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Comparison of Preparedness Levels of Health Personnel and Hospitals They Work in for Disasters and Emergencies

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Abstract

Objective: All communities around the world can face a devastating disaster at any time. Therefore, it is of great importance for hospitals to maintain their medical care functions in cases of injuries that may occur after disasters. An effective disaster response in critical situations in hospitals requires not only well-planned and coordinated efforts but also well-trained and experienced professional staff. Our purpose was to investigate and compare the preparedness levels of health professionals and hospitals they work in for disasters and emergencies.

Methods: The questionnaire used for the evaluation of health personnel was developed by the authors. The questionnaire has items on the participants' demographic characteristics, assessment of hospital preparedness for disasters and emergencies (42 items) and assessment of health personnel preparedness for disasters and emergencies (29 items). Responses given to the items had options: "yes" or "no". Each response given by the participants was scored as "1" for the "Yes" answer and "0" for the "No" answer. Then statistical analysis was performed.

Results: The mean score obtained from the first part of the questionnaire was 26.0±13.28. The question that received the highest number 223 (91.4%) of "yes" answers from the participants was "Are there any emergency exit signs?" The mean score obtained from the second part of the questionnaire was 12.6±11.41. The question that received the highest number 162 (66.4%) of "yes" answers from the participants was "Do you know the phone numbers you need to call in an emergency (fire department, police)?" There was a positive and highly significant relationship between the hospital's preparedness for disasters and emergencies and health personnel's preparedness for disasters and emergencies ($p<0.001$).

Conclusion: In the study, most of the health personnel thought that the hospital they worked in was prepared for disasters. It can be said that the construction of hospitals based on certain standards, and their management according to certain rules affect health personnel's thoughts about their preparedness for disasters. However, health personnel think that their level of preparedness for disasters is low. Given important roles of health personnel in coping with disasters, health personnel are expected to know all stages of hospital disaster plans and to be capable of giving the necessary response in disaster situations.

Key words: Hospital management, health personnel, nurse, emergency, disaster preparedness

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INTRODUCTION

Disasters have affected people's lives physically, socially and economically throughout the ages. Due to the environmental, social, economic and political changes that have occurred in recent years, disasters have increased in frequency, and therefore have affected societies more (1,2). Among the factors causing this increase are overpopulation and increasing urbanization, climate change, increase in travel frequency, trade activities, terrorism threat, and infectious disease epidemics. It is important to be prepared for disasters all the time, because when and where disasters can occur is not known (3,4).

All communities around the world can face a devastating disaster at any time. Therefore, it is of great importance for hospitals to maintain their medical care functions in cases of injuries that may occur after disasters (5-7). In hospitals, health services are provided uninterruptedly due to the nature of the service provided, and these services are provided by health professionals working in many different fields. Nurses, physicians, dentists, pharmacists, paramedics, and many other health professionals provide uninterrupted health care during disasters (8-10). Hospitals providing uninterrupted service play an active role in responding to disasters with their emergency services, patient care and treatment services, advanced diagnostic tests and institutional support services. The emergency capacities of departments such as emergency services, intensive care units and operating theaters, and the preparedness of physicians, nurses, paramedics and other health personnel working in these departments for emergencies play a key role in case disasters affect masses (11-14).

An effective disaster response in critical situations in hospitals requires not only well-planned and coordinated efforts but also well-trained and experienced professional staff. Personnel working in emergency response units are also frequently faced with emergencies in the routine period. However, health personnel working in other units may not have the critical knowledge and experience needed in emergencies and disasters, and therefore, they may have difficulty performing their tasks effectively under the chaotic and stressful conditions created by disasters (14-16). Therefore, to have health personnel adequately prepared for disasters and emergencies, first, they should be given training and be taught exercises that will provide the necessary knowledge, skills and attitudes so that they can adequately respond to emergencies when they occur (17-19).

