

HEALTHCARE PROFESSIONALS' PREPAREDNESS STATUS AND PERCEPTIONS IN DISASTER MANAGEMENT: THE CASE OF THRACE REGION PRIVATE MEDICAL CENTERS

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Article Info

Received: 27 October 2024

Accepted: 29 March 2025

Keywords

Disaster management,
Emergency preparedness,
Health facility
administration,
Healthcare organizations,
Health personnel

ABSTRACT

This descriptive study aimed to determine the disaster preparedness and perceptions of the personnel in private medical centers in the Thrace region from May to July 2024, with a sample size of 205 participants. Data were collected using “Demographic Data Form” and “Disaster Preparedness Perception Scale”. Parametric test techniques were applied using the SPSS 26.0 program. Among participants, 36.6% were aged 35 to 44 years, with 30.2% being high school graduates and 30.7% holding an associate degree. The roles included 31.7% paramedics and 32.7% emergency medical technicians. 125 participants (61.0%), associated disasters with events like earthquakes and floods. Additionally, 141 participants (68.8%) reported receiving disaster preparedness training, with 44% receiving theoretical training only and 56% engaging in both theoretical and practical training. 52 participants (25.4%) had previously participated in a drill, 135 (65.9%) believed their workplaces were somewhat prepared for a disaster. Significant differences were noted in the scale and preparation and intervention phases based on disaster training and drill participation ($p < .05$). The study concluded that personnel who received disaster training and participated in drills scored higher in both disaster preparation and intervention phases, underscoring the need for enhanced and more frequent training initiatives.

INTRODUCTION

Natural phenomena occur incessantly across the globe. For a natural event to be classified as a disaster, it must result in detrimental effects on public health. These effects encompass injuries, disabilities, and fatalities among individuals, as well as the insufficiency of existing resources to address the crisis. Numerous studies have delineated a wide array of consequences stemming from disasters. These may encompass considerable loss of life, enduring financial strains (Pearson & Sommer, 2011), profound economic and political ramifications (Rodríguez, Vitoriano, and Montero, 2011), and social and psychological challenges. Additionally, disasters can lead to the destruction of infrastructure, damage to residential properties, loss of assets, and a pervasive disruption of social cohesion within communities (Malgarejo & Lakes, 2014). Given that the foremost concern is the considerable loss of life and the significant long-term

costs (Pearson & Sommer, 2011), health services emerge as a pivotal element in disaster management when viewed through this lens. Effective disaster preparedness, response, and recovery require a coordinated effort from adept professionals, as some may lack the requisite knowledge and experience to navigate high-pressure situations effectively (Walsh et al., 2012). Disasters severely impede the provision of health services by compromising the infrastructure of healthcare facilities in the affected areas. Integrating business continuity planning and management into emergency preparedness is essential to ensure the uninterrupted delivery of health services. Prior to disasters, initiatives are undertaken to enhance and expand the capacity of health systems. These efforts involve strengthening infrastructures, providing specialized training for healthcare personnel in disaster response, conducting planning and simulation exercises. In the aftermath of disasters, healthcare remains the most critical service, both during the acute phase and in the long term. It is imperative for all healthcare professionals to comprehend the principles of disaster medicine to respond accurately and effectively. Understanding their specific roles is crucial for health staff, particularly in relation to medical interventions across various disaster scenarios (Kocak, Kinik, Caliskan & Aciksari, 2021; Pourhosseini, Ardalan & Mehrolhassani, 2011). In this context, the preparedness and perception of preparedness among healthcare workers are of paramount importance. Effective disaster management facilitates quicker access to disaster victims, thereby enabling efficient and rapid recovery efforts (Sabharwal & Swarup, 2012). However, managing the response process during disaster situations presents challenges, particularly in addressing immediate needs and fulfilling the health requirements of the affected population (National Disaster Management Authority [NDMA], 2013). In this context, the disaster preparedness of healthcare providers is vital at local, regional, and national levels (Khirekar, Badge, Bandre & Shahu, 2023). Healthcare organizations must be equipped to effectively manage potential crises that may arise at any given moment. Healthcare professionals, including physicians, nurses, and support staff, are indispensable assets during a disaster. The continuity of medical facilities and the efficacy of response efforts are heavily contingent upon the safety and well-being of these individuals. To safeguard their health and enhance their capacity to deliver care, healthcare workers must undergo training in emergency protocols, be provided with necessary protective equipment, and have access to reliable communication systems. This comprehensive strategy is encapsulated in the concept of disaster preparedness (Khirekar et al., 2023). For disaster plans to be effective within healthcare organizations, personnel must possess a thorough understanding of their specific roles and responsibilities. Consequently, disaster training is essential for all healthcare facilities to ensure readiness for potential disasters (Bistaraki, Waddington & Galanis, 2011).

