

# Clinical characteristics of patients admitted to Samsun Training and Research Hospital from the Turkiye-Syria earthquake region

Eda Türe<sup>1</sup>, Emre Özgen<sup>2</sup>, Muhammet Ali Oruç<sup>3</sup>, Selim Görgün<sup>4</sup>, Murat Güzel<sup>5</sup>

<sup>1</sup>Department of Family Medicine, Samsun Training and Research Hospital, Samsun, Turkiye

<sup>2</sup>Department of Emergency Medicine, Samsun Training and Research Hospital, Samsun, Turkiye

<sup>3</sup>Department of Family Medicine, Faculty of Medicine, Samsun University, Samsun, Turkiye

<sup>4</sup>Department of Medical Microbiology, Samsun Training and Research Hospital, Samsun, Turkiye

<sup>5</sup>Department of Emergency Medicine, Faculty of Medicine, Samsun University, Samsun, Turkiye

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## ABSTRACT

**Aims:** After the two major earthquakes that occurred in the Turkiye-Syria region on February 6<sup>th</sup>, 2023, earthquake casualties presented to hospitals in various centers across the country. This study aimed to analyze the characteristics of the presentations made to the emergency department and outpatient clinics of our tertiary hospital from the earthquake region after the earthquake.

**Methods:** A total of 1534 earthquake casualties who were admitted to the Samsun Training and Research Hospital Emergency Department and outpatient clinics with the diagnosis code X-34 were included in the study. The data of the patients were scanned retrospectively through the online system and age, sex, presentation date, clinic and hospitalization status were recorded.

**Results:** The mean age of the patients was  $24.6 \pm 25.9$  (range: 0-98) years. Six hundred eighty-six (44.7%) patients were male, 441 (28.7%) were age under 18 years, and 1199 (78.2%) were admitted or brought to the emergency room or intensive care units (ICUs). A total of 210 (13.7%) patients were hospitalized after being admitted or brought to the hospital. No fatalities were recorded among the earthquake casualties who presented. A total of 730 (47.6%) patients were admitted to our hospital within the first 30 days after the earthquake. The highest presentation peak period was between days 5 and 9. The mean age in women, inpatients, patients presenting to outpatient clinics, and patients from Adana, Hatay, Kahramanmaraş and Osmaniye provinces was significantly higher than the other groups ( $p < 0.001$  for each). The rates of hospitalized patients were found to be significantly higher in women ( $p = 0.002$ ), patients presenting to outpatient clinics ( $p < 0.001$ ), and patients presenting within the first 30 days after the earthquake compared to other groups ( $p < 0.001$ ). The rates of patients presenting to emergency rooms or ICUs were significantly higher in men ( $p = 0.011$ ) and in those who presented within the first 7 days after the earthquake compared with the other groups ( $p = 0.001$ ).

**Conclusion:** The findings obtained from our study indicated that the prognosis was good for earthquake casualties who presented to our hospital, which is far from the center of a major earthquake, that the highest number of presentations was between the 5<sup>th</sup> and 9<sup>th</sup> days, the period between the earthquake and the hospital admission was a determining factor in terms of the clinic presented and hospitalization, and the proximity to the center of the earthquake did not affect the prognosis in presentations. Our findings also show that the age group is an important factor in terms of the clinic of presentation, hospitalization, the period after the earthquake, and the province from which the presentation is made.

**Keywords:** Earthquake, hospitalization, emergency ward, Turkiye, earthquake casualties

## INTRODUCTION

Natural disasters are ecologic events that disrupt the normal order of life in a society beyond its adaptive capabilities and therefore result in the need for urgent and major foreign

aid. Compared with other natural disasters such as floods, landslides, avalanches, hurricanes, volcanic eruptions, and droughts, earthquakes are much more harmful and cause the

**Corresponding Author:** Emre Özgen, emreozgen46523@gmail.com

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most deaths and disabilities both in our country and globally. Earthquakes cause serious financial losses as well as loss of life.<sup>1-4</sup>