The region where this study was conducted is at a high risk of having disasters such as earthquakes, floods, fires and landslides. The study was carried out with health personnel working in three different public hospitals in Sinop, a province of Turkey, along the Black Sea who volunteered to participate in the study. The main purpose of the authors of this study was to investigate the preparedness of the aforementioned public hospitals and health personnel for disasters and emergencies working in these hospitals from their perspectives.

The authors' other aim was to determine whether there was a significant difference between the participating health personnel's preparedness for disasters and emergencies in terms of variables such as sex, education level, length of service in the profession and in the hospital, and their experiences in disasters and emergencies.

In the study, hospitals' and health personnel's preparedness for disasters and emergencies was discussed separately and it was expected to be a source for future studies. The study is also expected to provide guidance for relevant institutions and organizations when they plan and perform preparatory activities.

METHODS

The population of this descriptive study consisted of 775 health personnel working actively in three different public hospitals in Sinop, Turkey. Of these personnel, 452 volunteered to participate in the study. The study data were collected between December 2019 and January 2020 using the Hospital Personnel's Preparedness for Disasters and Emergencies Questionnaire prepared by the authors based on the pertinent literature. The questionnaire was distributed to the participants after they were informed about the study. However, 244 participants completed and returned the questionnaires. It took them approximately 10 minutes to complete the questionnaire.

The questionnaire has three parts. In the first part, the participants' characteristics, such as sex, age, occupation, length of service in the profession and length of service in the hospital were questioned. The second part consists of 42 questions with yes/no options asked to determine the hospital's preparedness for disasters and emergencies. The third part consists of 29 questions with yes/no options asked to determine the health personnel's preparedness for disasters and emergencies.

Responses given to the questions in the 2nd and 3rd parts were rated by giving 1 point to the "yes" answer and 0 points to the "no" answer. The sum of the scores of all the items yields the score for the overall questionnaire. The distributions of the responses are given in Table 2 and 3. The participants' demographic characteristics are given in Table 3.

Comparative statistics regarding the hospital's preparedness for disasters and emergencies in terms of health personnel's characteristics such as sex, age, education level, occupation, and having previously worked in a hospital during a disaster, are presented in Table 4. Comparative statistics regarding the health personnel's preparedness for disasters and emergencies in terms of their characteristics, such as sex, age, education level, occupation, and having previously worked in a hospital during a disaster, are presented in Table 5. The relationship between the hospital's and health personnel's preparedness for disasters and emergencies is presented in Table 6. Data were analysed using IBM SPSS V23. Whether the data were normally distributed was tested with the Kolmogorov-Smirnov and Shapiro-Wilk tests. The Mann Whitney U test and Kruskal Wallis test were used to compare the data that were not normally distributed. The relationship between the variables was investigated by Spearman's correlation analysis. Data that were not normally distributed are presented as the mean (minimum – maximum). P-values less than 0.05 were considered statistically significant.

RESULTS

The distribution of the participants' demographic characteristics is presented in Table 1. Of the participants, 71.7% were women, 55.3% had a bachelor's degree, 26.2% had an associate degree, 9.8% had a master's degree, 8.6% were high school graduates, 69.7% were nurses, 30.3% were technicians, 57% worked in the inpatient unit, 29.1% worked in the outpatient clinic, 10.7% worked in the operating theatre, 3.3% worked in the intensive care unit, and 9.8% previously worked during a disaster.

Table 1. Distribution of demographic other characteristics of the participants

	(n)	(%)
Gender		
Women	175	71.7
Men	69	28.3
Educational status		
High school	21	8.6
Associate degree	64	26.2
Bachelor's degree	135	55.3
Master's degree	24	9.8
Profession		
Nurse	170	69.7
Technician	74	30.3
Unit worked in		
Inpatient clinic	139	57.0
Operating theatre	26	10.7
Outpatient clinic	71	29.1
Intensive care unit	8	3.3
Have you worked in any hospital during a disaster before?		
No	220	90.2
Yes	24	9.8

The distribution of the responses given to 42 questions asked to determine the hospital's preparedness for disasters and emergencies are presented in Table 2. The mean score for the hospital's preparedness for disasters and emergencies was 26.07±13.28. The question that received the highest number [223 (91.4%)] of "yes" answers from the participants was "Are there any emergency exit signs?" The question that received the highest number [144 (59%)] of "no" answers from the participants was "Was the personnel information list shared with local governments (provincial/district disaster management center)?"

