

# The Quality of Life Among Pediatricians and Nurses Caring for Child Victims of the Kahramanmaraş Earthquake

## Kahramanmaraş Depremi Sonrası Deprem Mağduru Çocukları Takip Eden Çocuk Hekimleri ve Hemşirelerin Yaşam Kalitesi

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### Abstract

**Objective:** After the earthquakes in Kahramanmaraş in 2023, pediatric clinics played an important role in the treatment of physical and psychiatric treatment of child victims. In this study, it was aimed to evaluate the quality of life of pediatricians and nurses working in pediatric clinics after the earthquake by using the and to determine the reasons related to quality of life.

**Methods:** In this study, pediatricians and nurses were asked about age, gender, the service they worked in, following-up of earthquake victims, being a relative of earthquake victim family and then the professional quality of life scale was applied. The scale scores of the participants and the other parameters were evaluated.

**Results:** A total of 69 (73.4%) pediatricians and 25 (26.6%) nurses participated in the study. The mean age was 30.5±4.8 years and 77% were female. Burnout subscale of physician' was found to be significantly higher than nurses and burnout subscale of specialists' was found to be significantly higher than residents.

**Conclusion:** In conclusion, it should not be forgotten that health professionals, regardless of residents, specialists, and nurses, will be psychologically affected by major disaster processes such as earthquakes. In this process, the necessary support should be provided in the clinics where they serve, considering the characteristics of the person.

**Keywords:** Children, earthquake, nurse, pediatrician, quality of life

### Öz

**Amaç:** 2023 yılında Kahramanmaraş'ta meydana gelen depremlerden sonra çocuk klinikleri, çocuk mağdurlarının fiziksel ve psikiyatrik tedavisinde önemli rol oynamıştır. Bu çalışmada, deprem sonrası çocuk kliniklerinde çalışan çocuk hekimleri ve hemşirelerin yaşam kalitelerini ve yaşam kalitesiyle ilişkili nedenleri belirlemek amaçlanmıştır.

**Yöntem:** Bu çalışmada çocuk hekimleri ve hemşirelere yaş, cinsiyet, çalıştıkları servis depremzede takip edip etmediği, depremzede yakını olma durumları sorulmuş ve çalışanlar için yaşam kalitesi ölçeği uygulanmıştır. Katılımcıların ölçek puanları ve diğer parametrelerle ilişkisi değerlendirilmiştir. Çocuk doktorlarının tükenmişlik alt ölçeği anlamlı derecede yüksek bulunmuştur.

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## Öz

**Bulgular:** Çalışmaya toplam 69 (%73,4) çocuk hekimi ve 25 (%26,6) hemşire katıldı. Ortalama yaş  $30,5 \pm 4,8$  yıl olup, %77'si kadındı. Doktorlarının tükenmişlik alt ölçeği anlamlı derecede yüksek bulundu. Doktorların tükenmişlik alt ölçeği hemşirelerden, uzmanların tükenmişlik alt ölçeği ise asistanlardan anlamlı derecede yüksek bulundu.

**Sonuç:** Sonuç olarak, asistan, uzman ve hemşire fark etmeksizin sağlık çalışanlarının deprem gibi büyük afet süreçlerinden psikolojik olarak etkileneceği unutulmamalıdır. Bu süreçte, kişinin özellikleri göz önünde bulundurularak, hizmet verdikleri kliniklerde gerekli destek sağlanmalıdır.

**Anahtar Kelimeler:** Çocuklar, deprem, hemşire, çocuk doktoru, yaşam kalitesi

## Introduction

Health professionals are one of the most important teams involved in the response to disasters and epidemics. They are involved both in the acute period and in the recovery period of long-term cases<sup>(1)</sup>. In recent years in the world, it has been observed that the psychological effects 60 of the Coronavirus pandemic on many physicians and nurses are significant and the quality of life is affected<sup>(2)</sup>. Earthquake is one of the most important natural disasters. After the earthquakes of 7.7 and 7.6 magnitudes centered in Kahramanmaraş on 6 February 2023, which affected approximately 13.5 million people in 10 provinces in our country, more than 40000 lives died<sup>(3)</sup>. Physicians in various 65 hospitals in the country, especially in Ankara, İstanbul, and İzmir, voluntarily went to the regions and provided health services to the earthquake victims. In addition, many physicians received and treated earthquake victims in their hospitals. The nurses and physicians who provided health care services to the cases were interested in the mental and psychological effects of the patients as well as their physical effects.