In disaster scenarios, medical institutions play a crucial role in delivering health services to affected populations. Without adequate preparation and planning, it becomes exceedingly challenging to provide these vital services effectively and promptly. Thus, all healthcare institutions, particularly hospitals, occupy a pivotal position during disaster situations (Kavari & Mobaraki, 2012). Both disaster preparedness and the perception of readiness among personnel in all healthcare institutions are critical for public health and safety. Regular training for staff, strategic planning for disaster scenarios, and coordinated action are essential for delivering effective interventions during emergencies. This approach is vital for the sustainability of public health and healthcare services. This study aims to assess the levels of disaster preparedness and the perception of preparedness among personnel working in private health institutions that provide outpatient diagnosis and treatment in the Thrace Region, to examine these factors in relation to specific variables. Research questions: Accordingly, the following research questions were raised:

1. What is the level of preparedness among personnel employed in private healthcare centers that offer outpatient diagnosis and treatment with respect to the concept of disaster?
2. How does the preparedness of healthcare personnel for disaster management vary based on their training in disaster response, participation in simulation drills, and professional experience?

MATERIAL AND METHOD

Research Type and Data Collection

This descriptive study was carried out from May 2024 to July 2024, involving personnel from four outpatient diagnosis and treatment centers in Edirne, nineteen in Tekirdağ, and five in Kırklareli within the Thrace Region. To enhance the effectiveness of data collection, preliminary interviews were conducted with senior managers of the facilities, and a suitable time frame was established based on the operational hours of the organizations. Subsequently, the study was conducted with personnel were present at their workplaces on the day of the visit and who provided informed consent to participate (n=205).

Study Population and Sample

In this study, no sampling method was employed. Instead, the entire population of 28 outpatient diagnosis and treatment services across the three provinces in the Thrace Region was considered be sample (231). However, the research sample was composed of all personnel who were not on leave during the scheduled visit days and who voluntarily consented to participate

after receiving adequate information about the study. Ultimately, the research sample consisted of 205 personnel who agreed to participate and were actively engaged in their duties on the day of the visit.

Data Collection Tools

In the study, a 16-item “Demographic Data Form” and a 20-item “Disaster Preparedness Perception Scale” were used as data collection tools.

Demographic Data Form:

The first part of the questionnaire included 16 questions about the introductory characteristics of the employees working in private medical centres where outpatient diagnosis and treatment are provided (questions about age, gender, education level and disaster preparedness).

Disaster Preparedness Perception Scale:

The scale used in the study was developed by utilizing the scales created for nurses by Fung, Loke, and Lai (2008) and Bond and Tichy (2007), Özcan (2013) determined in his master's thesis that there was no measurement tool to determine the level of preparedness of nurses serving in our country against disasters as a result of the literature review. The Nurses' Disaster Preparedness Perception Scale (DPS) was developed by Özcan (2013) measure nurses' perceptions of preparedness regarding disaster management. Initially, a 35-question draft of DPS was created by Özcan (2013). The scale was reduced to 30 questions based on the opinions of 10 nurses. Then, a 24-question scale was created based on the opinion of a Turkish language expert. The draft scale was sent to 6 experts for content validity. Some questions were changed in line with the opinions of the experts. Later, the scale was surveyed with 500 nurses where 4 questions were removed during the validity and reliability tests. Thus, the scale was reduced to 20 questions. The scale was created as the Preparation phase (questions 1-6), the Intervention phase (questions 7-15), and the Post-disaster phase (questions 16-20). The items of the scale were arranged as a five-point Likert type (1-Strongly disagree, 2-Disagree, 3-Partially agree, 4-Agree, 5-Strongly agree) scale and as the score obtained from the scale increases, the perception of disaster preparedness also increases. The Cronbach's alpha value was 0.907 and the test-retest reliability coefficient was 98%. Özcan (2013) stated in his study that the scale could be used provided that reference was made. However, it was necessary to make contact via e-mail to provide information. The Cronbach Alpha coefficient calculated for the entire scale used in this study is 0.789 (Table 1). In this study, the independent variables of the research are age,

