The hospital housekeeping staff responsibilities in the infectious patients emergency management admitted to the cardiovascular care units: a qualitative content analysis study

Responsabilidades del personal de limpieza del hospital en el manejo de urgencias de pacientes infecciosos ingresados en las unidades de cuidados cardiovasculares: un estudio de análisis de contenido cualitativo

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Abstract

Introduction & Background: The personnel responsible for cleaning hospitals during times of disaster have been found to be highly active and effective, yet they are often overlooked. The purpose of this study was to elucidate the important roles played by housekeeping staff during the emergency response phase of infectious disease-related disasters in cardiovascular care units.

Methods: The present study was conducted by qualitative conventional content analysis. Sampling was conducted using the snowball technique. Fifteen individuals, consisting of the housekeeping personnel employed in public hospitals cardiovascular care units, were selected as participants for the study. The data collection process involved conducting semi-structured and face-to-face interviews. The Graneheim and Lundman method was employed in order to facilitate the analysis process.

Results: The study's main theme was: "Selfless efforts to help provide comprehensive patient care and disease prevention in society", this theme is indicative of the primary approach adopted by the hospital housekeeping personnel during their tenure in the context of infectious disease disasters. The theme is derived from three key categories: "helping nurses to improve the quantity and quality of basic care", "selfless service" and "helping to prevent infectious diseases in society". Nevertheless, they extend significant assistance to the healthcare team and deem it their duty to educate family members and friends regarding the prevention of infectious diseases.

Conclusion: The housekeeping staff can serve as a practical example of personal hygiene in the context of infectious disease emergencies in cardiovascular care units and adhere to health protocols. Consequently, it is recommended that the hospital housekeeping staff undergo training during the emergency preparation phase.

Keywords: Emergency, Personnel, Hospital, Patient Care Management, Cardiovascular Care Unit.

Resumen

Introducción y antecedentes. Se ha demostrado que la participación del personal encargado de las tareas de limpieza de los hospitales durante las crisis es notablemente proactiva y eficiente, aunque con frecuencia se subestima. Esta investigación tuvo como objetivo delinear las funciones fundamentales que desempeñan los miembros del personal de limpieza en la fase de respuesta de emergencia a los desastres relacionados con las enfermedades infecciosas en los centros de salud especializados en atención cardiovascular.

Métodos. Empleando un enfoque tradicional de análisis de contenido cualitativo, se llevó a cabo la investigación actual. El procedimiento de muestreo se llevó a cabo mediante la utilización de la técnica de muestreo en forma de bola de nieve. Se seleccionó a un total de quince personas para participar en el estudio, todas ellas miembros del personal de limpieza que trabajaba en los departamentos de atención cardiovascular de los centros de salud públicos. La recopilación de datos implicó la realización de entrevistas semiestructuradas cara a cara. Se empleó la técnica de Graneheim y Lundman para agilizar el proceso de análisis.

Resultados. El enfoque principal del estudio giró en torno a: «Los esfuerzos altruistas para contribuir a la atención integral de los pacientes y a la prevención de enfermedades en la comunidad», lo que subraya la estrategia principal adoptada por el personal de limpieza de los hospitales cuando se enfrentan a los desastres causados por enfermedades infecciosas. Este tema surgió de tres categorías principales: «ayudar a las enfermeras a mejorar el alcance y la calidad de la atención básica», «dedicación altruista» y «contribuir a la prevención de las enfermedades infecciosas en la comunidad». No obstante, brindan una asistencia notable al equipo de atención médica y consideran que es su responsabilidad educar a sus familiares y conocidos sobre la prevención de las enfermedades infecciosas.

Conclusión. El personal de limpieza tiene el potencial de ejemplificar las prácticas adecuadas de higiene personal en el entorno de las unidades de atención cardiovascular durante las crisis de enfermedades infecciosas y, al mismo tiempo, cumplir con las normas sanitarias. En consecuencia, es recomendable que el personal de limpieza de los hospitales reciba formación como parte del proceso de preparación para emergencias.

Palabras clave: emergencia, personal, hospital, gestión de la atención al paciente, Unidad de cuidados cardiovasculares.

Introduction

Emerging and re-emerging infectious diseases with the potential to spread internationally have hampered the health systems of both developing and developed countries, causing heavy human and economic losses[1,2]. In 2002, 2003, 2006, and 2019, outbreaks of SARS, Avian flu disease, Swine flu, and COVID-19 emerged, respectively, causing extensive physical and psychological damage in the countries[3-6].