Our hospital in İzmir province was selected as a pilot hospital among the provinces that were not affected by the earthquake in this process. Patients were referred to our hospital from the 3<sup>rd</sup> day after the earthquake, and the last patient admission with outpatient admissions and referrals was made on the 25<sup>th</sup> day of the earthquake. In our pediatric clinics, physical treatment of these children was carried out in consultation with orthopedics, pediatric surgery and neurosurgery. In addition, these cases were evaluated with social services and child psychiatry for psychological support for both the earthquake and post-earthquake losses (parents, friends, relatives, limbs, house, neighborhood, etc.). This process also caused psychological effects on 75 health professionals. For this reason, child psychiatry physicians provided information to pediatricians and nurses about approaching children and talking to them, and guided individuals on how to keep themselves psychologically healthy

In this study, it was aimed to evaluate the quality of life of pediatricians and nurses working in pediatric clinics after the earthquake by using the professional quality of life scale (ProQOL RIV) and to determine the reasons related to quality of life (4).

## Materials and Methods

In this cross-sectional descriptive study, the questionnaires prepared by the authors and the ProQOL R-IV were administered to pediatricians and nurses working in the pediatric clinics in May-June 2023. The study was started after obtaining permission from the University of Health Sciences Turkey, İzmir Tepecik Education and Research Hospital's Ethics Committee (date: 05.04.2023, decision no: 2023/03-38). Verbal and written consent were obtained from volunteers before starting the survey. The survey was conducted with using a survey form. Pediatricians and nurses were asked about age, gender, marital status, presence of children, the service they worked in, occupation and years in the profession, following-up of earthquake victims, being a relative of earthquake victim family, death of a relative in an earthquake and then the ProQOL R-IV was 90 applied. The scale scores of the participants and the other parameters were evaluated. ProQOL RIV was developed by B. Hudnall Stamm et al. in 2005, and validated of the Turkish version by Yeşil et al. in 2010. The scale is a self-report assessment tool consisting of three subscales (compassion satisfaction, burnout, and compassion fatigue) and 30 items. The compassion satisfaction subscale expresses the satisfaction that a person feels as a result 95 of helping an individual who needs help related to his/her profession or job. The burnout subscale expresses the hopelessness that occurs as a result of not being able to cope with the problems that develop in business life. The compassion fatigue subscale is used to measure the situations that occur as a result of encountering stressful events and needing support. The items in the scale are evaluated on a scale from "Never" (0) to "Very often" (4).

## Statistical Analysis

Chi-square test, number, and percentage values were used in the analysis of data related to categorical (qualitative) variables. Pairwise comparisons in numerical data were performed with the Student's t-test and Mann-Whitney U test. Analyses of the available data were performed using IBM SPSS 24 software (Statistical Package for Social Sciences, Chicago, IL, USA). The significance level was accepted as  $p < 0.05$  in all statistical tests.

## Results

A total of 69 (73.4%) pediatricians and 25 (26.6%) nurses participated in the study. The mean age was  $30.5 \pm 4.8$  years and 77% were female. Demographic data of the participants are shown in Table 1 with physician and nurse groups. The percentage of the participants who followed earthquake-affected individuals in their department was 97.1% among pediatricians and 96% among nurses. 16% of the participants had children and 62.8% had relatives affected by the earthquake. Between the two groups, nurses had more relatives affected by the earthquake at a statistically significant level. All subscale scores of ProQOL R-IV were found to be higher in pediatricians, although the burnout

subscale score was statistically significant (Table 1). When the pediatricians were grouped as resident and specialist pediatricians, having children and years in the profession were significantly higher in the specialist group. In the ProQOL R-IV score evaluation, burnout was significantly higher in specialists (Table 2).

When the scores of the ProQOL R-IV were evaluated according to gender, compassion fatigue was found significantly higher in women ( $p = 0.011$ ). In addition, according to the presence of earthquake survivor relatives, no difference was found between the groups. Also, the scale score of compassion fatigue was found to be significantly higher in those with children ( $p = 0.047$ ).

## Discussion

In this study, the subgroup of burnout score was significantly higher in pediatricians than in nurses, and specialists than in residents. The subscale of compassion fatigue was found to be significantly higher in women. In the presence of earthquake survivor relatives, no difference was found between the groups in the ProQOL R-IV scores.