On February 6<sup>th</sup>, 2023, the so-called ‘2023 Kahramanmaraş earthquakes’ or ‘2023 Türkiye-Syria earthquakes’ occurred 9 hours apart, with epicenters in Pazarcık and Elbistan districts of Kahramanmaraş, respectively, with 7.8 Mw ( $\pm 0.1$ ) and two earthquakes with magnitudes of 7.5 MW occurred. In Türkiye, 10 provinces with a total population of 13.5 million were directly affected by these earthquakes, and according to the 2023 Earthquake Research Commission Report of the Turkish Grand National Assembly, the total cost of the earthquakes to the Turkish economy reached 4 trillion Lira (148.8 billion dollars). As of March 30<sup>th</sup>, more than 50,000 deaths and a total of around 125,000 injuries were detected in Türkiye and 8000 in Syria.<sup>2-4</sup> After the earthquakes, a significant part of the cities collapsed and almost all of the people had to migrate to different provinces. The earthquakes also caused temporary disruptions in Türkiye’s health system. Many hospitals and emergency response systems were damaged, and healthcare workers were forced to work long and tiring shifts. Temporary hospitals with tents were built in open areas, and many patients were transferred to hospitals in provinces outside the disaster area by roads, airlines, and sea lines.<sup>3-6</sup> Various problems arise in the treatment of traumatic injuries, including crush injuries and renal failure resulting from their complications, after earthquakes. To eliminate the problems that present in survivors’ access to healthcare providers and services need to be planned separately outside the earthquake zone.<sup>7</sup>

This study aimed to analyze the characteristics of the presentations of earthquake casualties who presented to the emergency department and outpatient clinics of our tertiary hospital from the earthquake region after the Türkiye-Syria earthquake that occurred on February 6<sup>th</sup>, 2023.

## METHODS

### Ethics

This study was approved by the Samsun University Clinical Researches Ethics Committee (Date: 09.08.2023, Decision No: 2023/14/13) and was planned retrospectively. All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

### Collection and Identification of Samples

Patients who presented to our hospital until January 31<sup>st</sup>, 2024, after the Türkiye-Syria earthquake, were included in the study.

Patients who entered the Samsun Training and Research Hospital emergency department and outpatient clinics with the diagnosis code X-34 (earthquake casualty) in ICD-10 were examined in the study. Patients with duplicate entries and insufficient data were not included in the study. As a result, the data of 1534 earthquake casualties who met the study criteria were retrospectively scanned through the hospital information management system. The patients’ age, sex, presentation date, clinic, hospitalization status, and the earthquake region they came from were recorded.

### Statistical Analysis

The sample size in the study was calculated using power analysis with the G\*Power software package (version 3.1.9.6, Franz Faul, Universitat Kiel, Germany). Effect size 0.16; Type

I error was taken as 0.05 and test power as 0.95, and the total required sample size was determined as at least 773.

All statistical analyses in the study were performed using the SPSS 25.0 software (IBM SPSS, Chicago, IL, USA). Descriptive data are given as mean and standard deviation in numerical data, and distributions of nominal or ordinal variables are given as numbers and percentages. Comparisons between groups in terms of categorical variables were made using the Chi-square test. Whether continuous variables conformed to normal distribution was analyzed using the Kolmogorov-Smirnov test. Differences between two groups in terms of non-normally distributed continuous variables were analyzed using the Mann-Whitney U test, and differences between multiple groups were analyzed using the Kruskal-Wallis test. The results were evaluated within the 95% confidence interval and p-values  $< 0.05$  were considered significant. Bonferroni correction was made where necessary.

## RESULTS

The mean age of the patients was  $24.6 \pm 25.9$  (range: 0-98) years, 686 (44.7%) patients were male, and 441 (28.7%) were aged under 18 years. One thousand one hundred ninety-nine (78.2%) were admitted or brought to the emergency department or intensive care units (ICU), and 210 (13.7%) were hospitalized after being admitted or brought to the hospital. No fatalities were reported among the earthquake casualties who presented. The provinces from where the patients mostly came were Hatay (25.9%), Kahramanmaraş (24.4%), and Malatya (17.4%). Seven hundred thirty (47.6%) patients were admitted to our hospital within the first 30 days after the earthquake. Presentation rates decreased rapidly in the months after the earthquake (Table 1) (Figure 1).

