

Original Article

Determination of Parents' Preparedness for General Disasters and Related Variables

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Abstract

Background: Disasters cause loss of life, nature, and economic damage. Children are among the groups most adversely affected by disasters. It is difficult to care for pediatric patients in difficult conditions after disasters. Pediatric nurses should be consulted to improve the care that children receive in such cases. Children and families should be taught to prepare for disasters and to know what to do during and after disasters before disasters occur. It is important to know the preparedness of the parents and the affecting factors, especially in the training to be prepared for children. In this regard, nurses have important roles and responsibilities in protecting and improving the health of themselves, their immediate environment, and society before, during, and after disasters.

Objective: This study aims to determine the general disaster preparedness of parents and related variables.

Methodology: The sample of the descriptive and cross-sectional study consisted of 102 parents working at a state university, with children aged 0-18, who agreed to participate in the study. Study data were collected online between September 2021 and March 2022 using the Child and Family Information Form and the General Disaster Preparedness Belief Scale. In the analysis of the data, descriptive statistics were made using the SPSS-26 program.

Results: It was determined that 65.7% of the parents received disaster training, 29.4% received training from the Disaster and Emergency Management Presidency, and 58.8% received training in general first aid. The total mean score of the Parents' General Disaster Preparedness Belief Scale was found to be 94.44 ± 19.40 . The total score of the General Disaster Preparedness Belief Scale of the families in the nuclear family type was found to be significantly higher than the extended/fragmented family type.

Conclusion: It was determined that the general disaster preparedness of the parents participating in the study was moderate, and those with a nuclear family were more prepared for disasters than other family types. In this respect, it can be suggested that pediatric nurses should plan simple training for parents of different family types with children at an early age and support parents in participating in these training.

Keywords: Parent, Disaster, Preparedness

Introduction

There are many different definitions of disaster. The World Health Organization (WHO) defined a disaster as “an event that disrupts normal conditions of existence and causes suffering beyond the adaptive capacity of the affected community” (WHO/EHA, 2002). Disaster and Emergency Management Presidency (AFAD), on the other hand,

defines a disaster as “natural, technological or human-induced events that cause physical, economic and social losses for all or certain segments of the society, and stop or interrupt normal life and human activities” (T.R. Ministry of Interior Disaster and Emergency Management Presidency (AFAD), <https://www.afad.gov.tr/aciklamali-afet-yonetimi-terimleri-sozlugu>). Turkey is one of

the countries that frequently experience natural disasters due to its geological features, topographic structure, and climatic characteristics. It is faced with disasters such as earthquakes, landslides, floods, avalanches, and rockfalls. Disasters primarily cause loss of life, as well as both natural and economic damage. Children are one of the most negatively affected groups during and after disasters (Conk et al., 2018). The characteristics of childhood and the weak structures of children affect the rate of being affected by disasters. Children and families can experience many negative physiological situations such as injury, care, nutrition, hygiene, and sleep, and psychologically, such as fear, anxiety, and behavioral disorders during and after a disaster (Limoncu & Atmaca, 2018).

Disaster management is necessary to make the necessary intervention during and after the disaster, to carry out improvement works, to continue the work of the emergency teams, and to be prepared for possible disasters at any time (Limoncu & Atmaca, 2018). Physicians and nurses constitute the majority of the "National Medical Rescue Team" (UMKE), which is included in the "Health Services Units in Disasters" (Demirbas et al., 2013). Nurses are health personnel who take an active role in the protection and development of the health of themselves, their immediate environment, and society before, during, and after disasters (Taskiran & Baykal, 2017). For nurses to actively fulfill their responsibilities in disasters, they must have knowledge, skills, and critical thinking skills in disaster preparedness and disaster management (Bektas Akpinar & Askın Ceran, 2020). Children are one of the groups most adversely affected by disasters. It is difficult to care for pediatric patient in harsh conditions after disasters. In these conditions, pediatric nurses should be consulted to improve the care of children (Sloand et al., 2012). Children and families should be taught what needs to be done before disasters occur so that they can prepare for disasters and know what to do during and after the disaster. Many occupational groups have responsibilities in keeping children and society ready for disasters at all times (Limoncu & Atmaca, 2018). In this direction, it is important to determine the preparedness of the parents and

to know the factors affecting them, especially in the training to be prepared for the parents about their children.