In the literature with victims of earthquake, it was showed that staying in a closed area in an earthquake, waiting helplessly

**Table 1. Comparison of data of physicians and nurses**

	Physician (n=69, 73.4)	Nurse (n=25, 26.6)	Total (n=94)	p
<b>Gender</b>				
Male	55 (79.7)	22 (88.0)	77 (81.9)	0.356
Female	14 (20.3)	3 (12.0)	17 (18.1)	
<b>Age</b>	30.4±4.5	31.0±5.7	30.5±4.8	0.578
<b>Having children</b>	11 (15.9)	4 (16.0)	15 (16.0)	0.995
<b>Service/outpatients clinic</b>				
Pediatric emergency service	4 (5.8)	5 (20.0)	9 (9.6)	
Pediatric polyclinic	31 (44.9)	0	31 (33.0)	
Pediatric service	31 (44.9)	17 (68.0)	48 (51.1)	
Pediatric intensive care	3 (4.4)	3 (12.0)	6 (6.4)	
<b>Years in the profession</b>	6.07±4.55	8.04±5.29	6.58±4.80	0.084
<b>Follow-up of earthquake victims</b>	67 (97.1)	24 (96.0)	91 (96.8)	0.788
<b>Being a relative of earthquake victim family</b>	36 (52.8)	20 (80.0)	56 (62.8)	<b>0.015</b>
<b>Death of a relative in an earthquake</b>	3 (4.3)	3 (12.0)	6 (6.4)	0.180
<b>ProQOL R-IV *</b>				
Compassion satisfaction	35.28±6.75	33.36±6.87	34.77±6.80	0.230
Burnout	21.75±7.12	17.68±7.06	20.67±7.30	<b>0.016</b>
Compassion fatigue	20.75±7.60	17.08±8.92	19.77±8.09	0.051

ProQOL R-IV \*: Validity and reliability of the Turkish version of the professional quality of life scale

<b>Table 2. Comparison of data of residents and specialists</b>			
	<b>Resident (n=52, 55.3)</b>	<b>Specialist (n=17, 18.1)</b>	<b>p</b>
<b>Gender</b>			
Male	40 (76.9)	15 (88.2)	0.314
Female	12 (23.1)	2 (11.8)	
<b>Having children</b>	4 (7.7)	7 (41.2)	<b>0.001</b>
<b>Service/outpatient clinic</b>			
Pediatric emergency service	4 (7.7)	0	
Pediatric polyclinic	22 (42.3)	9 (52.9)	
Pediatric service	23 (44.2)	8 (47.1)	
Pediatric intensive care	3 (5.8)	0	
Years in the profession	3.8±2.7	12.7±0.9	<b>&lt;0.001</b>
<b>Follow-up of earthquake survivor patients</b>	50 (96.2)	17 (100)	0.412
<b>Being a relative of earthquake victim famil</b>	27 (51.9)	9 (52.9)	0.942
<b>Death of a relative in an earthquake</b>	3 (5.8)	0	
<b>ProQOL R-IV *</b>			
Compassion satisfaction	35.44±7.74	34.76±1.52	0.553
Burnout	20.48±6.82	25.64±6.78	<b>0.008</b>
Compassion fatigue	19.76±7.60	23.76±6.95	0.059

ProQOL R-IV \*: Validity and reliability of the Turkish version of the professional quality of life scale

for death is one of the most feared ways of death and they need the help of people they do not know at all, especially children who lose their caregivers during this period<sup>(5,6)</sup>. This situation leads to a difficult psychological process for both the earthquake survivors and the healthcare professionals caring for them<sup>(5)</sup>. During the February 2023 earthquake, our hospital took part in the follow-up of many child patients referred to our hospital from earthquake provinces and supported their treatment. While the trauma follow-up of the parents of the children continued, we became a partner in the psychological processes of these children and became a part of their families.

The most common psychiatric conditions in individuals affected by the earthquake have been evaluated as posttraumatic stress disorder and depression<sup>(7)</sup>. Thousands of people died and hundreds of thousands of people were injured in the 8.0-magnitude earthquake that occurred in China on 12 May 2008. Most of the adolescents who lost their families, homes, schools, and friends stated that they suffered psychological pain as well as physical pain. The studies, it was aimed to investigate the prevalence of post-traumatic stress disorder in adolescents after the Marmara earthquake in our country, and in a study conducted three years after the earthquake, it was observed that adolescents had difficulty sleeping, easy startle, and intense fear, helplessness and

concentration disorder in which the moment of the event was sadly remembered again<sup>(8-10)</sup>. While pediatricians and nurses are trying to establish this balance, their psychology is also affected by this process.