Hospitals are systems severely affected by infectious disease emergencies[7]. In all kinds of disasters, particularly disasters caused by infectious diseases, hospitals are the people's only hope; therefore, hospital managers must prepare hospitals for crises. This preparation must be made at three levels: workforce, facilities and equipment, and financing[8].

In preparing health personnel to respond to disasters, managers usually focus on preparing specialized personnel and often neglect to train other personnel[9]. The hospital housekeeping staff is a group of highly active and effective personnel in disasters; however, they are usually neglected[10]. The housekeeping staff have frequent contact with patients. They value their interactions with patients who are seriously ill or dying and consider themselves critical in patient care. They may act as coordinators by alerting other treatment team members[11]. Becker et al. found that the time spent by physicians took approximately 4 minutes and 17 seconds to communicate with each patient in the ward and 20 seconds for patients' relatives; however, housekeeping staff spent about 10 minutes for each patient[12].

When hospitals have many patients in emergencies and disasters, housekeeping staff also play a crucial role in environmental cleaning and infection control programs and assisting with patient care. Smith et al. indicated that environmental cleanliness was critical in nosocomial infection control programs[13]. During the COVID-19 pandemic, adequate cleaning of surfaces in patients' rooms was an essential task for housekeeping staff to reduce the spread of infectious agents[14]. Devrim et al. also found that adequately cleaning patients' rooms after discharge was significant during COVID-19 since the virus severely infected the environment. During the crisis, housekeeping staff spent between 20 and 30 minutes cleaning and disinfecting various surfaces of patients' rooms. It was approximately three times higher than the time required to clean and disinfect the patients' rooms under normal circumstances. In addition, hospital cleaners usually spent 196 to 204 working hours per month during the COVID crisis, demonstrating the importance of their work during disasters caused by infectious diseases[15].

Although housekeeping staff plays a valuable role in disasters caused by infectious diseases, their importance in disasters has been underestimated. Many have not received the necessary training before or during crises and need to be adequately supported[11,16]. The ignorance of various capabilities and roles of these health workers in disasters is why the neglect of housekeeping staff in disaster planning in the preparedness and response phases. Hence, the roles and effects of activities of housekeeping staff, particularly in response to disasters caused by infectious diseases, must be appropriately identified.

Objective

The purpose of this study was to elucidate the important roles played by housekeeping staff during the response phase of infectious disease-related emergencies in cardiovascular care units.

Materials and Methods

Study design and population

The present study was conducted by qualitative conventional content analysis. Nursing researchers frequently use qualitative content analysis approaches in the qualitative descriptive study. Vaismoradioradi and colleagues, referencing Powers and Mayring, assert that Content Analysis is a comprehensive expression encompassing various methods utilized to scrutinize textual data. It constitutes a rigorous, methodical encoding and categorization technique employed to unobtrusively investigate vast quantities of written information, with the objective of identifying trends and patterns in word usage, their frequency, relationships, and communicative structures and discourses[17]. The participants comprised all housekeeping staff in Qom, Iran, and public hospitals cardiovascular care unit. The hospitals included Shahid Beheshti Hospital, Amir Al-Momenin Hospital, and Kamkar Hospital. Qom is a city near the capital of Iran. The first patient with COVID-19 in Iran was admitted to Kamkar Hospital. Participants were selected by the snowball method so that a housekeeping staff member, who had been present at the Kamkar Hospital since the beginning of the COVID-19 outbreak, was identified, and the first interview was conducted with him. Then, he was asked which housekeeping staff member of Qom hospitals had experience working in COVID-19 wards. He named several people. The researchers visited them and interviewed them after obtaining informed consent. At the end of each interview, new participants were again asked to name the housekeeping staff who had experience working in COVID-19 wards. Therefore, 15 housekeeping staff was identified and interviewed. Inclusion criteria were as follows: Consent to participate in the study and at least one year of experience in the inpatient wards of COVID-19 patients. Exclusion criteria: the interviewees' inability to express their experiences and non-consent to continue participating in the study.