The distribution of the responses given to 29 questions asked to determine the health personnel's preparedness for disasters and emergencies are presented in Table 3. The mean score for the health personnel's preparedness for disasters and emergencies was 12.65±11.41. The question that received the highest number [162 (66.4%)] of "yes" answers from the participants was "Do you know the phone numbers you need to call in an emergency (fire department, police)?". The question that received the highest number [160 (65.5%)] of "no" answers from the participants was "Have you read the current disaster and emergency plan?"

Comparisons of the scores for the hospitals' preparedness for disasters and emergencies in terms of the participants' descriptive characteristics are presented in Table 4. Their scores differed according to their education level (p=0.011). The mean scores obtained by high school graduates, and those with an associate degree, bachelor's degree and master's degree were 32, 31, 26, and 31.5 respectively. The difference stemmed from the fact that the participants with a bachelor's degree obtained lower scores than did the other participants. Their mean scores also differed according to the variable "having worked in a hospital during a disaster" (p=0.043). While the mean score obtained by those who previously worked in a hospital during a disaster was 31.5 and SD is 13.47, the mean score obtained by those who did not work was 29 and SD is 10.31. There were no differences between the participants' mean scores in terms of the variables such as sex, occupation, unit worked in, length of service in the hospital, and length of service in the profession (p>0.050).

Comparisons of the scores for the health personnel's preparedness for disasters and emergencies in terms of their descriptive characteristics are presented in Table 5. There was a difference between the participants' mean scores in terms of the sex variable (p=0.017). While the mean score obtained by the female participants was 7 and SD is 10.90, the mean score obtained by the male participants was 21 and SD is 12.05. There was a difference between the participants' mean scores in terms of the educational status variable (p=0.016). The mean scores obtained by high school graduates, those with an associate degree, those with a bachelor's degree and those with a master's degree were 9, 14, 6, and 14 respectively and their SD is respectively 12.14, 10.53, 11.16, 12.14. The difference stemmed from the fact that the participants with an associate degree and master's degree obtained higher scores than did the high school graduates and the

participants with a bachelor's degree. Their mean scores also differed according to the variable “having worked in a hospital during a disaster” (p=0.009). While the mean score obtained by those who previously worked in a hospital during a disaster was 26 and SD is 11.37, the mean score obtained by those who did not work was 9 and SD is 11.24. There were no differences between the participants' mean scores in terms of the variables such as occupation, unit worked in, length of service in the hospital, and length of service in the profession (p>0.050).

The relationship between the hospital's and health personnel's preparedness for disasters and emergencies is presented in Table 6. As is seen in Table 6, there was a positive high-level significant relationship between the hospital's and health personnel's preparedness for disasters and emergencies (p<0.001).

Table 1. Distribution of responses given to questions on hospitals' preparedness for disasters and emergencies

