ORIGINAL RESEARCH

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Evaluation of Patients Presenting to the Emergency Department of a Tertiary Care Hospital in İstanbul After the Kahramanmaraş Earthquakes and Organisation of Emergency Health Services During the Disasters

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Abstract

Objective: Because of the two earthquakes that occurred in Kahramanmaraş in Türkiye on February 6th, 2023, 50,783 people lost their lives and 115,353 people were injured. In this study, cases presenting to our center, which is approximately 1000 km away from the earthquake zone, were examined.

Materials and Methods: In our study, the data of earthquake-affected patients aged 18 and over who presented to our hospital between 06.02.2023 and 06.03.2023 were retrospectively evaluated and statistically analysed.

Results: Of the 521 patients, 288 were women, and the mean age was 49.91 years. It was observed that cases presenting to the hospital because of trauma presented to the hospital at an earlier stage. The three most common reasons for presentation to the emergency department for non-traumatic reasons were upper and lower respiratory tract infections (34.4%), myalgia (12%), and anxiety (5.6%).

Conclusion: Although trauma-related patient presentations are predominant after disasters, it should not be forgotten that internal and psychiatric diseases may be among the reasons for presentation to the hospital. Distance from the earthquake zone affects the reasons for admission and severity of injuries.

Keywords: Earthquake, disaster, disaster management, emergency medicine, disaster medicine

Introduction

Türkiye is a country where natural disasters such as earthquakes, landslides, floods, and avalanches frequently occur. According to data published in 2023 by the INFORM index for risk management, which aims to determine the risks of humanitarian crises and disasters and to rank countries according to disaster risks, Türkiye is in the high-risk group in terms of disasters with an index score of 5.0. When evaluated specifically for earthquakes, it has a value of 9.7/10 [1]. Türkiye is a country suffering the most damage due to earthquakes. Between 1900 and 2023, 20 earthquakes with a magnitude of over 7 M_w occurred in Türkiye. Considering the major damage and loss of life, the biggest earthquakes were the 2023 Kahramanmaraş, 1939 Erzincan, and 1999 Gölcük earthquakes, respectively [2].

On February 6th, 2023, two earthquakes occurred in Kahramanmaraş at 04:17, at a depth of 8.6 km and with a magnitude of 7.7 M_w, and at 13:24, at a depth of 7 km and with a magnitude of 7.6 M_w. Eleven provinces were affected by these earthquakes, which have been called the disaster of the century in Türkiye. The earthquakes, which were felt in neighboring countries other than Türkiye, also caused destruction in Syria.

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Because of the earthquakes, 50,783 people lost their lives and 115,353 people were injured in Türkiye [3]. Following the earthquake, the personnel and equipment of the National Medical Rescue Team (UMKE) Unit were sent to the affected areas. To provide the necessary health care, 1253 ambulances, 14 air ambulances, and 245 UMKE vehicles were sent to the region, while 12,749 UMKE and 112 health personnel were assigned to work in the region. In addition to these health personnel, 26,353 doctors and other healthcare staff were assigned. In addition to the hospitals that could provide care, 35 field hospitals were set up, and 51,581 injured patients were transferred [2].

Patients who exceeded the service delivery capacity of the hospitals in the region presented to public and private health institutions in different provinces of Türkiye for treatment, both through the Ministry of Health and their own means. In this study, the characteristics and clinical conditions of patients presenting to our center, which is approximately 1000 km away from the earthquake zone, were examined.

Materials and Methods

Study Design

In our study, the data of earthquake-affected patients aged 18 and over who presented to our hospital between 06.02.2023 and 06.03.2023 were retrospectively analysed. In addition to demographic data such as age and gender of patients, data were recorded and statistical analysis of the data was performed for complaint on presentation, conditions that may cause the disease in question, diagnosis of hospitalised patients regarding the indication for hospitalisation and other additional diagnoses, the need for surgery and the procedures performed, the number of days of hospitalisation, the hospitalisation clinic, the need for intubation and in-hospital mortality.

Permission for this study was obtained from the Ethics Committee of University of Health Sciences Türkiye, Sancaktepe Şehit Prof. Dr. İlhan Varank Training and Research Hospital (approval number: E-46059653-050.99-213716745, date: 18.04.2023). Because of our study was a retrospective study, patient consent was not obtained.

