mavhandu-Mudzusi (23) in their phenomenological study demonstrated that working with HIV patients without psychological support and proper equipment endangered the physical health of nurses. The fear of being infected, which is one of the sub-themes of our study, shows the nurses' concern about getting infected, and they are more worried about transmitting it to others, especially their family members than they are worried about themselves. Mashallahi et al (24) found that the fear of getting sick and passing it on to others, especially family members, reduces the quality of care measures. This fear reduces the quality of care measures performed by them. In our study, the nurses did not talk about the impact of this fear on the quality of their care measures and only stated that working with high caution could reduce their work speed. The nurses in our study pointed out the lack of curiosity about the patients' personal lives. They do not like to make them feel different by being curious about the patients' lives, but they like to deal with patients normally. Zeighmi Mohammadi et al (25) investigated the views of nurses regarding discrimination in the care and treatment of AIDS patients. In this cross-sectional descriptive study, 165 nurses participated, and 54.5% of the nurses agreed with the existence of moderate discriminatory measures against AIDS patients. In the above-mentioned study, the researchers chose people from the internal and infectious departments nurses, and the difference may be due to the different work departments of nurses.

According to the nurses, working with these patients is associated with mental tension for them. Using personal protective equipment while working with these patients conveys a sense of peace and security to nurses. In this regard, Mammbona and Mavhandu-Mudzusi (23) state that the lack of personal protective equipment is one of the problems that nurses face in caring for HIV patients. Mashallahi et al (24) investigated the experience of nurses in caring for people with HIV. In this study, which was conducted using focused ethnography, they concluded that some nurses suffer from a lack of self-confidence and lack of sufficient training, and these increase their risk of infection. In our study, nurses preferred to work with experienced people in the surgical team to reduce their mental tension and prevent stress in caring for these patients. They felt more relaxed when working with experienced people, which may be due to high self-confidence and high knowledge of experienced nurses.

Uebel et al (26) integrated HIV care into nurse-led primary health care services in South Africa. They synthesized three related qualitative studies that analyzed their data using a meta-ethnographic approach. Their findings revealed that nurses want to be involved in the delivery of HIV care and, at the same time, want to develop expertise in specific areas and good patient-nurse relationships. Patients, in turn, were concerned about the stigma of separate HIV services and yet preferred to be examined by specialized nurses in HIV care. In the present study, one of the main obtained themes was the heroic feeling. Nurses were found to get a good sense of caring for these patients and feel useful, which is probably why the nurses in the study by Uebel et al were willing. In their study, patients were concerned about social stigma. In our study, nurses admitted that they do not like to judge patients. Probably the nurses understood this feeling of the patients and to avoid this, they did not like to judge and stigmatize them. In their qualitative study conducted by content analysis, Takazori et al (27) evaluated nurses' lived experiences of caring for patients with AIDS/HIV in Ardabil, Iran, and reported that most of the medical staff and nurses, instead of dealing with prevention issues, blamed the patients. Moreover, they were curious to know how the patients were infected. Conducting two studies in different places and times may explain the reason for this difference.

### Conclusion

The results of this study demonstrated that nurses experience negative and positive emotions when participating in the operation of a patient who has a blood-borne disease. Therefore, medical and educational centers must do the necessary planning to strengthen positive emotions and reduce the expressed negative emotions so that possible mental and physical injuries are reduced while the quality of care is increased.

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### Authors' Contribution

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### Competing Interests

The authors declared no potential conflict of interests with respect to the research, authorship, and/or publication of this article.

### Ethical Approval

The present study was approved by the Ethics Committee of Hamadan University of Medical Sciences. The purpose of the study was explained to the participants at the beginning of the study and they were assured of withdrawal at any stage of research (IR. UMSHA.REC.1401.463).

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