	Yes	No
Is the hospital you work in prepared for disasters and emergencies?	169 (69.3)*	75 (30.7)*
Has the hazard level been determined for disasters and emergencies?	163 (66.8)	81 (33.2)
Is there a disaster and emergency plan?	198 (81.1)	46 (18.9)
Is there an emergency response plan?	184 (75.4)	60 (24.6)
Have you been informed about the current disaster and emergency plan?	129 (52.9)	115 (47.1)
Is there an incident management team for disasters and emergencies?	191 (78.3)	53 (21.7)
Have workflow instructions been created for disasters and emergencies?	169 (69.3)	75 (30.7)
Has an incident management center been determined for disasters and emergencies?	163 (66.8)	81 (33.2)
Has a hazard and vulnerability analysis been performed?	140 (57.4)	104 (42.6)
Have you been informed about the workflow instructions to be implemented in emergencies?	139 (57)	105 (43)
Have precautions been taken against the risk of fire (such as fire extinguisher, alarm system)?	211 (86.5)	33 (13.5)
Have precautions been taken against the earthquake and the risks it will cause (such as fixing of cabinets)?	127 (52)	117 (48)
Is there a designated assembly area for emergencies?	188 (77)	56 (23)
Is there an emergency alert system to communicate in disasters and emergencies?	217 (88.9)	27 (11.1)
Are there any emergency exit signs?	223 (91.4)	21 (8.6)
Is there a place that can be used as a shelter in case of chemical disasters and emergencies?	138 (56.6)	106 (43.4)
Is disaster and emergency preparedness training being provided?	171 (70.1)	73 (29.9)
Are emergency drills held?	181 (74.2)	63 (25.8)
Have necessary precautions been taken against a possible chemical event?	121 (49.6)	123 (50.4)
Have necessary precautions been taken against situations affecting the maintenance of tasks (such as power cuts)?	179 (73.4)	65 (26.6)
Are emergency supplies checked and maintained at regular intervals?	182 (74.6)	62 (25.4)
Have you been informed about your responsibilities and tasks in case of disaster?	126 (51.6)	118 (48.4)
Are forms to be used in a disaster and emergency available?	138 (56.6)	106 (43.4)
Are event notification flowcharts available?	141 (57.8)	103 (42.2)
Are event-specific plans available?	133 (54.5)	111 (45.5)
Have the personnel to be assigned in a disaster and emergency been determined?	155 (63.5)	89 (36.5)
Have the persons who will take charge in a disaster and emergency been informed about the tasks they will do?	155 (63.5)	89 (36.5)
Have places, areas and spaces that can be used in case of a disaster or emergency been determined?	147 (60.2)	97 (39.8)
Are there considerations for hazard mitigation (building reinforcement, etc.)?	113 (46.3)	131 (53.7)
Are disaster and emergency responses available for all hazards?	121 (49.6)	123 (50.4)
Are improvements available for all hazards?	125 (51.2)	119 (48.8)
Are emergency contact numbers available?	163 (66.8)	81 (33.2)
Have evacuation routes been determined?	151 (61.9)	93 (38.1)
Are charts of infrastructure systems (natural gas etc.) available?	127 (52)	117 (48)
Is the list of emergency response companies and suppliers of critical materials available?	113 (46.3)	131 (53.7)
Are there maps or sketches showing hospital facilities and danger zones (gas station, etc.)?	116 (47.5)	128 (52.5)
Have personnel with special needs (patient, disabled) been taken into account?	133 (54.5)	111 (45.5)
Is personnel information list available?	141 (57.8)	103 (42.2)
Is it the personnel information list updated regularly?	127 (52)	117 (48)
Was it the personnel information list prepared after the hazard and risk analysis?	122 (50)	122 (50)
Was it the personnel information list prepared in cooperation with local governments?	132 (54.1)	112 (45.9)
Was it the personnel information list shared with local governments (provincial/district disaster management center)?	100 (41)	144 (59)

*Number (Percentage)

Table3. Distribution of the answers given to the questions on the health personnel's level of preparedness for disaster