When age groups were examined, hospitalization rates in the 18-65, over 65, and 0-2-years age groups were significantly higher than other age groups ( $p < 0.001$ ). The rate of admission to outpatient clinics was found to be significantly higher in the 18-65 and over 65 years age groups compared with other age groups ( $p < 0.001$ ). The presentation rates for the 18-65 years age group within the first 7 days after the earthquake, the 0-2, 18-65, and over 65 years age groups 8-30 days after the earthquake, and the rates for child groups aged over 2 years as of 30 days after the earthquake were found to be significantly higher compared to other age groups ( $p < 0.001$ ). The number of patients in the 18-65 age group in patients coming from Hatay, 65 years and above in patients coming from Kahramanmaraş, 3-6 and 7-11 age groups in patients coming from Adıyaman, 12-17 age group in patients coming from Gaziantep, other age groups were significantly higher than the other groups. In patients coming from Türkiye, the rates of patients in the 12-17 age group were significantly higher than other age groups ( $p < 0.001$ ) (Table 2).

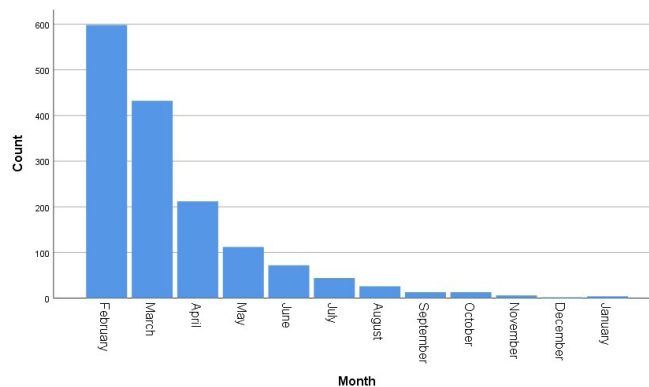
In women, inpatients (Figure 2), in patients presenting to outpatient clinics (Figure 3), and in patients from Adana, Hatay, Kahramanmaraş and Osmaniye provinces (Figure 4), the mean age was significantly higher than the other groups ( $p < 0.001$  for each) (Table 3).

The rates of hospitalized patients were found to be significantly higher in women ( $p = 0.002$ ), patients presenting to outpatient clinics ( $p < 0.001$ ), and patients presenting within the first 30 days after the earthquake ( $p < 0.001$ ) (Figure 5) compared with

**Table 1. General distributions according to some variables of earthquakes**

	n	%
<b>n</b>	1534	100.0
<b>Sex</b>		
Male	686	44.7
Female	848	55.3
<b>Age (years)</b>		
<18	441	28.7
18+	1093	71.3
<b>Age (years)</b>		
0-2	291	19.0
3-6	255	16.6
7-11	167	10.9
12-17	157	10.2
18-65	495	32.3
>65	169	11.0
<b>Patient type</b>		
Outpatient	1324	86.3
Inpatients	210	13.7
<b>Patient's province</b>		
Hatay	398	25.9
Kahramanmaraş	374	24.4
Malatya	267	17.4
Adıyaman	190	12.4
Gaziantep	132	8.6
Osmaniye	29	1.9
Adana	27	1.8
Şanlıurfa	19	1.2
Diyarbakır	15	1.0
Other	83	5.4
<b>Month</b>		
February	598	39.0
March	432	28.2
April	212	13.8
May	112	7.3
June	72	4.7
July	44	2.9
August	26	1.7
September	13	0.8
October	13	0.8
November	6	0.4
December	2	0.1
January	4	0.3
<b>Time passed after the earthquake (days)</b>		
1-30 days	730	47.6
>30 days	804	52.4
<b>Time passed after the earthquake (days)</b>		
1-7 days	195	12.7
8-30 days	535	34.9
31-60 days	364	23.7
>60 days	440	28.7
<b>Clinic</b>		
Emergency/ICU	1199	78.2
Clinics	335	21.8
<b>Clinic</b>		
Pediatric emergency room	806	52.4
Adult emergency room	314	20.4
Home care clinic	101	6.6
Obstetrics emergency room	69	4.5
Gynecology and obstetrics	50	3.3
Family medicine	42	2.7
Chemotherapy unit	38	2.5
Pediatry	27	1.8
Radiation oncology	10	0.7
ICUs	10	0.7
Other	68	4.4

ICU: Intensive care unit



**Figure 1.** Distribution of patients according to the months they presented to our hospital

other groups. Hospitalization rates were similar between the provinces that patients came from ( $p=0.449$ ) (Figure 6) (Table 4).