gender, educational status, occupation, working period, definition of disaster and the level of preparedness for disasters. The dependent variables are the disaster preparedness perception scale and its score averages. The ranges within which the alpha coefficient can be found and, accordingly, the reliability status of the scale are given below. Accordingly; • If $0.00 \leq \alpha < 0.40$, the scale is not reliable, • If $0.40 \leq \alpha < 0.60$, the scale has low reliability, • If $0.60 \leq \alpha < 0.80$, the scale is highly reliable, • If $0.80 \leq \alpha < 1.00$, the scale is a highly reliable. As a matter of fact, the alpha coefficient of the scale used in the study which ranges between 0.80 and 1 shows that the survey is quite reliable (Kalaycı, 2008; Özdamar, 1997).

Ethical Consideration

For the study, a sample of private health institutions in the Thrace Region was selected and the personnel in the health institutions were intended to participate in the study on a voluntary basis. Private medical centers are among private health institutions that provide outpatient diagnosis and treatment (Official Gazette No. 26788, 2008; Social Security Institution Health Implementation Communiqué, 2022). A one-to-one preliminary interview was conducted with the senior managers of these institutions and the existence of the ethics committee approval document was deemed sufficient for the conduct of the study. Ethical committee approval for this study was obtained from Trakya University (Date: January 24, 2024, Decision No: 01/38). The participating personnel were informed before the data form provided to them.

Data Analysis

The SPSS (Statistical Package for the Social Sciences) 26.0 statistical program was used for data analysis. In the evaluation of the data, frequency, percentage, arithmetic mean, and standard deviation were used to assess the demographic characteristics of the participants. To evaluate the relationship between the demographic characteristics of the personnel and the disaster preparedness perception scale independent sample t-test, ANOVA, and post hoc Tukey tests were employed.

Limitation

The study was conducted on personnel working in private medical centres in the Thrace region which is a limitation of the study. Therefore, the study results cannot be generalized to all regions in Türkiye.

RESULTS

In this section of the study, the reliability analysis of the scale, the frequency distributions and percentages of the demographic and other characteristics of the participants evaluated within the scope of the study were examined. When more than one study or application is conducted on a scale, the consistency of the results obtained is an indicator of the reliability of that scale. Therefore, it is necessary to examine the Cronbach's alpha Coefficient in order to test the reliability of the scale used in the study (Hamarat, 2017). For the current study, the Cronbach Alpha internal consistency coefficient of the Disaster Preparedness Perception scale was calculated as 0.789, the coefficient of the preparation phase sub-dimension as 0.823; the coefficient of the intervention phase sub-dimension as 0.729, and the coefficient of the post-disaster phase sub-dimension as 0.883 (Table 1).

Table 1. Descriptive Statistics for the Disaster Preparedness Perception Scale

Scale	Min.	Max.	$\bar{X}$	s	Skewness	Kurtosis	Cronbach Alfa
Disaster Preparedness Perception	54.00	76.00	65.7317	4.94789	-.243	-.548	0.789
Preparation phase	20.00	27.00	23.7707	1.70671	-.557	.025	0.823
Intervention phase	20.00	36.00	27.6927	3.56703	-.038	-.836	0.729
Post-disaster phase	12.00	16.00	14.2683	.97076	-.269	-.474	0.883