	Yes	No
read the current disaster and emergency plan?"	84 (34.4)*	(65.6)*
participated in the preparation and updating of the disaster and emergency plan?	105 (43)	139 (57)
attended disaster and emergency preparedness training?	118 (48.4)	6 (51.6)
participated in disaster and emergency drills?	157 (64.3)	7 (35.7)
nowledgeable about the emergency color code?	102 (41.8)	2 (58.2)
now the scope of event levels (level 1, level 2, level 3) in case of disaster and emergency?	116 (47.5)	8 (52.5)
now how to make event notification in case of disaster and emergency?	128 (52.5)	6 (47.5)
now who to contact at the hospital in case of a disaster?	94 (38.5)	0 (61.5)
ave information on how to make an event notification to the Ministry of Health in case of a disaster?	96 (39.3)	8 (60.7)
nsider yourself knowledgeable enough about disaster preparedness and disaster management?	114 (46.7)	0 (53.3)
now your responsibilities and duties in disasters and emergencies?	103 (42.2)	1 (57.8)
now the limits of your knowledge, skills and authority in disasters, and when you will exceed them?	115 (47.1)	9 (52.9)
now the accepted triages used in disasters?	104 (42.6)	0 (57.4)
nowledgeable about the procedure that should be implemented for patients exposed to chemical, biological, al and nuclear events?	125 (51.2)	9 (48.8)
nowledgeable about the procedure that should be implemented for the patient diagnosed with an infectious disease?	112 (45.9)	2 (54.1)
nowledgeable about the procedure that should be implemented for the personal belongings of people who present to al in case of disaster?	115 (47.1)	9 (52.9)
nowledgeable about the rules that must be followed regarding the hospital staff's uniforms and personnel ID cards in saster?	93 (38.1)	1 (61.9)
nowledgeable about the information to be recorded in the hospital and the forms to be filled in case of a disaster?	93 (38.1)	1 (61.9)
nowledgeable about the situation (case) reports and their scopes that will be prepared in case of disaster?	104 (42.6)	0 (57.4)
nowledgeable about how to implement emergency response plans, evacuation procedures and similar functions?	98 (40.2)	6 (59.8)
nowledgeable about the procedure to be implemented in case of fire and explosions in the hospital?	96 (39.3)	8 (60.7)
nowledgeable about the procedure to be implemented when a gas leak occurs in the hospital?	95 (38.9)	9 (61.1)
nowledgeable about the procedure to be implemented during an earthquake in the hospital?	94 (38.5)	0 (61.5)
nowledgeable about the procedures to be implemented during terrorism and sabotage in the hospital?	94 (38.5)	0 (61.5)
nowledgeable about the procedures to be implemented in the event of a chemical incident in the hospital?	94 (38.5)	0 (61.5)
nowledgeable about the procedures to be implemented in case of a possible evacuation at the hospital?	98 (40.2)	6 (59.8)
nowledgeable about the procedures to be implemented in the environmental risks due to the installation errors in ital?	96 (39.3)	8 (60.7)
cnow the phone numbers you need to call in an emergency (fire department, police)?"	162 (66.4)	2 (33.6)
ave a defined task to do during disasters or emergencies?	84 (34.4)	0 (65.6)

*Number (Percentage)

Table 4. Comparisons of the scores for the hospital's preparedness for disasters and emergencies in terms of the participants' descriptive characteristics

	Mean (min-max)	Test statistics	p
Sex			
Women	28 (0 - 42)	U=6960	0.063
Men	33 (0 - 42)		
Educational status			
High school	32 (0 - 42)ab	χ^2=11.144	**0.011**
Associate degree	31 (5 - 42)a		
Bachelor's degree	26 (0 - 42)b		
Master's degree	31.5 (4 - 42)ab		
Profession			
Nurse	30 (0 - 42)	U=5606	0.176
Technician	28.5 (0 - 42)		
Unit worked in			
Inpatient clinic	29 (0 - 42)	χ^2=1.803	0.614
Operating theatre	31.5 (1 - 42)		
Outpatient clinic	29 (0 - 42)		
Intensive care unit	30.5 (24 - 42)		
Have you worked in any hospital during a disaster before?			
No	29 (0 - 42)	U=3304.5	**0.043**
Yes	31.5 (13 - 42)		
Length of service in the hospital			
<5 years	29 (0 - 42)	χ^2=5.533	0.137
5-9 years	31.5 (2 - 42)		
10-20 years	25.5 (0 - 42)		
≥21 years	33 (2 - 42)		
Length of service in the profession			
<5 years	30 (0 - 42)	χ^2=0.664	0.882
5-9 years	31 (2 - 42)		
10-20 years	28 (0 - 42)		
≥21 years	30.5 (0 - 42)		