The rates of patients presenting to emergency rooms or ICUs were significantly higher in men ( $p=0.011$ ) and in those who presented within the first 7 days after the earthquake ( $p=0.001$ ) compared with other groups. The rates of clinic types consulted were similar between the provinces that patients came from ( $p=0.17$ ) (Figure 7) (Table 5).

## DISCUSSION

The traumas experienced by earthquake casualties after major earthquakes occur in a wide variety of forms and intensities. Accordingly, the presentations of earthquake casualties to hospitals and their admission characteristics vary greatly.<sup>4-8</sup> In this study, some characteristic features of patients who were admitted to a hospital far from the epicenter of a major earthquake after an earthquake were analyzed.

Gürü et al.<sup>9</sup> analyzed 124 earthquake casualties' presentations to the emergency department in hospitals in Ankara within 3 weeks after the Türkiye-Syria earthquake, and reported that 14.5% of the presentations were admitted. In our study, it was determined that 78.2% of earthquake casualties were brought to the emergency department or ICUs, and 13.7% were hospitalized after being admitted or brought to the hospital. Considering that our hospital is 700 km away from the earthquake zone, it can be assumed that those who were seriously injured in the earthquake were taken to hospitals in nearby provinces. These findings show that those with less serious conditions may have been brought to or presented to our hospital, and that the majority were treated as outpatients and discharged after presenting to the emergency department. This may indicate that the distance of the hospital to the earthquake epicenter significantly affects the patient portfolio. Other studies reported that mortality rates were high in hospitals close to the earthquake zone, but there was no mortality in hospitals in remote centers.<sup>9-13</sup> In our study, there was no mortality among the earthquake casualties who presented to our hospital. This situation can be explained by the fact that those in critical condition died before moving away from the earthquake zone, and those who moved away from the area had lesser injuries anyway.

Gürü et al.<sup>9</sup> reported that approximately half of the earthquake casualties came from Hatay to their hospital in Ankara. Cakin et al.<sup>10</sup> also found that half of the patients in their hospital in Antalya after the same earthquake came from Hatay. In our study, it was determined that patients mostly came from Hatay (25.9%), Kahramanmaraş (24.4%), and Malatya (17.4%). This

Table 2. Distribution of some variables according to age groups														
	0-2		3-6		7-11		12-17		18-65		>65		p	
	n	%	n	%	n	%	n	%	n	%	n	%		
<b>Patient type</b>														
Outpatient	250	85.9	247	96.9	166	99.4	149	94.9	369	74.5	143	84.6	<0.001	
Inpatient	41	14.1	8	3.1	1	0.6	8	5.1	126	25.5	26	15.4		
<b>Clinic</b>														
Emergency/ICU	266	91.4	249	97.6	164	98.2	150	95.5	321	64.8	49	29.0	<0.001	
Clinics	25	8.6	6	2.4	3	1.8	7	4.5	174	35.2	120	71.0		
<b>Patient's province</b>														
Hatay	58	19.9	51	20.0	35	21.0	38	24.2	174	35.3	42	24.9	<0.001	
Kahramanmaraş	71	24.5	55	21.5	42	25.0	40	25.4	111	22.4	55	32.4		
Malatya	60	20.6	42	16.5	37	22.2	29	18.5	68	13.7	31	18.3		
Adıyaman	30	10.3	45	17.6	32	19.2	17	10.8	53	10.7	13	7.7		
Gaziantep	23	7.9	27	10.6	9	5.4	24	15.3	43	8.7	6	3.6		
Osmaniye	3	1.0	6	2.4	4	2.4	2	1.3	8	1.6	6	3.6		
Adana	9	3.1	2	0.8	0	0.0	2	1.3	10	2.0	4	2.4		
Şanlıurfa	7	2.4	2	0.8	2	1.2	0	0.0	7	1.4	1	0.6		
Diyarbakır	7	2.4	3	1.2	0	0.0	0	0.0	5	1.0	0	0.0		
Other	23	7.9	22	8.6	6	3.6	5	3.2	16	3.2	11	6.5		
<b>Month</b>														
February	109	37.4	68	26.6	38	22.8	53	33.9	252	51.0	78	46.1		<0.001
March	82	28.2	68	26.6	52	31.0	43	27.4	145	29.3	42	24.9		
April	32	11.0	34	13.3	29	17.4	29	18.5	67	13.5	21	12.4		
May	22	7.6	30	11.8	21	12.6	14	8.9	15	3.0	10	5.9		
June	25	8.6	15	5.9	11	6.6	4	2.5	7	1.4	10	5.9		
July	9	3.1	18	7.1	5	3.0	4	2.5	3	0.6	5	3.0		
August	4	1.4	9	3.5	5	3.0	2	1.3	4	0.8	2	1.2		
September	1	0.3	5	2.0	1	0.6	4	2.5	2	0.4	0	0.0		
October	3	1.0	6	2.4	3	1.8	1	0.6	0	0.0	0	0.0		
November	4	1.4	1	0.4	1	0.6	0	0.0	0	0.0	0	0.0		
December	0	0.0	0	0.0	0	0.0	2	1.3	0	0.0	0	0.0		
January	0	0.0	1	0.4	1	0.6	1	0.6	0	0.0	1	0.6		
<b>Time passed after the earthquake (days)</b>														
1-7 days	30	10.3	16	6.3	11	6.6	14	8.9	100	20.2	24	14.2	<0.001	
8-30 days	116	39.9	74	29.0	35	21.0	48	30.6	194	39.2	68	40.2		
31-60 days	52	17.9	59	23.1	52	31.1	41	26.1	122	24.6	38	22.5		
>60 days	93	32.0	106	41.6	69	41.3	54	34.4	79	16.0	39	23.1		