Although healthcare professionals are accustomed to stress due to their working environment and seeing a child sick, the fact that the event is a natural disaster, and the fact that their relatives and colleagues are affected by the event also affects the psychological state of healthcare professionals. Our hospital, which is not located in the region where the earthquake occurred and where there are no earthquake victims working, is in an easily accessible location in terms of social services and child psychiatry. In addition to the physical treatment of the patients, their psychiatric evaluations and needs were met through the social service, and the pediatricians and nurses involved in the followup of this process were able to receive adequate support from the child psychiatrist on how to approach children.

In this study, the subscale of burnout was found to be significantly higher in pediatricians than nurses and in specialists than residents. Burnout is a state of emotional, physical, and mental exhaustion resulting from long-term work in challenging working conditions<sup>(11)</sup>. In the literature, there are many studies evaluating burnout in healthcare

professionals. In these studies, there are many reasons for burnout such as gender, occupation in the health field, working time, working time at night, liking the job, and working years. For example, in a study conducted on pediatricians and nurses at Mersin University, the highest burnout level was found in pediatricians<sup>(12)</sup>. Again, in a study conducted at Dokuz Eylül University Faculty of Medicine in our country, depression, and anxiety levels of pediatricians were found to be higher<sup>(13)</sup>. Although some studies have reported that burnout is observed more frequently in young pediatricians because of future anxiety, studies advocating the idea that the longer the time in the profession, the higher the level of burnout is more intense<sup>(14)</sup>. In our study, residents had fewer years in the profession than specialists; therefore, it was thought that burnout was higher in specialists.

In many studies, the burnout status of females was found to be higher than males<sup>(15,16)</sup>. The reason for this is thought to be the combination of housework, the obligations of having children as a mother, and the problems of the work environment. In our study, no difference was observed in the burnout subscale. It was thought that a major disaster such as an earthquake affected all individuals, males, and females, and that feeling inadequate in the face of such a disaster caused a similar score in the sense of burnout. The compassion fatigue subscale is used to measure the situations that occur as a result of encountering stressful events and that require support and it is parallel with burnout<sup>(17)</sup>. It has been reported to be more common in young nurses and pediatricians due to less experience, and similar to burnout, it has been reported to be higher in healthcare professionals with children<sup>(17-19)</sup>. In our study, it was found to be significantly higher in females. Although there was no difference in burnout status, it was thought that additional situations such as home and child care outside the health unit in which females worked were accepted as stressful events. The high level of compassion fatigue in individuals with children also explains this situation.

### Study Limitations

This study had several limitations. First, in order to disseminate the results to the general healthcare workers, the number of respondents in this study needed more pediatricians and nurses. Second, because health-related quality of life in healthcare workers was assessed using a self-reported questionnaire, it may not be adequate to explore actual quality-of-life patterns.

### Conclusion

In conclusion, it should not be forgotten that health professionals, regardless of residents, specialists, and nurses, will be psychologically affected by major disaster processes such as earthquakes. In this process, the necessary support should be provided in the clinics where they serve, considering the characteristics of the person (resident/nurse/specialist, having a child, the presence of earthquake survivor relatives).

### Ethics

**Ethics Committee Approval:** The study was started after obtaining permission from the University of Health Sciences Turkey, İzmir Tepecik Education and Research Hospital's Ethics Committee (date: 05.04.2023, decision no: 2023/03-38).

**Informed Consent:** Verbal and written consent were obtained from volunteers before starting the survey.

### Footnotes

#### Authorship Contributions

Surgical and Medical Practices: Ö.Ü., G.T., G.Ö., Concept: Ö.Ü., G.T., G.Ö., Design: Ö.Ü., G.T., Data Collection or Processing: Ö.Ü., G.Ö., Analysis or Interpretation: Ö.Ü., Literature Search: Ö.Ü., G.Ö., Writing: Ö.Ü., G.T., G.Ö.

**Conflict of Interest:** No conflict of interest was declared by the authors.

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