U: Mann Whitney U test χ^2: Kruskal Wallis test

Table 5. Health personnel's preparedness for disasters and emergencies in terms of their socio demographic characteristics

	Mean (min-max)	Test statistics	p
Sex			
Women	7 (0 - 29)	U=7212	**0.017**
Men	21 (0 - 29)		
Educational status			
High school	9 (0 - 29)ab	χ^2=10.367	**0.016**
Associate degree	14 (0 - 29)a		
Bachelor's degree	6 (0 - 29)b		
Master's degree	14 (0 - 29)ab		
Profession			
Nurse	9.5 (0 - 29)	U=6021	0.593
Technician	10 (0 - 29)		
Unit worked in			
Inpatient clinic	8 (0 - 29)	χ^2=0.830	0.842
Operating theatre	6 (0 - 29)		
Outpatient clinic	10 (0 - 29)		
Intensive care unit	10 (3 - 29)		
Have you worked in any hospital during a disaster before?			
No	9 (0 - 29)	U=3492.0	**0.009**
Yes	26 (0 - 29)		
Length of service in the hospital			
<5 years	10 (0 - 29)	χ^2=3.362	0.339
5-9 years	9 (0 - 29)		
10-20 years	6 (0 - 29)		
≥21 years	12 (0 - 29)		
Length of service in the profession			
<5 years	11 (0 - 29)	χ^2=1.756	0.624
5-9 years	9.5 (0 - 29)		
10-20 years	8 (0 - 29)		
≥21 years	7 (0 - 29)		

U: Mann Whitney U test χ^2: Kruskal Wallis test

Table 6. Relationship between the hospital's and health personnel's preparedness for disasters and emergencies

		Hospital's preparedness for disasters and emergencies
Health personnel's preparedness for disasters and emergencies	r	0.737
	p	**<0.001**

r: Spearman's correlation coefficient

DISCUSSION

The analysis of the results of the study demonstrated that most of the health personnel who participated in the present study considered that the hospital they worked in was prepared for disasters and emergencies (Table 1). However, the answers given by the health personnel to the questions about their preparation for disasters and emergencies indicated that they thought that they were generally not prepared (Table 2). The review of the literature demonstrated that many studies were conducted on preparedness for disasters and emergencies.

In a study conducted with nurses, their level of perception of preparedness for disasters and emergencies was determined to be low (18). In another study conducted in the literature, the authors stated that health personnel needed to learn about disaster preparedness more (17). In Khalaileh et al.'s study conducted with nurses, the authors stated that the participants were less prepared for emergencies such as biological and chemical weapons attacks (20).

In Bayraktar and Yildirim's study conducted with senior nursing students, the students reported that disaster-nursing courses should be included in the nursing education curriculum (21). In a study conducted with paramedics, it was stated that paramedics should receive disaster response training, that training is important in terms of disaster

preparedness, and that the inclusion of these trainings in the paramedic-training curriculum could provide paramedics with the competence and ability to respond effectively to disasters and mass events (22). In a study conducted in 25 hospitals in 2018, an investigation of hospitals' preparedness for disasters demonstrated that these hospitals were not adequately prepared for disasters, although they had been faced with disasters in the last 5 years (23). In Labrague et al.'s study conducted with nurses, 57.7% of the participants stated that they were not knowledgeable about the protocols to be followed in the event of a disaster in the hospital they worked in (24). The results of study are consistent with those of studies conducted previously. The health personnel often did not perceive themselves prepared for disasters and emergencies, and they thought that the health institutions they worked in often did not make adequate preparations.