ICU: Intensive care unit

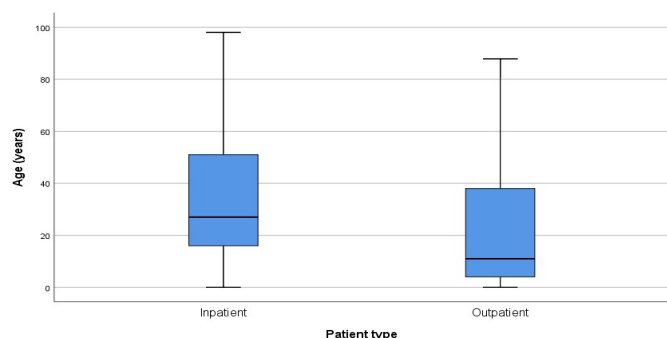


Figure 2. Box-plot graph comparing the average age of patients according to whether they received outpatient or inpatient treatment

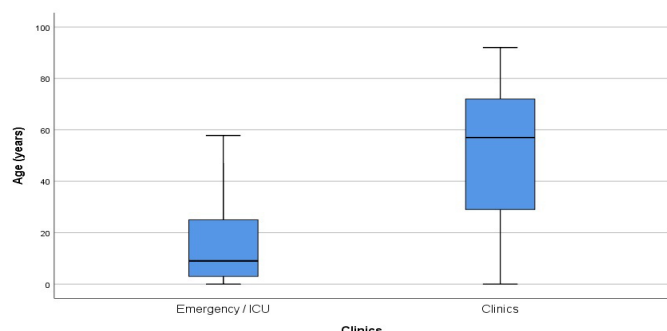


Figure 3. Box-plot graph comparing the average age of patients according to the type of clinic they presented to

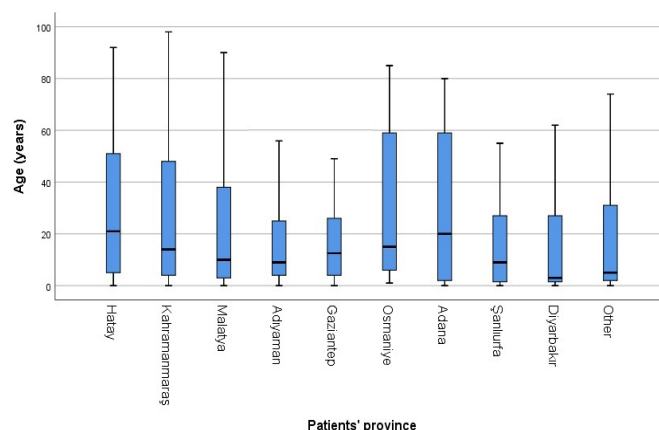


Figure 4. Box-plot graph comparing the average age of the patients according to their province of origin