Statistical Analysis

The Statistical Package for the Social Sciences (SPSS) for Windows 26.0 (IBM Corporation, Chicago, Illinois) was used for data analysis. Statistical significance level was set at 0.05, and 95% confidence interval was used. Descriptive statistics of the cases were obtained. Pearson's chi-square test was used to analyze categorical variables that did not comply with normal distribution. The relationship between hospital admission days was analyzed using One-Way ANOVA.

Results

Between 06.02.2023 and 06.03.2023, which was the first one-month period when the data of earthquake-affected patients were examined, 521 earthquake victims, of whom 288 (55%) were women, presented to the emergency department of our hospital. The age of the patients ranged from 18 to 92 years, with a mean age of 49.91 years. It was found that 149 (29%) of the patients presented due to trauma and that 34 (7%) patients had been pulled out of the rubble. Hospital presentation times ranged from days 2 to 29, with 38.2% of patients presenting on days 7-13, and 22.8% presenting on days 0-6. Thirty-two (6%) patients presenting to the hospital were hospitalized. Apart from these patients, 8 patients left the hospital even though hospitalization was recommended by signing a medical treatment refusal form.

Eighty-three (56%) of the 149 patients who presented due to trauma were women. The age of the patients who presented because of trauma ranged from 18 to 85 years, with a mean age of 47.89 years. When these patients were evaluated according to presentation times, it was observed that 40% of patients presented to the emergency department on days 0-6, 48% on days 7-13, 0.9% on days 14-20, 0.3% on days 21-27, and 0.1% on days 28-30. Among the patients presenting to the emergency department due to trauma, 132 (89%) were discharged. When patients were evaluated according to trauma mechanisms, it was seen that 82 (55%) patients presented to the emergency department due to falls or sprains occurring while escaping during the earthquake, 47 (32%) patients due to being struck by objects or getting trapped between objects, 7 (4.7%) patients due to cuts or foreign bodies, 5 (3.5%) patients due to falling during the post-earthquake period, 4 (2.4%) patients due to multisystem trauma caused by being under debris, and 4 (2.4%) patients due to burns. When the patients were evaluated according to trauma sites, it was observed that 70 (27%) patients presented to the emergency department due to isolated lower extremity injuries, 28 (19%) patients due to isolated upper extremity injuries, 22 (15%) patients due to multiple trauma, 12 (8%) patients due to spinal trauma, 12 (8%) patients due to head and facial trauma, 4 (3%) patients due to thoracic trauma, and 1 (0.7%) patient due to abdominal trauma. Following the necessary examinations and tests, it was determined that 108 (72%) of the patients had soft tissue trauma, 31 (21%) had bone fractures, 3 (2%) had a foreign body under the skin, 4 (3%) had burns, 1 (0.7%) had crush syndrome, 1 (0.7%) had auricular hematoma, and 1 (0.7%) had compartment syndrome.

Nine of the 17 (37%) patients who were hospitalized with injuries secondary to trauma were females, with a mean age of 45.29 years. The mean number of days of hospitalization was 7.59 days. Among these patients, 41% presented to the hospital on days 0-6, 37% presented on days 7-13, and 6% presented on days 14-20. When these patients were evaluated

according to hospitalization diagnoses, it was observed that 13 (76%) patients were hospitalized due to bone fracture, 1 (6%) patient due to soft tissue infection, 1 (6%) patient due to crush syndrome, 1 (6%) patient due to burns, and 1 (6%) patient due to compartment syndrome. Ten (58%) patients were operated on. Except for the need for perioperative intubation, patients were not intubated, and no mortality was observed in hospitalized patients. When the hospitalization clinics were evaluated, 11 (65%) patients were admitted to the orthopedics and traumatology clinic, 2 (12%) patients to the internal medicine clinic, 1 (6%) patient to the cardiology clinic, 1 (6%) patient to the burns unit, 1 (6%) patient to the otolaryngology clinic, and 1 (6%) patient to the neurosurgery clinic.