Data collection

Data were collected using semi-structured and face-to-face interviews. Data collection occurred from July 10th to the culmination of October 2021. Before conducting the interviews, the researchers presented the letter of recommendation issued by the Research Deputy of Qom University of Medical Sciences and the permission of the Research Ethics Committee to the hospital managers and participants and thoroughly explained the research objectives. Afterward, those housekeeping staff, who verbally consented to participate in the study, completed and signed the informed consent forms. The researchers then agreed with the participants on the time and place of the interviews. All participants wanted the interviews to be conducted individually in a safe, secluded place inside the hospital. Thus, all interviews were conducted in Shahid Beheshti, Amir Al-Momenin, and Kamkar hospitals in Qom. Some participants asked researchers not to share their audio files with anyone. Until the data were saturated, 17 housekeeping staff members were interviewed, 10 chose the interview before the start of the shift, and the other 7 chose the end of the shift for the interview. According to the exclusion criteria, two interviews were not analyzed, and finally, 15 interviews were analyzed. During the interview, one of the participants exhibited an apparent difficulty in articulating his experiences, resulting in an incomplete response to the questions posed. Additionally, subsequent to the interview, the other participant conveyed their preference to not have their interview utilized and further requested the deletion of the corresponding audio file. Consequently, two participants were precluded from the study.

The participants were asked to introduce themselves at the beginning of the interviews. The first interview started with a general question. The text of the first interview was then analyzed. Based on the information obtained from the first interview, some questions were changed, and several questions were added. The second interview was then conducted with new questions. The second interview was also analyzed, some other questions were changed, and several questions were added. Therefore, a semi-structured interview guide was prepared. Because the phenomenon was not known. In the first two interviews, the questions were asked in an open-ended manner, and the more interviews were conducted with more people, the more dimensions of the phenomenon were known, and the interviews were directed to achieve the study objectives through changes in the questions. The final questions were as follows:

1- Kindly introduce yourself by providing your age, years of experience, marital status, and number of children. 2- At the time of the outbreak, which department were you employed in? 3- What impact has this disease had on your personal and familial life? 4- How do your family and acquaintances view your profession in the corona depart-

ment, and what is their relationship with you? 5- Have you received requests from members of your community or family for advice on ways to prevent the coronavirus disease, and what measures have you taken? 6- In what ways has this disease affected your work-related activities? 7- How do Covid patients differ from other patients? 8- Is there a distinctive atmosphere among healthcare providers when providing services to Covid patients compared to Non-Covid patients? 9- In your perspective, what changes have occurred in the process of providing healthcare services to patients since the outbreak of the coronavirus disease? 10- Did you and your colleagues face any challenges while working in the coronavirus departments, and if so, how were these issues resolved? What was the outcome of the managerial interventions to rectify these complications? 11- Did the hospital administration reward you for your contributions during the coronavirus outbreak or provide job security? 12- Have you ever empathized with Covid patients, and have you or the patients prayed for each other? 13- Have Covid patients ever asked you to perform a task that is not typically within your job description? 14- What differences have you observed in the way you provide healthcare services to patients since the onset of the coronavirus disease until now? 15- Due to the demanding nature of working in the Corona department, have you ever had to engage in nursing duties? 16- How has the coronavirus affected your sleeping, eating, and resting patterns?

The interviews continued using a semi-structured interview guide. The participants were allowed to talk freely about the questions during the interviews. They sometimes used real-life examples to answer questions and sometimes told their own life stories while working in COVID-19 wards. The interviewer directed the interviewees to answer the questions by asking the main question again in such a situation. To better understand participants' experience, the interviewer utilized exploratory questions, such as "Explain more about this?", "Please explain what exactly happened?" and "How did you react in this situation?" All interviews were recorded by the participants using digital audio recording. The data were saturated in the thirteenth interview, but two more were conducted to ensure data saturation.

Data analysis

Data analysis began at the same time as the first interview. In addition to recording the participants' voices during the interviews, the interviewer carefully listened to their conversations and wrote down important points of their conversations. Immediately after each interview, the recorded interview listened to several times, and the content was transcribed word by word in Word 2016. The typed texts were then entered into the MAXQDA qualitative data management software, version 2010, and analyzed using the method proposed by Graneheim and Lundman. First, the interviewer read the entire text of the interviews from beginning to end to gain sufficient knowledge of the data contained in the entire interview. In the study, the whole text of each interview was considered a unit of analysis, and sentences and words were regarded as meaning units. The meaning units were then coded, and the codes were classified as more abstract categories. Finally, the content hidden in the data was identified with a profound reflection on the categories and introduced as the study's main theme. The process of data analysis was completed within a span of approximately 5 days during the initial interviews, and approximately 3 days during the subsequent interviews. The duration of the interviews averaged 47 minutes.