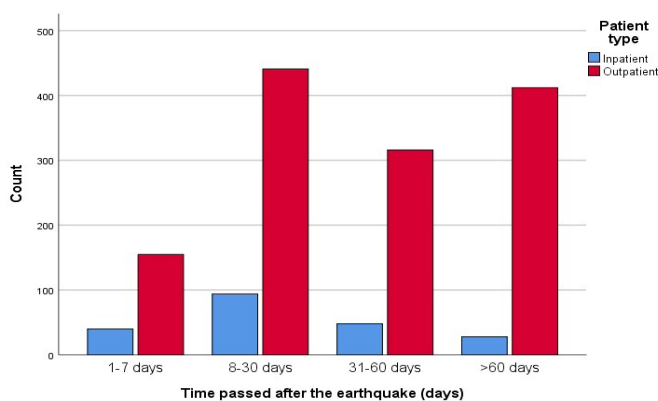
finding may indicate that both the severity of earthquake exposure, clinical status, transportation facilities, and distance affect the patient distribution in provinces affected by the earthquake in very different ways.

Cagiran et al.,<sup>11</sup> Dursun et al.,<sup>12</sup> Bulut et al.,<sup>13</sup> and Eyler et al.<sup>14</sup> reported that the peak admission period to hospitals close to the earthquake was in the first 12 or 24 hours after a previous earthquake. After an earthquake in Nepal, it was reported that

**Table 3. Comparison of patient ages (years) according to some variables**

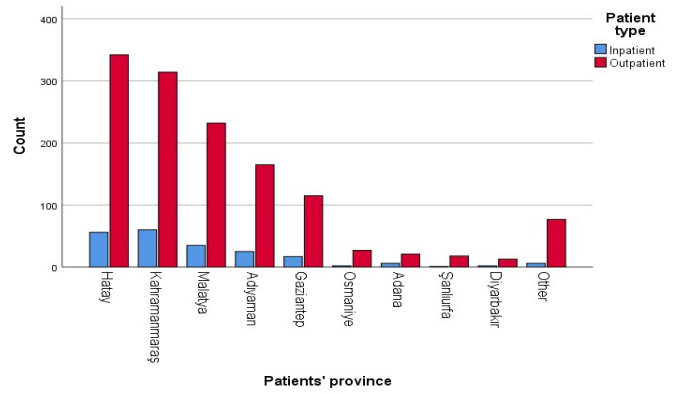
	Mean	SD	p
General	24.6	25.9	
<b>Sex</b>			<b>&lt;0.001</b>
Male	18.2	23.3	
Female	29.8	26.8	
<b>Patient type</b>			<b>&lt;0.001</b>
Outpatient	23.5	26.0	
Inpatient	31.6	24.5	
<b>Clinic</b>			<b>&lt;0.001</b>
Emergency/ICU	17.2	20.0	
Clinics	51.4	27.1	
<b>Time passed after the earthquake (days)</b>			<b>&lt;0.001</b>
1-7 days	31.7	25.0	
8-30 days	26.6	26.7	
31-60 days	24.8	25.0	
>60 days	18.9	25.2	
<b>Patient's province</b>			<b>&lt;0.001</b>
Adana	29.0	29.6	
Adiyaman	19.9	23.4	
Diyarbakir	15.3	22.0	
Gaziantep	18.0	19.0	
Hatay	29.3	26.5	
Kahramanmaraş	26.9	27.6	
Malatya	22.3	24.9	
Osmaniye	28.7	27.5	
Şanlıurfa	17.2	20.3	
Other	21.7	29.4	

SD: Standard deviation, ICU: Intensive care unit



**Figure 5.** Comparison of outpatient and inpatient patients in terms of time since the earthquake

the peak number of admissions to hospitals not very close to the earthquake zone was on the 5<sup>th</sup> day.<sup>15,16</sup> Gürü et al.<sup>9</sup> reported that no earthquake casualties came to hospitals in Ankara in the first two days of the earthquake, and the highest peaks were on the 3<sup>rd</sup> and 4<sup>th</sup> days. Cakin et al.<sup>10</sup> reported that the peak of presentations to hospitals in the middle distance from the earthquake occurred between the 5<sup>th</sup> and 7<sup>th</sup> days. In our study, earthquake casualties started to arrive the day after the earthquake, increased significantly on the 3<sup>rd</sup> day, but the