This study aims to determine parents' preparedness for general disasters and related variables.

Method

Research Design and Sampling: This research is descriptive and cross-sectional. Due to the cross-sectional nature of the research, all employees who work at a state university and are parents within the specified period are included in the research. The total number of academic and administrative staff was 318, according to the 2020 year-end report of the Court of Accounts of the determined state university (T.R. Ministry of Court of Accounts, 2021). It was not possible to reach the number of how many of these people who were parents. The sample number was calculated as 109 parents at an 80% confidence interval using the Open Epi Info Statcalc program. The sample of this study consisted of 102 parents with children aged 0-18 who were reached on the specified dates and agreed to participate in the study.

Data Collection: Study data were collected between September 2021 and March 2022 using a questionnaire. Before starting the survey, parents were informed about participating in the study, and consent was obtained. Ethics committee approval was obtained from the Non-Invasive Clinical Research Ethics Committee of a state university.

Data Collection Tools:

Child and Family Information Form: In this form, there are questions about the child and family (gender, age, education, family structure, family income, number of children, place of residence, type of house, etc.).

General Disaster Preparedness Belief Scale (GDPBS): The scale was developed by İnal and DoGan in 2018. The 5-point Likert-type scale, which aims to determine the general disaster preparedness of the parents, consists of 31 items.

Each statement on the scale was scored from 1 to 5. Evaluation for positive statements; (1) Strongly disagree, (2) Disagree, (3) Undecided, (4) Agree, (5) Strongly agree, while evaluation for negative statements; (5) Strongly disagree, (4) Disagree, (3)

Undecided, (2) Agree, (1) Strongly agree. Negative statements on the scale; 4, 6, 8, 13, 14, 15, 16, 17, 18, 19, 23, 25, 26, 30 items. As the scores obtained from the scale increase, the positive attitudes of parents towards rational drug use increase. The scale consists of six sub-dimensions. These sub-dimensions are; Perceived Susceptibility sub-dimension (1, 2, 3, 4, 5, 6), the Perceived Severity sub-dimension (7, 8, 9), the Perceived Benefit sub-dimension (10, 11, 12), the Perceived Barriers sub-dimension (13, 14), 15, 16, 17, 18), Actors sub-dimension (19, 20, 21, 22, 23), Self-Efficacy sub-dimension (24, 25, 26, 27, 28, 29, 30, 31). The Cronbach Alpha coefficient of the scale was found to be 0.93 (Inal et al., 2018, 2019; Inal & Dogan, 2018).

Data Analysis: SPSS 26.0 package program was used to evaluate the data. The data obtained were evaluated by two researchers according to the determined criteria. In the analysis of the data, number, percentage, mean and standard deviation were calculated as descriptive statistics. Student's *t*-test and one-way analysis of variance (ANOVA) were used if the data were normal distribution, Mann-Whitney U Test and Kruskal-Wallis test were used if they did not comply with normal distribution. The significance level in the study was accepted as 0.05.

Results

In this study, 59.8% of the parents participating in the research are between the ages of 31-40, 86.3% are mothers, 55.9% are undergraduate graduates, and 38.2% are public personnel. 50% of the parents stated that their economic income is equal to their expenses. The rate of parents with nuclear family type is 92.1%. The proportion of parents who received training on disaster is 65.7% and 29.4% of those who received training received the training from the Disaster and Emergency Management Presidency. The subject of the training received is general/first aid subjects at a rate of 58.8% (Table 1).

The total mean score of the Parents' General Disaster Preparedness Belief Scale was 94.44 ± 19.40 . The mean perceived sensitivity subscale score was 19.19 ± 4.20 , the mean perceived seriousness subscale score was 9.34 ± 2.57 , the mean perceived benefit subscale score was 12.58 ± 3.30 , the mean perceived barriers sub-dimension score was 12.81 ± 5.16 , the activators sub-dimension mean score was 14.64 ± 4.06 , self-efficacy sub-dimension mean score was 25.88 ± 6.27 (Table 2). The General Disaster Preparedness Belief Scale score of parents with nuclear families was found to be significantly higher (Table 1).