To ensure the data's credibility, the interviewer re-met with the participants and gave them the typed text of the interviews, along with the initial codes extracted, and asked them to read the analyses. If they were acceptable, they could approve them, and if the analysis differed from the participants' opinions, a new concept was written with the participants' opinions and help. Finally, all stages of analysis, the process of extracting codes, and the way of creating sub- categories, categories, and achievement of the main theme of the study were discussed, reviewed, and approved in the presence of two other researchers, who were experts in qualitative studies, to ensure the data reliability.

Ethical consideration

This study was approved by the research ethics committee of Qom University of medical sciences, Qom, Iran (Approval ID: IR.MUQ.REC.1400.064). To observe ethical principles, the researcher discussed with the identified eligible candidates individually, briefed them on the study objectives, and presented the approval from the ethics committee. The participants willing to participate in the study then signed informed consent forms and decided on the time and location of face-to-face interviews. All methods were performed in accordance with the relevant guidelines and regulations (Declaration of Helsinki).

The study was conducted 18 months after the COVID-19 outbreak in the world. The participants were 11 men and 4 women. The participants' mean age was 32.06±3.63 years, and work experience was 2.70±1.82 years. Ten participants (66.7%) were married, and the rest were single. Eight participants (53%) had children, and the rest had no children. "Selfless efforts to help to provide comprehensive patient care and disease prevention in society" was the main research theme, reflecting the main approach of the hospital housekeeping staff during their service in the inpatient wards of patients with COVID-19 and was derived from the main categories of "helping nurses to improve the quantity and quality of basic care," "selfless service," and "helping to prevent infectious diseases in society" Table 1. The research findings leading to the extraction of these categories and sub categories are described as follows.

Table 1. The roles of hospital housekeeping staff in the response phase to the infectious diseases disasters

Categories	Subcategories	Meaning units
Main theme: Selfless efforts to help to provide comprehensive patient care and disease prevention in society		
Helping nurses to improve the quantity and quality of basic care	Helping nurses to provide basic nursing services better	Assist nurses in feeding patients
		Assisting nurses in oxygen therapy
		Help meet defecation needs (urine and feces)
		Help meet individual needs
	Helping in psychological care	Hear patients' concerns
		They hoped for patients to get rid of this disease
		They helped alleviate the concerns of the patient and his family
	Helping in spiritual care	Helping to perform religious duties (prayer)
		They prayed for the healing of the patient
Selfless service	Increasing the workload without increasing the salary	Added some tasks compared to before the outbreak
		Increase the frequency of doing certain things
		Increase monthly working hours compared to the pre-outbreak time
		Slight salary increase
	Doing work in difficult conditions	Forcing to use personal protective equipment while working
		Do work with minimal rest
		Do the job more carefully and obsessively
		Decreased welfare services
	Doing work despite the stress	Fear of getting sick
		Fear of family members getting sick
		Seeing the death of patients
		Seeing critically ill patients
		Sick colleagues
		Reduce job security
Helping to prevent infectious diseases in society	Education of family members and friends about ways of preventing infectious diseases	Repeated advice to family and friends about following health guidelines
		Practical training on how to wash and disinfect tools and equipment
	A practical model of personal hygiene and adherence to health protocols	They had increased the frequency of handwashing
		They used hand sanitizers.
		They did not shake hands with other people
		Effective use of masks in social settings
		They refused to attend family parties

Helping nurses to improve the quantity and quality of basic care

This category was derived from the three sub- categories of "Helping nurses to provide basic nursing services better," "Helping in psychological care," and "Helping in spiritual care." The housekeeping staff of the hospitals wherein infected patients were admitted indicated that in addition to their duties, they helped nurses to provide nursing services. However, none of them performed any of the nursing procedures independently. They maintained that helping nurses could increase the quantity and quality of the care provided for infected patients.

Helping nurses to provide basic nursing services better

From the housekeeping staff's perspective, the nurses in wards receiving infectious patients needed help to provide basic nursing services for patients. The housekeeping staff usually helped nurses with feeding, defecating (urinating and defecating), and meeting some of the patient's needs. They also helped nurses with oxygen therapy when patients got out of bed, ate, and when patients needed to change the amount of receiving oxygen.

Participant 1. The housekeeping staff's work is very close to nursing in crisis. Sometimes, we fed patients spoon by spoon and helped nurses give oral medicines. Sometimes, the patients wanted us to give them water and fruit juice.