Findings on Participants' Demographic Information

According to Table 2, which examines the demographic characteristics of the participants; The largest age group is 35-44 years (36.6%), indicating a predominance of middle-aged participants. Younger participants (18-24 years) represent only 17.0%, suggesting that the workforce may be skewed towards more experienced individuals. In addition, 97 participants (47.3%) were female and 108 (52.7%) were male. The gender distribution is relatively balanced, with a slight male majority (52.7%). This suggests a diverse representation in terms of gender among participants. The majority of participants hold either a high school (30.2%) or associate degree (30.8%). Higher education levels (Master's and Doctorate) are less represented, indicating a workforce that may be more focused on practical skills rather than advanced academic qualifications. The largest professional groups are Emergency Medical Technicians (32.7%) and Paramedics (31.7%), highlighting a strong representation of frontline emergency responders. The majority of participants have between 6-20 years of experience, with the highest group being 11-15 years (31.7%). This indicates a workforce that is relatively experienced, which may contribute to their understanding of disaster preparedness. When asked what came to their mind when disaster was mentioned, the predominant concept associated with

disasters is natural disasters (61.0%), indicating a strong awareness of environmental risks. A significant majority (68.8%) of participants have received disaster-related training, indicating a well-prepared workforce. However, 31.2% have not received training, highlighting an area for improvement in ensuring all personnel are adequately trained. Most participants received training that includes both theory and practice (56.0%), which is essential for effective disaster preparedness. A large majority (74.6%) did not participate in demonstrations, which may limit their practical experience in disaster scenarios. Encouraging participation in demonstrations could enhance hands-on skills and confidence. Most participants perceive their workplace as partially prepared (65.9%), indicating a need for further improvements in disaster readiness. Only 34.1% feel their workplace is fully prepared, suggesting areas for development in policies and resources. The demographic analysis reveals a workforce that is predominantly experienced and trained in disaster preparedness, with a strong representation of emergency responders. However, there are notable areas for improvement, particularly in practical training, participation in demonstrations, and enhancing workplace preparedness. Future training initiatives should focus on increasing engagement in practical exercises, addressing gaps in training for those without disaster-related education, and fostering a more comprehensive understanding of various disaster types beyond natural disasters (Table 2).

Table 2. Findings on Participants' Demographic Information (n: 205)

Age	n	%
18-24 Years	35	17.0
25-34 Years	45	22.0
35-44 Years	75	36.6
45-54 Years	30	14.6
55+ Years	20	9.8
Total	205	100.0
Gender		
Female	97	47.3
Male	108	52.7
Total	205	100.0
Educational status		
High school	62	30.2
Associate degree	63	30.8
Bachelor's degree	55	26.8
Master's degree	10	4.9
Doctor of philosophy	15	7.3
Total	205	100.0
Profession		
Doctor	15	7.3
Paramedic	65	31.7
Emergency Medical Technician	67	32.7
Driver	10	4.9
Other	48	23.4
Total	205	100.0
Experience		

1-5 years	10	4.9
6-10 years	62	30.2
11-15 years	65	31.7
16-20 years	58	28.3
21+	10	4.9
Total	205	100.0
The concepts that come to mind when disaster is mentioned.		
Earthquake, flood, landslide, avalanche, storm	125	61.0
Flu, dysentery and epidemics	37	18.0
Explosion, forest fire	33	16.1
Accidents such as traffic, ship, airplane etc.	10	4.9
Total	205	100.0
Receiving disaster-related training		
Yes	141	68.8
No	64	31.2
Total	205	100.0
Content of the training		
Theory	62	44.0
Theory+Practice	79	56.0
Total	141	100.0
Taking part in the demonstration		
No	153	74.6
Yes	52	25.4
Total	205	100.0
Disaster preparedness status of the workplace		
Partially prepared	135	65.9
Fully prepared	70	34.1
Total	205	100.0

Comparison of the Total Scores Obtained by Participants on the Disaster Preparedness Perception Scale and Its Sub-Dimensions with Their Disaster Training Status