Table 1. Comparison of Parents' Sociodemographic Characteristics And General Disaster Preparedness

Variables	N	%	GDPBS $\bar{X} \pm SD$	Significance		
				Mean Rank	Test	P
Parents	102	100.0				
Mother	88	86.3	95.27 ± 1.99	52.15	Z=-.560	.576
Father	14	13.7	89.21 ± 6.24	47.39		
Age					$\chi^2=1.499$.473
20-30	28	27.5	96.43 ± 2.80	56.27		
31-40	61	59.8	94.59 ± 2.22	50.81		
41 and above	13	12.7	89.46 ± 9.31	44.46		
Educational status					$\chi^2=.060$.996
Primary/Secondary Education	5	4.9		53.80		
High school	14	13.7	99.40 ± 18.72	52.32		
Undergraduate	57	55.9	91.07 ± 7.38	51.46		
Graduate	26	25.5	94.65 ± 2.19 94.85 ± 2.88	50.71		
Profession					$\chi^2=3.881$.144
Academician	15	14.7	97.73 ± 2.64	52.87		
Civil servant	39	38.2	89.74 ± 3.19	44.37		
Employee/Other	48	47.1	97.23 ± 2.98	56.86		
Economic situation assessment						

Income less than expenses	30	29.4	87.93±4.77	48.07	$\chi^2=2.039$.361
Income equals expense	51	50.0	98.67±1.66	55.64		
Income more than expenses	21	20.6	93.48±4.60	46.36		
Family type					Z=-2.604	.009
Nuclear family	94	92.1	96.16±1.83	53.72		
Extended family/broken family	8	7.9	74.25±9.56	25.38		
Total number of children					$\chi^2=3.417$.181
1	49	48.0	92.90±2.26	46.92		
2	43	42.2	97.95±2.46	57.84		
3 and above	10	9.8	86.90±12.38	46.70		
Where the family lives					Z=-1.204	.228
City	85	83.3	94.74±2.17	53.08		
County/town	17	16.7	92.94±3.95	43.62		
Type of house in which the family lives					Z=-1.075	.282
Detached/garden house	13	12.7	88.62±6.54	43.27		
Apartment	89	87.3	95.29±1.98	52.70		
The family's tenant status					Z=-.065	.948
Yes	41	40.2	95.20±2.86	51.27		
No	61	59.8	93.93±2.59	51.66		
Disaster education status					Z=-.356	.722
Yes	67	65.7	95.27±1.86	50.75		
No	35	34.3	92.86±4.35	52.94		
The source of disaster education					Z=1.835	.607
I did not receive education	35	34.3	92.86±4.35	52.94		
AFAD	30	29.4	94.90±2.86	50.65		
Health worker/academic	22	21.6	98.68±1.55	56.07		
Other (book, web page, etc.)	15	14.7	91.00±5.58	43.13		
The subject of disaster education					Z=-.347	.729
general/first aid						
Yes	60	58.8	96.48±1.88	52.35		
No	42	41.2	91.52±3.80	50.29		
Earthquake					Z=-.725	.468
Yes	36	35.3	96.78±2.70	54.38		
No	66	64.7	93.17±2.57	49.93		
flood/landslide					Z=-.244	.807
Yes	12	11.8	93.25±4.83	49.54		
No	90	88.2	94.60±2.08	51.76		
Fire					Z=-.360	.719
Yes	9	8.8	91.78±6.30	48.11		
No	93	91.2	94.70±2.02	51.83		

X: Average, SD: Standard Deviation, Z: Mann-Whitney U Test, χ^2 : Kruskal-Wallis Test

Table 2. Descriptive Features of the General Disaster Preparedness Belief Scale and Its Sub-Dimensions

Scale and sub-dimensions	Number of items	$\bar{X}\pm SD$	Med (Min-Max)
General Disaster Preparedness Belief Scale	31	94.44±19.40	97.5 (32-155)
Perceived Sensitivity	6	19.19±4.20	20(6-30)
Perceived Severity	3	9.34±2.57	10(3-15)
Perceived Benefit	3	12.58±3.30	14(3-15)
Perceived Barriers	6	12.81±5.16	12(6-30)
Cues to action	5	14.64±4.06	16(6-25)
Self-sufficiency	8	25.88±6.27	27(8-40)