Participant12. When the patients wanted to get out of bed, and the nurses were busy with other tasks, they asked us to cut off their oxygen and help them to go to the toilet.

Helping in psychological care

Many housekeeping staff members stated that patients and their families were stressed and anxious, especially in early illness stages, and performed their duties in the patients' rooms. The patients talked to them about their concerns. The housekeeping staff usually listened to patients carefully and provided them with promising information about the disease course to the best of their knowledge and experience. Sometimes, the patient's families, who were outside the ward, asked the housekeeping staff to tell them about their condition. The most important question that patients' families asked the housekeeping staff was whether patients with the same condition as their patients had survived. The housekeeping staff maintained that talking to patients and their families could reduce stress and anxiety.

Participant 1. We (the housekeeping staff) treat the patients can affect them a lot. My lousy behavior causes the patients to lose their temper, and my good behavior causes them to have a good mood and positive energy.

Participant 2. Fear is significant in patients. If the patients are conscious, we must give them morale. The attendants also ask whether their patients will get better. We tell them that most patients get better if they take their medication.

Helping in spiritual care

Some housekeeping staff stated that infected patients needed more spiritual care than others. Therefore, the housekeeping staff helped nurses to provide spiritual care. They usually helped patients perform wudu or Tayammum (Actions done before praying) or pray beside their beds. They also prayed for the healing of the sick after their prayers or during the pilgrimage to the Shrine of Fatimah al-Masumah, and the Holy Mosque of Jamkaran.

Participant 11. I live near the Mosque of Jamkaran. Sometimes, I get out of the car to go home. Patients come to my mind, and I pray for them.

Participant 14. Sometimes, patients wanted to get out of bed to perform Wudu, so we helped them to do so.

Selfless service

This category was extracted from the three sub- categories, namely "Increasing the workload without increasing the salary," "Doing work in difficult conditions," and "Doing work despite the stress." The housekeeping staff maintained that they had made many sacrifices during the disaster caused by the infectious disease. They stated that their salaries did not change much after the infectious disease outbreak, but their work increased considerably. Some tasks, which did not exist in the period before the infectious disease, were added to the duties of the housekeeping staff after the disease outbreak. However, they reported that some of their colleagues were forced to leave their jobs for fear of getting sick and increasing their workload.

Increasing the workload without increasing the salary

Almost all participants in the study stated that their daily and monthly workload had increased significantly after the infectious disease outbreak, but their salaries had not changed much. The increase in the number of hospitalized patients, the addition of beds in hospital wards, the addition of hospital wards for infectious patients, the illness of some housekeeping staff, and the resignation of some housekeeping staff increased their daily workload and monthly working hours. It also increased some new tasks, such as frequent equipment disinfection and daily workload levels.

Participant 11. COVID-19 has led to heavy service work, higher disinfection, critically ill patients, and a heavy workload; for example, last night, I was a night worker, a patient was coded, and the doctor and nurse did CPR. After finishing their work, I collected sick items, disinfected them, and transported the dead body to the morgue for two hours.

Participant 1. The first few days, the housekeeping staff got sick one by one. In addition to the fact that our work was heavy in our shifts, it was very difficult to see the empty shifts of the employees who were ill because there was a shortage of workforce and not every human resource could be replaced immediately, and what we did needed training; so, we worked extra shifts.

Doing work under challenging conditions
Many housekeeping workers said the working conditions became challenging after the infectious disease outbreak. Long-term use of personal protective equipment in working, shorter rest time due to heavier workload, being forced to serve in long shifts, insufficient rest in the intervals between two work shifts, fewer welfare facilities, and higher expectations of people and officials to perform service carefully and obsessively were the most important reasons for the difficult working conditions of the housekeeping staff after the outbreak of the infectious disease.

Participant 10. When we worked in the infectious disease unit, we wore personal protective clothing and two masks, and we were exhausted because the shifts were very tight, it was night work, and there was work stress, so we were exhausted.

Participant 4. In the infectious unit, you must pay more attention, wear two masks in 90% of cases, wash more dishes, clean more, and change more sheets. Working in the infectious unit is very difficult because of much obsession.

Doing work despite the stress
The housekeeping staff experienced high levels of stress after the outbreak of the COVID-19 crisis. The main factors, namely the constant fear of getting sick and transmitting the disease to family members, observing critically ill patients and their mortality, and lower job security, were causing the housekeeping staff to be under psychological stress. They also experienced more stress when they found that one of their co-workers had an infectious disease.