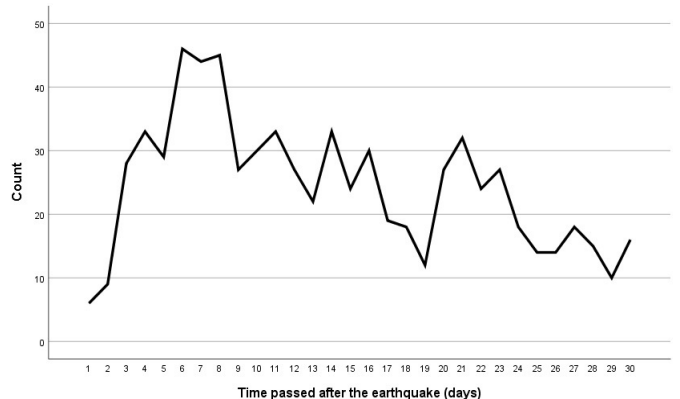


**Figure 6.** Comparison of the rates of patients receiving outpatient and inpatient treatment according to the provinces they come from

**Table 4. Distribution of patients according to whether they received outpatient or inpatient treatment**

	Outpatient		Inpatient		Total	p
	n	%	n	%		
Total	1324		210		1534	
<b>Sex</b>						<b>0.002</b>
Male	613	89.4	73	10.6	686	
Female	711	83.8	137	16.2	848	
<b>Clinic</b>						<b>&lt;0.001</b>
Emergency/ICU	1121	93.5	78	6.5	1199	
Outpatient	203	60.6	132	39.4	335	
<b>Time passed after the earthquake (days)</b>						<b>&lt;0.001</b>
1-7 days	155	79.5	40	20.5	195	
8-30 days	441	82.4	94	17.6	535	
31-60 days	316	86.8	48	13.2	364	
>60 days	412	93.6	28	6.4	440	
<b>Patient's province</b>						<b>0.449</b>
Hatay	342	85.9	56	14.1	398	
Kahramanmaraş	314	84.0	60	16.0	374	
Malatya	232	86.9	35	13.1	267	
Adiyaman	165	86.8	25	13.2	190	
Gaziantep	115	87.1	17	12.9	132	
Osmaniye	27	93.1	2	6.9	29	
Adana	21	77.8	6	22.2	27	
Şanlıurfa	18	94.7	1	5.3	19	
Diyarbakir	13	86.7	2	13.3	15	
Other	77	92.8	6	7.2	83	

ICU: Intensive care unit



**Figure 7.** Line graph showing the number of earthquake casualties who presented to our hospital in the days after the earthquake

**Table 5. Distribution of patients according to their admission to the emergency department or outpatient clinics**

	Emergency/ICU		Clinics		Total n	p
	n	%	n	%		
Total	1199		335		1534	
<b>Sex</b>						<b>0.011</b>
Male	581	84.7	105	15.3	686	
Female	618	72.9	230	27.1	848	
<b>Time passed after the earthquake (days)</b>						<b>0.001</b>
1-7 days	170	87.2	25	12.8	195	
8-30 days	417	77.9	118	22.1	535	
31-60 days	264	72.5	100	27.5	364	
>60 days	348	79.1	92	20.9	440	
<b>Patient's province</b>						<b>0.170</b>
Hatay	302	75.9	96	24.1	398	
Kahramanmaraş	286	76.5	88	23.5	374	
Malatya	225	84.3	42	15.7	267	
Adiyaman	147	77.4	43	22.6	190	
Gaziantep	110	83.3	22	16.7	132	
Osmaniye	21	72.4	8	27.6	29	
Adana	19	70.4	8	29.6	27	
Şanlıurfa	16	84.2	3	15.8	19	
Diyarbakır	12	80.0	3	20.0	15	
Other	61	73.5	22	26.5	83	

ICU: Intensive care unit

real peak period was between days 5 and 9. Afterwards, the number of presentations started to decrease slowly. The reason for these differences may be the difference in transportation facilities between hospitals from the earthquake zone. In our study, it was found that 47.6% of the patients presented to our hospital within the first 30 days after the earthquake, and the presentation rates decreased rapidly in the months after the earthquake. This finding suggests that admissions due to exposure to the earthquake were naturally high immediately after the earthquake, but in the following months, perhaps earthquake casualties presented to the hospital for reasons other than earthquake exposure. This finding also shows that in a short time after the earthquake, our hospital served an intense number of earthquake casualties despite its long distance from the affected areas.