When comparing the total scores obtained by participants on the Disaster Preparedness Perception Scale and its sub-dimensions with their disaster training status, statistically significant differences were found in the Disaster Preparedness Perception Scale itself as well as in the preparation phase and intervention phase sub-dimensions ($p < .05$). The significant differences stem from the higher average scores of participants who had received prior training. The results clearly indicate that receiving disaster-related training significantly enhances participants' perceptions of their preparedness, particularly: the Disaster Preparedness Perception, Preparation Phase, and Intervention Phase. The statistically significant differences ($p < .05$) in these areas highlight the importance of training in equipping healthcare personnel with the confidence and skills necessary for effective disaster response. However, the lack of significant difference in the Post-Disaster Phase suggests that other factors may influence perceptions of preparedness in the aftermath of a disaster. This could imply that while training is essential for preparation and intervention, additional strategies may be needed to improve perceptions of readiness for post-disaster scenarios. The findings in Table 3, underscore the

critical need for ongoing disaster training programs to enhance preparedness across various phases of disaster management, particularly in preparation and intervention (Table 3).

Table 3. Comparison of Total Scores from the Disaster Preparedness Perception Scale and Its Sub-Dimensions with The Status of Receiving Disaster Education

	Situation	n	$\bar{X}$	s	t	sd	p
Disaster Preparedness Perception	No	141	65.1560	4.89939	-2.540	203	.013
	Yes	64	67.0000	4.85341			
Preparation phase	No	141	23.5745	1.71645	-2.474	203	.014
	Yes	64	24.2031	1.61520			
Intervention phase	No	141	27.2979	3.46564	-2.379	203	.018
	Yes	64	28.5625	3.65963			
Post-disaster phase	No	141	14.2837	.98072	.336	203	.737
	Yes	64	14.2344	.95522			

Comparison of the Total Scores Obtained from the Disaster Preparedness Perception Scale and Its Sub-Dimensions with The Participants' Involvement in Drills

According to the results of the independent samples t-test conducted to examine whether the scores obtained from the Disaster Preparedness Perception Scale and its sub-dimensions significantly vary based on the participants' prior involvement in drills, statistically significant differences were found. These differences were found in the scale itself as well as in the preparation phase and intervention phase sub-dimensions ($p < .05$). The significant differences stem from the higher average scores of participants who had previously participated in drills. These findings highlight the critical role of disaster drills in improving overall preparedness among healthcare personnel. Regular participation in drills should be emphasized as part of a comprehensive disaster management training program to ensure that personnel feel equipped to handle various phases of disaster response effectively. Future training initiatives might also need to focus on enhancing perceptions of readiness in the post-disaster context, potentially through additional training or support systems (Table 4).

Table 4. Comparison of Total Scores from The Disaster Preparedness Perception Scale and Its Sub-Dimensions with The Status of Taking Part in the Drill (Independent Sample T-Test)

	Situation	n	$\bar{X}$	s	t	sd	p
Disaster Preparedness Perception	No	153	65.1634	4.97422	-2.871	203	.005
	Yes	52	67.4038	4.51255			
Preparation phase	No	153	23.5948	1.73371	-2.567	203	.011
	Yes	52	24.2885	1.52543			
Intervention phase	No	153	27.2941	3.50354	-2.789	203	.006
	Yes	52	28.8654	3.52598			
Post-disaster phase	No	153	14.2745	.97492	.157	203	.875
	Yes	52	14.2500	.96761			

Comparison of the Total Scores Obtained from the Disaster Preparedness Perception Scale and Its Sub-Dimensions with Professional Experience (ANOVA).

According to the results of the ANOVA conducted to examine whether the scores obtained from the Disaster Preparedness Perception Scale and its sub-dimensions significantly vary among professional experience groups, statistically significant differences were found in the scale itself as well as in the preparation phase and intervention phase sub-dimensions ($p < .05$). Post-hoc analyses using Tukey's test indicated which options the significant differences stemmed from, showing that the 6-10 years and 16-20 years groups were significant across all three dimensions. The significant differences observed in the comparisons among the options were due to the higher average scores of participants with 16-20 years of experience. The post-disaster phase scores remain relatively stable across all experience levels, with no significant variation. This suggests that perceptions of preparedness for post-disaster situations are less influenced by years of experience compared to other phases. These findings underscore the importance of ongoing training and experience in disaster preparedness. While increased experience correlates with improved perceptions of preparedness, particularly in intervention, there may be a need for targeted training to enhance readiness in the preparation and post-disaster phases. Future training programs should consider incorporating elements that address these specific areas to further improve overall disaster preparedness (Table 5).