Participant 11. When patients die in front of us, we weep for their families. It is not very pleasant, and I think they are a member of my family.

Participant 10. When we went home at the beginning of the COVID-19 outbreak, we washed all our clothes; two or three sets of my clothes were torn because I had washed them frequently. We utilized the shower facilities both at the hospital and in our residence due to the intense fear experienced by myself and my family.

Participant 3. My mother and wife took COVID-19. All the relatives said they became ill because I worked in the hospital. They blamed me and said it would not have happened if I had not been in the hospital.

Participant 4. I became extensively engaged initially. The emotions involved were centred around fear, both personal and familial. My mental engagement was profound. I washed my feet, changed my clothes, took a shower, and did not touch my children; it was very hard.

Helping to prevent infectious diseases in society
This category was extracted from two sub- categories: "Education of family members and friends about ways of preventing infectious diseases" and "Practical model of personal hygiene and adherence to health protocols." Housekeeping staff was among those who had close contact with COVID-19 patients; hence, the public accepted their words and actions.

Education of family members and friends about ways of preventing infectious diseases
Housekeeping staff usually helped family members, friends, and the public prevent diseases through oral and practical training on following hygiene practices.

Participant 13. When we went home at the beginning of the COVID-19 outbreak, everyone asked us what we needed to do not to get sick, or some friends called and said what we needed to prevent it.

Participant 9. Many people did not know how to wear masks or did not know how to disinfect vegetables and fruits, so we taught them.

A practical model of personal hygiene and adherence to health protocols
During the crisis precipitated by the outbreak of the contagious illness, certain members of the housekeeping personnel were perceived by their relatives and the community as a pragmatic exemplar for adhering to individual cleanliness standards and enforcing health measures as a fitting paradigm. This group of participants carefully followed three main health protocol elements, including avoiding attending gatherings, washing and disinfecting their hands, and wearing masks.

Participant 3. When I go home, I change all my clothes, disinfect my hands, shower, and then enter the hall. I used to go to my mother's house every other day, but after the COVID-19 outbreak, I seldom went to my mother's house. The rest of my relatives exemplify my behavior and ask me what we should do to avoid getting sick.

Participant 12. When I went out to buy bread or other things, I wore a mask and stood far from the others. Some people asked me why did you wear a mask, and I explained to them that the disease was transmitted through the respiratory tract, and we had to wear a mask, and when they saw that I was wearing a mask, they thought of wearing it.

Discussion

The present study aimed to explain the roles of hospital housekeeping staff in disasters caused by infectious diseases. The research results led to a theme and three main categories. The research theme included "Selfless efforts to help to provide comprehensive patient care and disease prevention in society." The main categories included "helping nurses to improve the quantity and quality of basic care," "selfless service," and "helping prevent infectious diseases in society." The theme indicated the main axis of the activities of the hospital housekeeping staff during disasters caused by infectious diseases. Factors, such as helping nurses to provide basic nursing services better, helping in psychological care, and helping in spiritual care, increasing the workload without increasing the salary, doing work under challenging conditions, doing work despite the stress, education of family members and friends about ways of preventing infectious diseases, and being a practical model of personal hygiene and adherence to health protocols, were created about the central factor, demonstrating how hospital cleaners worked in the phase of hospital response to a disaster caused by infectious diseases.

After working in the hospital for a while, many housekeeping staff members learned some simple nursing procedures, such as regulating oxygen, feeding the patients, and helping the patients to get out of bed. They used these experiences to help to care for infectious patients and assist nurses in providing care services during an infectious disease disaster when nurses' workload was high. Jors et al. found that housekeeping staff played a key role in caring for critically ill patients. They also indicated that housekeeping staff might be able to play crucial roles in caring for patients by warning members of the treatment team[11]. This finding indicates that the housekeeping staff is interested and can help nurses provide some care tasks during the crisis. However, housekeeping staff should only interfere in patients' care independently, ensuring coordination with nurses and receiving the necessary training.