Of the 372 patients presenting to the emergency department for non-traumatic reasons, 205 (55%) were women. The age of the patients ranged from 18 to 92 years, with a mean age of 50.72. It was observed that 16% of patients presented to the emergency department on days 0-6, 35% on days 7-13, 28% on days 14-20, 18% on days 21-27, and 3% on days 28-30. Fifteen (4%) of these patients were hospitalized. Patients' complaints were related to the respiratory system in 141 (38%) patients, the musculoskeletal system in 55 (15%) patients, the gastrointestinal system in 37 (10%) patients, ear, nose, and throat problems in 21 (6%) patients, psychiatric diseases in 21 (7%) patients, the cardiovascular system in 17 (5%) patients, the genitourinary system in 15 (5%) patients, the central nervous system in 12 (3%) patients, the endocrine system in 8 (2%) patients, the hematopoietic system in 4 (1%) patients, and gynecology and obstetrics in 3 (0.8%) patients. Twenty-seven (7%) complaints were associated with other systems. When the patients' diagnoses were evaluated, the three most common reasons for presentation were upper and lower respiratory tract infections (34%), myalgia (12%), and anxiety (6%). Ten (3%) patients who were discharged had no active complaints and presented to the emergency department for the supply of routinely used drugs. Apart from these patients, three (1%) patients presented to the hospital because they could not use the drugs they routinely used.

Nine (60%) of the 15 patients who presented to the emergency department for non-traumatic reasons and were hospitalized were women. The age of these patients ranged from 21 to 92 years, with a mean age of 67.33. It was observed that 20% of the patients presented to the emergency department on days 0-6, 27% on days 7-13, 33% on days 14-20, and 20% on days 21-27. The length of hospital stay of the patients ranged from 2 to 17 days, with an average stay of 6.7 days. When the indications for hospitalization of the patients were evaluated, it was seen that five patients were hospitalized because of pneumonia. The other patients with indications for hospitalization had anemia, acute renal failure, need for routine dialysis, deep vein thrombosis, hypocalcemia, postoperative follow-up after gastrectomy, stroke, lymphoma pain, elective finger amputation, and uremic encephalopathy. The patient with hypocalcemia was using calcium supplements after thyroid surgery but could not obtain the medication after the earthquake. Some patients were hospitalized with multiple diagnoses. In one patient who was hospitalized, gastrointestinal bleeding, anemia, warfarin overdose, lumbar fracture, and acute renal failure were detected. In another patient who was found to have a bone fracture, the acute renal failure was observed along with this diagnosis. In the patient with acute coronary syndrome, it was observed that hyperkalemia accompanied this diagnosis. When the hospitalized patients were evaluated according to their clinics, it was seen that 6 (40%) patients were admitted to the internal medicine clinic and 5 (33%) patients to the chest diseases clinic, while the other patients were admitted to the general surgery, cardiovascular surgery, neurology, orthopedics, and traumatology clinics. The need for intubation or in-hospital mortality was not observed in the patients.

When the patients presenting to the hospital were evaluated according to their gender, the number of female patients was higher among all earthquake victims and among those who presented to the hospital for non-traumatic reasons, and this difference was statistically significant (p=0.016, p=0.049, respectively). There was no significant gender difference in trauma patients or hospitalized earthquake victims (p=0.164, p=0.480, respectively) (Table 1).

When evaluated in terms of whether the earthquake victim patients presented to the emergency department due to trauma or for non-traumatic reasons, and when evaluated in total, the highest number of presentations was seen on days 7-13. It was observed that the number of patient presentations on days 0-6 and days 14-20 was similar, whereas the number of patient presentations decreased from the 21st day (p<0.001). When the number of patients presenting to the emergency

Table 1. Relationship between gender and patients presenting to the hospital

Variable	Female (n, %)	Male (n, %)	Total (n, %)	p
Earthquake victim patients	288 (55)	233 (45)	521 (100)	0.016*
Trauma (+)	83 (56)	66 (44)	149 (100)	0.164
Trauma (-)	205 (55)	167 (45)	373 (100)	0.049*
Hospitalized patients	18 (55)	14 (45)	32 (100)	0.480

*p: Pearson chi-square

department because of trauma was evaluated according to the time of presentation, there was a statistically significant difference between the presentation days ($p<0.001$). It was observed that 70 patients presented on days 7-13, while 58 patients presented on days 0-6. Comparing the percentage of patients presenting due to trauma, the rate of presentation on days 0-6 was relatively higher. There was a significant decrease in the number of presentations from the 14th day (Table 2).

When the patients were evaluated according to the trauma site, a statistically significant difference was found between the injured body regions ($p<0.001$). The lower extremity was the region most exposed to trauma, whereas the upper extremity was the second most exposed region (Table 3).

When the patients were evaluated according to trauma mechanisms, there was a statistically significant difference between the injury mechanisms ($p<0.001$). It was observed that patients were most frequently injured in falls while escaping from the earthquake. The second most common injury mechanism was being struck by objects or getting trapped between objects (Table 4).