Table 5. Comparison of Total Scores from The Disaster Preparedness Perception Scale and Its Sub- Dimensions with Professional Experience (ANOVA)

	Years	N	X	s
Disaster Preparedness Perception	1-5	10	64.5000	4.06202
	6-10 ^b	61	64.1311	5.00158
	11-15	65	66.0154	5.28113
	16-20 ^d	58	67.4483	4.04003
	21+	10	65.3000	5.43752
Preparation phase	1-5	10	23.7000	1.33749
	6-10 ^b	61	23.2623	1.78794
	11-15	65	23.7846	1.79837
	16-20 ^d	58	24.3276	1.36867
	21+	10	23.9000	1.85293
Intervention phase	1-5	10	26.5000	3.30824
	6-10 ^b	61	26.5410	3.60820
	11-15	65	27.9692	3.73317
	16-20 ^d	58	28.8966	2.94207
	21+	10	27.3000	3.97352
Post-disaster phase	1-5	10	14.3000	.82327
	6-10	61	14.3279	.74658
	11-15	65	14.2615	.95651
	16-20	58	14.2241	1.18534
	21+	10	14.1000	1.19722

DISCUSSION

Disaster preparedness encompasses a comprehensive array of actions designed to ensure readiness prior to the occurrence of a disaster. This includes the identification of risks, the formulation of plans and policies, the development of educational and training programs—such as drills and exercises aimed at enhancing preparedness—the preparation of the healthcare system for effective disaster response, and fostering disaster knowledge and awareness among healthcare providers (Al Harthi, Al Thobaity, Al Ahmari & Almalki, 2020). Consequently, hospitals and all healthcare institutions occupy a critical role during disaster situations (Kavari & Mobaraki, 2012). Advanced educational qualifications have been reported to significantly influence healthcare workers' willingness to engage in disaster and emergency response efforts (Al-Hunaishi, Hoe & Chinna, 2019). A study conducted by Sultan et al. (2020) corroborated these findings, demonstrating that participants felt theoretically well-prepared. Those with more extensive educational backgrounds exhibited heightened confidence in their ability to act during emergencies and disasters (Sultan et al., 2020). Notably, a majority of participants in this study (68.8%) reported having received disaster-related training. However, several studies have indicated that receiving training does not necessarily equate to a willingness to take action; rather, staff readiness to manage a situation appears to be closely linked to their knowledge and experience in disaster management (Cotanda et al., 2016; Diakakis, 2020). Nevertheless, numerous studies have shown that disaster preparedness training positively impacts healthcare personnel's responses to disasters and emergencies, helps identify gaps in their knowledge and preparedness (Patel et al., 2017; Veenema et al., 2016). Given that knowledge and experience can enhance willingness to participate in the care of victims during hazardous events, it is imperative to provide disaster-specific training to healthcare personnel. Such training can bolster their disaster-related knowledge, increase their self-confidence, and mitigate their fears. Furthermore, there should be a greater emphasis on multi-agency and multi-professional training for all personnel, particularly healthcare workers, regardless of their roles or involvement in direct patient care. This approach will better prepare them to respond collectively to disasters and emergencies (Sultan et al., 2020). The objective of this study is to assess the disaster preparedness of employees working in private outpatient diagnosis and treatment centers and to evaluate their perceived readiness. By implementing the necessary precautions and intervention strategies, the adverse effects of disasters can be significantly minimized (Bahçebaşı, 2013). It has been observed that 61% of participants working in private outpatient diagnosis and treatment centers associate the term "disaster" primarily with natural

calamities such as earthquakes, floods, and landslides. Similarly, other studies have demonstrated that nearly all participants categorize situations deemed as "disasters" within the realm of nature-based events, including earthquakes, floods, and hurricanes (Göktekin, 2018; Tercan & Şahinöz, 2015). This underscores the significance of participating in disaster drills and acquiring experience in this domain as essential components of disaster preparedness.