According to the analysis of the demographic characteristics of the participants, more than 70% of the participants were women, and most of them had undergraduate or higher education (Table 3). Only 9.8% of the participants took part in disaster responses. In a study conducted with 1341 nurses, 67.3% of the participants were women and 91.3% had a nursing diploma (25). In Koca and Arkan's study conducted with nursing students, the majority of the participants were women and had no disaster response experience (26). The present study, also aimed to determine which characteristics of health personnel led to differences regarding their evaluation of hospitals' preparedness for disasters and emergencies.

The analysis performed in accordance with this aim revealed statistically significant differences between the participants' scores for the hospital's preparedness for disasters and emergencies in terms of the variables such as educational status and previous disaster response experience (Table 4). In the modelling study conducted by Mcneill et al., it was found that disaster response experience positively affected preparedness (27). In a study conducted with participants from 27 countries in Europe, 15% had a disaster response experience on the job. While 56% of the participants who had disaster response experience, were knowledgeable about the procedure to be performed in case of a disaster, this rate was 23% in those who did not have disaster response experience (28). In a study conducted to investigate a postdisaster situation in Taiwan, healthcare professionals stated that the hospital they worked in was inadequate in terms of disaster preparedness and that they had difficulties in maintaining services (29).

The study, the factors affecting the health personnel's level of preparedness for disasters were also analysed (Table 5). The analysis revealed significant differences between them in terms of variables such as sex, education level and disaster experience. In a study conducted with 973 nurses published in 2016, no significant relationship was determined between disaster experience and being prepared for a disaster (30). In their study, Najafi et al. concluded that experiencing a disaster had a significant effect on disaster preparedness, but factors such as sex and education level did not have a significant effect (31). In another study conducted with nurses, 56.7% of the participants stated that they worked in a hospital during a disaster. The level of preparedness for disasters among emergency room nurses, who previously received disaster training and gained experience in disasters, and whose length of

service in the profession was long was significantly higher than it was in those working in other units (32).

It can be said that the effect of sex and educational status on disaster preparedness is limited. It can also be said that longer professional experience and having previously taken part in disaster responses contribute more positively to taking action when an emergency or disaster is faced, and that these experienced people can take an active role in the planning, and interventions to be made.

In the present study, investigated whether there was a significant relationship between the hospital's preparedness for disasters and emergencies and the health personnel's level of preparedness for disasters (Table 6). According to the results of the analysis, a positive and highly significant relationship was determined. In a study conducted in Italy to determine the level of preparedness for disasters in 15 hospitals, it was reported that the preparedness level was inadequate in 12 hospitals and adequate only in 3 hospitals. In the same study, the importance of preparing the hospital for disaster and training the staff simultaneously was mentioned (33). In a study conducted to compare the disaster preparedness level of hospitals located in a rural area and in a city center, a statistically significant relationship was determined between the location of the hospitals and the perceived preparedness for disasters and emergencies. The preparedness levels of hospitals for disasters located in the city center were higher (34). Health institutions with the necessary equipment may not be sufficient for their preparedness for disasters and emergencies. Therefore, a health institution's capability to maintain its functions in an emergency depends on health personnel's ability to continue working physically and psychologically.

CONCLUSIONS

In the present study, most of the health personnel thought that the hospital they worked in was prepared for disasters. It can be said that the construction of hospitals based on certain standards, and their management according to certain rules affect health personnel's thoughts about their preparedness for disasters. However, health personnel think that their level of preparedness for disasters is low. Given the important roles of health personnel in coping with disasters, health personnel are expected to know all stages of hospital disaster plans and to be capable of giving the necessary response in disaster situations. The number of activities such as planning, exercises and training that will raise awareness of health personnel working in all hospitals about disaster preparedness should be increased and their effectiveness should be ensured.

Ethics Committee Approval: An approval from University Ethical Council was received (03/12/2019-E.31882).

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