The 11 patients who were admitted to the orthopedic clinic were operated on. During the operations, open reduction internal fixation (ORIF) was performed in 2 patients, fasciotomy in 1 patient, amputation in 1 patient, minimally invasive plating in 3 patients, K-wire fixation in 2 patients, external fixator removal in 1 patient, and debridement in 1 patient.

Other than patients who received their first diagnosis in our hospital or whose first intervention was performed in the earthquake zone, it was observed that three patients were operated on in the earthquake region because of fractures, and that although the indication for hospitalization continued, the patients were referred to our center after stabilization to increase the bed capacity in the earthquake region.

Discussion

It has been found in numerous studies that more than half of earthquake-related injuries are related to the musculoskeletal system and that most of these injuries cause fractures [4]. Apart from traumas, patients with acute exacerbations of respiratory system diseases, cardiovascular system diseases, and other chronic diseases may also present to hospitals for emergency health care after an earthquake [5]. Although patients mostly present to the emergency department in the first hours and days after an earthquake due to trauma, patients may present to hospitals from the first hours of an earthquake to its later stages with various symptoms due to acute attacks and exacerbations of chronic diseases, limited access to routine medications and treatments for internal diseases, cases of newly emerging diseases, post-traumatic stress disorders, or for existing psychiatric problems, the impact of the disaster environment, and limited access to psychological support or treatments for the control of psychiatric conditions. When the presentations to the hospital were evaluated in terms of traumas, there were patients who had been under the rubble and had multiple injuries or who had been exposed to various traumas while leaving the buildings after the earthquake. Moreover, various physical traumas could be seen in patients because of the living conditions following the earthquake.

Table 2. Relationship between days of presentation to the hospital and reasons for presentation

	Day of presentation to the hospital					
Variable	**0-6 (n, %)**	**7-13 (n, %)**	**14-20 (n, %)**	**21-27 (n, %)**	**28-30 (n, %)**	**p**
Trauma (+)	58 (49)	70 (35)	13 (11)	5 (7)	2 (14)	
Trauma (-)	61 (51)	129 (65)	104 (89)	66 (93)	12 (86)	<0.001*
Total	119 (100)	199 (100)	117 (100)	71 (100)	14 (100)	

*p: One-Way ANOVA test

Table 3. Comparison of trauma patients according to the regions where trauma occurred

Trauma site	n (%)	p
Isolated lower extremity	70 (47)	
Isolated upper extremity	28 (19)	
Multiple trauma	22 (15)	
Head and face	12 (8)	<0.001*
Spine	12 (8)	
Thorax	4 (2.3)	
Abdomen	1 (0.7)	
Total	149 (100)	

*p: Pearson chi-square

Table 4. Relationship between trauma mechanisms in trauma patients

Trauma mechanism	n (%)	p
Falling while escaping from earthquake	82 (55)	
Being struck by objects or getting trapped between objects	47 (32)	
Cuts and foreign bodies	7 (4.7)	
Falls occurring after earthquake	5 (3.5)	<0.001*
Injuries due to being under debris	4 (2.4)	
Burns	4 (2.4)	
Total	149 (100)	