When the age groups were examined in our study, hospitalization rates were found to be significantly higher in the 18-65, over 65, and 0-2-years age groups compared with other age groups, and the rate of admissions to outpatient clinics was found to be significantly higher in the 18-65 and over 65 years age groups compared with other age groups. It was observed that there were significant changes in the age groups of the patients who presented in the periods after the earthquake. We also found significant differences in age groups depending on the provinces the patients came from. In our study, the mean age was found to be significantly higher in women, inpatients, patients presenting to outpatient clinics, and patients from some provinces compared with other groups. All these findings show that age is an important factor in patients coming to our city from the earthquake zone and presenting to the hospital, and that very young and older patients are more likely to present to the emergency department or be hospitalized.

In our study, the rates of hospitalization in patients admitted within the first 30 days after the earthquake were found to be significantly higher than other groups. These findings show that the clinical conditions of patients arriving immediately after the earthquake are naturally more severe.

Reasons for hospitalization in internal medicine and emergency departments after natural disasters vary. Studies on this subject will be useful for designing specific intervention programs before disasters that may occur in the future and mitigating the harmful effects of earthquakes.<sup>17</sup> In the study, hospitalization rates were found to be similar between the provinces the patients came from. This finding shows that the clinical condition is not the main determinant between proximity to the earthquake epicenter and coming to our province far from the earthquake. This may be due to various factors such as the fact that the seriously injured were taken to provinces near the earthquake, the treatments were given in the same province in provinces that were less affected by the earthquake, the transportation facilities from each province differed in the first days of the earthquake, our province was far from the earthquake zone, and the number of presentations was not as much as in larger provinces.

Intensive care support is provided to a significant portion of those trapped under rubble after earthquakes. There are few studies in the literature examining the clinical course and intensive care needs of earthquake casualties and showing the experiences of physicians.<sup>18,19</sup> In our study, the rates of patients admitted to the emergency department or ICU in the first 7 days after the earthquake were found to be significantly higher than the other groups. This finding indicates that those with more serious clinical conditions consulted the emergency department.

### Limitations

There are some limitations in this study. For example, because the study aims to profile earthquake casualties who were admitted to a hospital that is not close to the epicenter of a large and devastating earthquake, the findings obtained will be very different from the findings of a hospital in the earthquake zone. Accordingly, in our study, where it is normal that critical injuries and mortality are not observed, risk factors in this regard were not evaluated. However, in line with our study purpose, the fact that the number of patients for 1 year was very high at 1534 was a factor that made the analyses within the study strong.

### CONCLUSION

In conclusion, the findings obtained from our study indicated that the prognosis was good for earthquake casualties who presented to our hospital, which was far from the center of a major earthquake, that the highest number of presentations was between the 5<sup>th</sup> and 9<sup>th</sup> days, the period between the earthquake and the hospital admission was a determining factor in terms of the clinic of presentation and hospitalization, and the proximity to the center of the earthquake did not affect the prognosis in presentations. Our findings also show that the age group is an important factor in terms of the clinic of presentation, hospitalization, the period after the earthquake, and the province from which the presentation is made. This study provides demographic data that will contribute to the improvement of health service delivery after future earthquakes.

## ETHICAL DECLARATIONS

### Ethics Committee Approval

The study was carried out with the permission of the Samsun University Clinical Researches Ethics Committee (Date: 09.08.2023, Decision No: 2023/14/13).

### Informed Consent

Because the study was designed retrospectively, no written informed consent form was obtained from patients.

### Referee Evaluation Process

Externally peer-reviewed.

### Conflict of Interest Statement

The authors have no conflicts of interest to declare.

### Financial Disclosure

The authors declared that this study has received no financial support.

### Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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