The length of time when the housekeeping staff was present in patients' rooms increased during infectious disasters. Therefore, many patients and their family members asked questions about their status and fate. Without any special training in this field, the housekeeping staff actively listened to patients and their family members, attempted to reduce their stress and anxiety, and gave them hope that their patients would recover. Nurses ' main tasks were listening to patients and addressing their concerns, and they did it correctly while caring for infected patients; however, infectious patients asked the housekeeping staff some questions. This finding indicated that medical team members, particularly nurses, must spend more time talking to patients during infectious disasters. Given the patients' trust in housekeeping staff, allowing them to communicate with patients and their families during disasters should also be considered. However, housekeeping staff must receive adequate training before communicating with patients. In one study by Jors et al., housekeeping staff described interaction with patients as an essential and satisfying aspect of their work. They stated that patients talked to them for an average of 1 to 3 minutes daily. Conversations were often about topics such as the weather and family situations; however, patients talked to them about their disease and were sometimes told about their thoughts about death [11]. Walsh et al., also found that other hospital staff (like housekeeping staff) felt a commitment to the care and comfort of patients and their families. They also indicated that in providing care to critically ill and end-of-life patients, the hospital staff, who were not specifically responsible for such care, played a role in supporting and caring for grieving people in their daily tasks[10].

Some hospital cleaners were involved in patients' spiritual care. They contributed to the patient's spiritual affairs and prayed for them. Balboni, also found that housekeeping staff interacted directly with patients and provided them with religious services[18]. Matlow et al., also indicated that the hospital housekeeping staff was committed to patients and their families. This finding indicated that housekeeping staff played a hidden and key role during disasters; however, they were not trained in this field. Mabe, found that healthcare providers (physicians, nurses, and other clinical staff) were not religious, and spiritual specialists could not meet the patient's spiritual needs in healthcare settings, thereby requiring trained individuals[19,20].

In the present study, many participants stated that their workload, pressure, and work-related psychological problems increased following the disaster caused by the infectious disease; however, their monthly salaries did not increase. They attributed these problems to prolonged and continuous work without enough rest. Mithchell et al., indicated that although housekeeping staff played vital roles in improving hospital cleanliness and reducing the risk of infection transmission, they were usually not adequately supported by the organization[16]. Gerrard and Barron, found that the salary of housekeeping staff was usually insufficient in most organizations[21]. The work of all health workers increases in the disaster response phase; however, the nature of disasters is usually in way that the workload of health workers usually decreases over time. In infectious disasters, the workload of health workers increases for a long time, and it can lead to job burnout and poor performance. Hence, health managers and policymakers need to take measures to reduce their employees' workload and pay their staff more for their work.

All housekeeping staff stated that they had helped to prevent the spread of infectious diseases throughout the

society during the disaster. They did it by education of family and friends about ways to prevent infectious diseases, providing a practical model of personal hygiene, and encouraging the public to follow health protocols. Numerous studies have demonstrated the role of social education in preventing and controlling infectious disasters[22-24]; however, none of them have considered the role of housekeeping staff in the prevention and control of infectious disasters. It is interesting to note that the housekeeping staff did it without any instructions for training people. Based on their observations and experiences in the hospital, they conducted their education of work to prevent infectious diseases in society.

The primary strength of this article lies in its novel discussion of the involvement of hospital housekeeping staff in disaster situations, highlighting their potential contribution to enhancing surge capacity. Typically lacking formal academic training, these staff members may face challenges in articulating their experiences during interviews. Acknowledging this limitation, the interviewer skillfully utilized guiding questions to steer the conversations effectively. However, it is important to note that this study is constrained by this particular aspect.

Conclusions

Explaining the role of housekeeping staff in disasters caused by infectious diseases helped us better understand the duties and importance of this group of health system staff in the disaster response phase. In infectious disasters, housekeeping staff provided considerable aid to the health team in addition to what they usually did in hospitals cardiovascular care units. They helped nurses to provide better basic nursing services and psychological and spiritual care. Furthermore, their workload increased dramatically without increasing their wages. In infectious disasters, working conditions have become extremely difficult for housekeeping staff, and they experience high stress. They also felt obligated to teach family members and friends about ways to prevent infectious diseases. Hospital housekeeping staff can respond to infectious diseases in society as a practical model of personal hygiene and adhere to health protocols.

Nursing managers can use the capabilities of housekeeping staff in the response phase of infectious disasters. Given the importance of this group of health system staff in infectious disasters, they should be taught in the disaster preparation phase. Moreover, necessary measures should be taken for this group of employees in planning for the surge capacity of human resources, and necessary plans must be put on the agenda to increase their salaries in disasters.

Data availability: The data that support the findings of this study are available on request from the corresponding author.

Conflict of interest: The authors declare that they have no conflict of interest.

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