*p: Pearson chi-square

In a study conducted by Del Papa et al. [6] after the earthquake that occurred in Italy in 2009, the most common traumatic injury was fractures with a rate of 46.8%. It was found that 38.75% of the fractures were associated with the lower extremities. In a study conducted by Moitinho de Almeida et al. [5] after the earthquake that occurred in Nepal in 2015, the data of 501 patients were analyzed and it was found that 89% of the injuries were related to the lower extremities, while 66% of the injuries were caused by fractures. In the study, it was determined that the highest number of admissions to the hospital was on the 5th day. Approximately 69% of the patients were operated on, and most of the operations were performed by orthopedics and traumatology. In a study conducted by Kanchan et al. [7], in which the same earthquake was analyzed, the data of 238 patients who needed surgery after the earthquake were examined, and it was found that 185 patients were operated on by orthopedics, 26 patients by neurosurgery, 9 patients by general surgery, 17 patients by plastic surgery and 1 patient by oral and maxillofacial surgery. Among the surgical procedures performed by orthopedics, ORIF was found to be the most common procedure. Another study of the 2015 Nepal earthquake was conducted by Giri et al. [8], in which the 21-day period after the first earthquake was examined. During this period, another earthquake occurred 17 days after the first one, and the data analyzed included the first 5 days after this earthquake. In the patient data analyzed, it was seen that 2,003 patients presented to the emergency department and that 70% of these patients presented to the emergency department with earthquake-related complaints. It was observed that the number of patients admitted to the emergency department was approximately five times higher than that in the period before the earthquake. Most of the patients admitted to the hospital because of the earthquake were hospitalized, and these patients stayed in the hospital longer than cases with non-earthquake-related diagnoses and hospitalizations. Fractures were detected in 58% of the 1083 cases. Of the 345 surgical procedures performed, 98% were orthopedic procedures, and internal fixations with open and closed reduction were the most common procedures. In a study conducted by Xu et al. [9], in which three earthquakes occurring in China were investigated and compared with each other, the data of 1,390 patients were examined. It was found that most of the patients were admitted to the hospital within the first 2 weeks. While gender was unrelated to hospital admission, when the age distribution was examined, it was found that most of the patients were younger than 60 years. It was found that orthopedic interventions were predominant in surgical procedures and ORIF was the most common surgical procedure. In a study by Shi et al. [10] investigating the earthquake that occurred in China in 2017, the data of 48 patients were analyzed, and it was found that 30 patients were operated on and that 93.3% of the operations were performed by orthopedics and traumatology. In a study conducted by Nieh et al. [11] after the earthquake that occurred in Taiwan in 2018, it was found that 89.4% of the patients presented to the emergency department due to trauma. Fractures were detected in 9.4% of the patients, and 67.1% of traumas affected the lower or upper extremities.

In a study conducted after the Kahramanmaraş earthquake in a hospital close to the earthquake zone by Yarkaç et al. [12], it was found that 2,043 hospital applications were made in the first 15 days after the earthquake and more than half of these applications were trauma-related. In an article about the same earthquake conducted by Görmeli Kurt et al. [13] observed that 1,577 patients were admitted to the emergency department within a 22-day period, and among the patients with trauma, the number of patients with isolated extremity injuries was higher than those with other traumas.

In our study, it was observed that patients with trauma presented to the hospital earlier than those without trauma. When the anatomical localization of the traumas was evaluated, it was observed that 47% of the patients presented to the emergency department with isolated lower extremity trauma, which is consistent with the literature. When the reasons for admission of cases who presented with symptoms unrelated to trauma and were hospitalized were examined, factors such as the weather and living conditions in the disaster area, the continuation/disruption of routine treatments for those with chronic diseases, and the discharge of patients who were hospitalized in disaster-affected hospitals to ensure patient drainage played a role.

In hospital presentation after earthquakes, the reason for presentation and the day of presentation vary according to the distance of the hospital from the epicenter of the earthquake. This situation also affects issues such as patient population, reasons for presentation, severity of injuries, and operations performed. Although the number of patients and the severity of traumas decrease as the distance from the epicenter of the earthquake decreases, the rate and severity of admissions to hospitals far from the earthquake area may increase depending on the magnitude of the earthquake.

The distance of our hospital from the disaster area has led to different results from those of the above-mentioned studies, which were conducted in hospitals in disaster areas:

1) Unlike the literature, the first presentation to our hospital by an earthquake victim was on the second day after the earthquake.

2) In the first days of the disaster, trauma-related presentations to healthcare institutions were mostly made in the disaster area. The reason why the rate of presentation to the emergency department for non-traumatic reasons was higher in our study

than in other studies may be related to the fact that our study covered the first month after the earthquake, the distance of our hospital from the disaster area, and the settlement of earthquake victims in provinces far from the disaster area.

3) In our study, 72% of patients admitted with trauma had soft tissue trauma and 20% had bone fractures. The reason why the percentage of cases with fractures is lower than that in other studies in the literature may be that patients with fractures were treated in the earthquake area or in centers close to the earthquake area.

4) When the operations performed on the patients were examined, it was seen that, unlike the literature, most of the operations performed in our hospital were elective orthopedic surgeries. This difference in our study is related to the distance of our center from the earthquake area and the fact that operations indicated to be performed by other branches were cases that could not be delayed.

While examining the patients included in the study, one of the important issues that caught our attention was the population of patients who presented to the emergency department for reasons related to the earthquake despite not being earthquake victims themselves. It was observed that this population consisted of patients who requested tetanus prophylaxis before going to the earthquake area and those who presented to our emergency department after returning from the earthquake area for reasons such as myalgia, respiratory tract infection, anxiety, and trauma. Another important finding was that patients who were not earthquake victims but whose relatives were affected by the earthquake or who experienced anxiety due to the news in the press presented to the emergency department. The data from these cases were not included in our study because they did not meet the requirements for inclusion in the study.