Moreover, employees who took part in drills at outpatient diagnosis and treatment centers achieved notably high average scores on the Disaster Preparedness Perception Scale and its sub-dimensions. Findings from related studies further corroborate this outcome (Kocaman & Şahinöz, 2019; Sevinç, Güner & Til, 2017). The research revealed that participants with 16 to 20 years of experience in outpatient diagnosis and treatment centers scored higher on the scale, indicating that their perceptions of disaster preparedness were more favorable compared to those with less professional experience. The existing literature also includes studies that report a positive correlation between longer durations of employment and increased disaster preparedness perception scores (Basal & Ahmed, 2018; Dinçer & Kumru, 2021; Nofal et al., 2018; Tassew et al., 2022). This finding suggests that as personnel accumulate professional experience, they develop a deeper understanding of the critical importance of disaster preparedness.

CONCLUSION

Historically, disaster management in our country has predominantly adopted a response-based approach. However, in recent years, a paradigm shift has occurred with the implementation of a risk management framework designed to mitigate vulnerabilities, placing it at the core of modern disaster management processes. This holistic approach has positioned health services as a crucial stakeholder in national disaster management, influencing both risk management and crisis management strategies. In this context, it is imperative to prepare all healthcare institutions and personnel for disaster scenarios to facilitate the effective coordination of emergency medical interventions. Furthermore, enhancing the resilience of the health system and ensuring the continuous delivery of health services during emergencies are essential objectives. The capacity of healthcare workers to communicate effectively coordinate, and collaborate with one another and other rescue teams during disasters significantly enhances the efficacy of interventions. According to the findings of the study, 68.8% of employees at private outpatient diagnosis and treatment centers have received disaster-related training. A comparative analysis of total scores from the Disaster Preparedness Perception Scale and its sub-dimensions revealed that trained personnel achieved higher scores across these dimensions.

These findings underscore the critical need for an increased rate of disaster-related training among all healthcare workers within a comprehensive disaster management framework to bolster overall preparedness.

Furthermore, statistically significant differences were identified in the Disaster Preparedness Perception Scale and its sub-dimensions among employees who had previously participated in drills at private outpatient clinics. It is anticipated that regular disaster drills will enhance personnel preparedness. Additionally, only 34% of the participating staff expressed confidence that their organizations were fully prepared for disasters. This study has illuminated the current state of disaster management among personnel working in private outpatient diagnosis and treatment centers and offers recommendations for enhancement. Development of Educational Curriculum: It is recommended that both formal and continuing education curricula be established for the training of personnel in outpatient diagnosis and treatment centers. Decision-makers and leaders should prioritize training activities that enhance the knowledge and skills necessary for personnel to respond effectively to all types of disasters. Improvement of Health Service Programs: Health service programs must be refined to enable personnel to operate effectively within the health system without encountering confusion arising from poor coordination or systemic deficiencies among organizations involved in disaster response. Effectiveness of Disaster Management Plans: Increasing the effectiveness of existing disaster management plans is crucial to ensure that all health service providers operate cohesively and understand one another during interventions. To enhance this area, it is advisable for all stakeholders, particularly those working in outpatient diagnosis and treatment centers, to be actively involved in the development of the disaster plan. The objectives and components of the plan should be grounded in the needs identified through comprehensive risk assessments and vulnerability analyses. Improvement of Policies and Procedures: Enhancing policies and procedures related to disaster management is vital to prevent conflicts of interest, including ethical dilemmas. It is recommended that experts in the field ensure that these policies and procedures are current and well-communicated to all personnel and other healthcare providers.

In conclusion, this study has determined the current status of personnel working in outpatient diagnosis and treatment private healthcare centres regarding disaster management and emphasized the need for further research and systematic reviews. Additionally, the findings of this study are crucial for ensuring the sustainability of health services and public health during disaster situations in our country.

Acknowledgment

We would like to thank the personnel working in private medical centres in the Thrace region who participated in our study. This study was supported by Trakya University Scientific Research Projects Unit with project number 2024/126.

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