X: Average, SD: Standard Deviation, Med: Median, Min: Minimum, Max: Maximum

Discussion

Disasters can happen anytime, anywhere. Persons in charge of responding to disasters may also be victims of disasters and may not be able to meet their post-disaster needs in a short time. For this reason, it is necessary to be prepared for disasters before the disaster to reduce the damages. A family must make a disaster and emergency plan for the first 72 hours after a disaster (T.R. Ministry of Interior Disaster and Emergency Management Presidency (AFAD), <https://www.afad.gov.tr/afadem/afete-hazir-aile>). Children, especially those with special health care needs, face unique challenges related to emergency preparedness and disaster scenarios. Efforts to save children during a disaster can be challenging for the community and emergency responders. (Hamann et al., 2016; Newman & Leochico, 2022). Studies are focusing on disaster preparedness in the literature (Bagwell et al., 2016; Baker & Cormier, 2013; Gillen & Morris, 2019; Sakashita et al., 2013; Wolf-Fordham et al., 2015).

Parents' preparedness for disasters will also affect their children's health, as it may affect their management of the process during and after the disaster. Disasters affect children's health physically and psychologically. Children can be affected by the anxious attitudes and behaviors of their parents, apart from physical injuries and disablement in disasters. In infancy and early childhood, although children cannot verbally express their feelings about the disaster, they show their anxiety and sadness with their behaviors. Awareness of disaster begins to increase in school-age children. They may experience and express a lot of fear and anxiety due to the disaster (Limoncu & Atmaca, 2018). It has been reported that post-traumatic stress disorder, depression, and anxiety are the most common symptoms in children after natural disasters (Karabulut & Bekler, 2019). One-third of the parents participating in this study had never received disaster training before, and the majority of those who received training received the training from AFAD. The subjects of the training received are general/first aid subjects at a rate of 58.8%. The least trained disaster topics are fire, then flood/landslide, and earthquake, respectively. It has been determined that parents with the

nuclear family type are the most prepared for disasters among other family types. This may be due to the fact that the majority of the parents participating in the study were in the nuclear family type. Other variables investigated did not affect parents' preparedness for disasters. The state of being educated and informed about disasters can affect the disaster preparedness of individuals. This can change the extent of the damage caused by the disaster. It is necessary to raise awareness of all local governments, especially families, about the situations that children in the 0-18 age group may experience after the disaster. It is important to carry out studies in which children are at the center of these issues. (Limoncu & Atmaca, 2018).

When the emergency preparedness information of the families of children with special health care needs was evaluated, it was determined that the majority did not have a disaster kit, emergency plan, flashcards, or shelter awareness (Newman & Leochico, 2022). Despite the complexity of their children's health needs, families of children with special health care needs are often poorly prepared for a disaster and emergency. It has been determined that families with children with more health needs are more prepared than families with children with less medical needs (Wolf-Fordham et al., 2015). In a study evaluating the effectiveness of an intervention applied using a nurse-led training booklet and disaster kit on the domestic emergency preparedness levels of parents with newborn babies, the parents' emergency preparedness scores increased statistically significantly (Heagele & Nurse-Clarke, 2022). It has been determined that nurses trust their professional competencies most during a response to natural disasters among disaster types. Nurses consider themselves moderately competent according to their preparedness for disasters (Karakıs, 2019). A basic level of basic disaster education was provided at this university, but attendance was not compulsory. A certain number of people from each unit attended this training. No specific training for parents is planned.

Conclusion: Natural disasters make children, a vulnerable group, more vulnerable. Disasters affect children physically, behaviorally, socially, and psychologically. To reduce these negative effects of disasters

on children, disaster and emergency aid plans should be prepared by considering the basic needs of children before disasters.

Local and national authorities should work in cooperation to prevent the exploitation and abuse of children in crisis environments resulting from disasters. Before disasters, parents, teachers, health workers, and search and rescue workers should be educated in terms of child and adolescent psychology, developmental psychology, physical injuries, behavioral changes, and psychological trauma symptoms. In this way, it will be ensured that health problems that can be seen after the disaster can be intervened quickly without losing time.

According to the results of this study, it was determined that the general disaster preparedness of the parents participating in the study was at a moderate level. Parents need to be prepared for difficult conditions to manage the situation after a disaster. For this reason, it is recommended that parents with young children participate in simple training and that more detailed disaster preparedness training are planned and implemented for parents to increase their awareness of their children.

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