In large-scale disasters that affect many settlements and where the number of earthquake victims is very high, such as the recent earthquakes occurring in Türkiye, health care services need to be organize quickly. In the management of this disaster, the injured and other patients in need of treatment were transferred to other hospitals in the country, especially to hospitals in nearby provinces, because some hospitals in the disaster area that could have provided service were damaged and because the number of patients who needed treatment exceeded the service capacity of the hospitals that could still provide service. Apart from these patients who were transferred, there were also patients who left the earthquake area and presented to health care institutions in other provinces to receive health care by their own means, and patients who left the earthquake area and settled in other regions temporarily or permanently and presented to health care institutions to receive health care. Despite the distance between our center and the disaster area, it was one of the centers where patient presentations were made. This situation once again emphasizes the magnitude of the disaster that occurred.

Generally speaking, during the organization of health care services in disaster management, patients in need of health care are first taken to the closest institutions that can deliver the most active health care for their first intervention, or they present as outpatients by their own means and are transferred to other centres, if necessary, after the first response. In the management of these patients, certain points stand out [14]:

1) Effective and correct triage is performed from the first hours of the disaster.

2) After triage, the patients who need emergency treatment are determined and their treatment is started. If emergency treatment is not required, appropriate triage is performed and higher-priority patients are treated.

3) After the first intervention for patients who need emergency treatment, if further examination and treatment are required, it is determined whether the center has the capacity to provide this treatment.

4) If the center to which the patient presents for examination and treatment does not have the capacity to provide the appropriate treatment for the patient, the patient is referred to an appropriate center, and land, air and sea ambulances are organized to be used for this purpose.

5) In order to reduce the overcrowding that occurs in centers to which patients can be transferred, other patients who are not earthquake victims and who do not need emergency treatment are discharged, and patients who still need treatment but are stabilized and can be transferred to other centers are transferred to appropriate centers, where the appropriate number of hospital beds is provided.

6) The necessary plans are made for health institutions in the disaster area and for centers located outside the disaster area that accept large numbers of patients from the disaster area to use resources such as the workforce, bed capacity, and materials for emergency patients by not accepting elective patients.

For these and similar disasters to be experienced without disrupting the health care services mentioned in the above-mentioned items, by prioritizing the patient's benefit and by taking care to use the resources at hand efficiently, national disaster management plans should be created and updated at regular intervals, and all institutions and individuals providing health care services should have full knowledge of these plans.

Study Limitations

The biggest limitation of our study is that it was conducted retrospectively. Additionally, the distance from our center to the earthquake zone affected the size of the study population.

Conclusion

Following an earthquake, the reason for presenting to the hospital and the day of presentation vary according to the distance of the hospital from the epicenter of the earthquake. This situation also affects issues such as the population of patients who are admitted, the reasons for admission, the severity of injuries, and the operations performed. Although patient presentations due to trauma are predominant after disasters, patients presenting with internal complaints should not be ignored. Conditions such as anxiety and post-traumatic stress disorder can not only affect earthquake victims and people whose relatives are in the earthquake area but can also be seen in other people who follow disaster-related broadcasts and publications. This population can be described as "the hidden part of the iceberg" in terms of exposure to disasters. This is an important public health problem that needs to be resolved.

Disaster preparedness and the provision of health care at the time of a disaster is an important issue that concerns the entire country and its resources. Each of the health care institutions located in the disaster area and at different distances from the disaster area should undertake a task suitable for their location and capacity.

Ethics

Ethics Committee Approval: Permission for this study was obtained from the Ethics Committee of University of Health Sciences Türkiye, Sancaktepe Şehit Prof. Dr. İlhan Varank Training and Research Hospital (approval number: E-46059653-050.99-213716745, date: 18.04.2023).

Informed Consent: Because of our study was a retrospective study, patient consent was not obtained.

Authorship Contributions

Concept: B.B., İ.T., Design: B.B., İ.K., İ.T., Data Collection or Processing: B.B., İ.K., İ.T., Analysis or Interpretation: P.Ş., İ.T., Literature Search: B.B., P.Ş., İ.K., İ.T., Writing: B.B., P.Ş., İ.T.

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