Social support for earthquake victims in East Azerbaijan, Iran

Tayebeh Rakhshani, Samira Taravatmanesh, Kazem Khorramdel, Mohammadreza Ebrahimi

Summary

Aims: One important factor in disaster relief is to maintain mental health in the victims. Therefore, this study was designed and conducted with the aim of investigating social support available to earthquake victims in East Azerbaijan, a province of Iran.

Materials and Methods: This was a cross-sectional descriptive study. The sample included earthquake victims in the city of Ahar and its neighboring villages in East Azerbaijan Province. A sample size of 300 was estimated based on a Krejcie–Morgan table. Data collection tools were a sociodemographic questionnaire and the MOS Social Support Survey (social support scale). An independent *t*-test, ANOVA and Pearson correlation coefficient statistical tests were used for data analysis.

Results: Among the 300 participants, 115 earthquake victims (38.3%) were female and 185 (61.7%) were male. Most of the participants evaluated total social support as average (51.3%) and low (41.3%). The total and tangible social support had a significant relationship with the variables of gender, marital status, education and occupation (p ≤ 0.05).

Discussion: The study showed that the majority of earthquake victims evaluated social support available to them after the earthquake as close to average. Regarding the tangible social support subscale, most participants reported it was average. This was also true about emotional support; most participants stated that informational support was low.

Conclusion: Our findings showed that the majority of earthquake victims described the social support for earthquake victims as average to low.

social support post-earthquake, earthquake victims, East Azerbaijan

Tayebeh Rakhshani[1], **Samira Taravatmanesh**[2], **Kazem Khorramdel**[3], **Mohammadreza Ebrahimi**[4]: [1]Nutrition Research Center, Department of Public Health, Shiraz University of Medical Sciences, Shiraz, Iran; [2]Department of Public Health, Shiraz University of Medical Sciences, Shiraz, Iran; [3]Department of Psychology, Fatemiyeh Shiraz, Non-Profit High Education Institute, Shiraz, Iran; [4]Emergency Medicine Department, Shiraz University of Medical Sciences, Shiraz, Iran
Correspondence address: healthacademic2014@gmail.com

INTRODUCTION

Iran is located in the East Mediterranean region [1]. Due to being situated on the Alpine-Himalayan orogenic belt, the country is known as being vulnerable to earthquakes [2]. From 1900 to 2012, 193 natural and artificial disasters that occurred in this country resulted in the deaths of 155,878 and 4955 people, respectively [1]. The Rudbar earthquake (1990), the Bam earth-

quake (2003), the Zarand Earthquake (2005), floods in Golestan (2000–2005), the Lorestan earthquake (2006) and the Gooneh storm (2007) were the most disastrous natural events in recent decades in Iran [3]. Some of the worst earthquakes in Iran occurred in East Azerbaijan Province in 2012 and included two severe earthquakes: an earthquake with a magnitude of 6.4 Richter, 17 km from Ahar, and one with a magnitude of 6.3 Richter 10 km from Zarghan, both occurring on Saturday, 11 August [4]. The Crisis Management Organization, the Health Ministry and the Forensic Medicine Organization reported the number of casualties at 253, 306 and 169, respectively [4]. Meanwhile, according to the Red Crescent, 16,000 funerals were held for those who died in those earthquakes [4].

Social consequences and losses caused by earthquakes are not limited to the affected areas, with some consequences appearing even decades later [5]. The environmental and human conditions at the time of an earthquake might affect the scope, depth, stability and direction of the consequences of the disaster [5].

Problems caused by natural disasters may be both short and long term [3]. It has been well documented that natural disasters such as earthquakes could lead to an increase of about 5 to 40% in the prevalence of psychiatric disorders; this is dependent on the disaster severity and the population at risk [4]. One of the determinants of mental health, which refers to the importance of the social dimension of human beings, is social support, the focus of increasing attention in recent years. Perceived social support includes several factors such as people's characteristics and their relationship with the community they live in [5]. Although the definition of social support is very broad, it can be generally defined as interaction between people, receiving real help and being put in a community network when they need help [5]. The role of perceived social support in posttrauma responses has been explored in a number of studies [6] and, given the effects of disasters on individuals and societies, perceived social support is considered as an effective factor in postdisaster rehabilitation [7]. Conversely, lack of social support systems for the injured is a known causative factor in post-disaster damage [8-10].

Stroebe et al. suggested that social support acts as a moderator of the grief experience. If people who experience loss receive social support, they cope with it better and recover from the grief experience more easily. Social support also has a significant effect on reducing the symptoms of depression once the grief has passed [11]. Uchino's study showed that laboratory stress in people with high social support was associated with reduced responsiveness. In such situations, negative social support was a predictor of high responsiveness to stress [12].

Some studies have stated that social support and mortality had an inverse relationship, i.e. the lower the social support, the greater the mortality rate. This was achieved through a longitudinal study of health and mortality in the elderly several years after the event. In a meta-analysis, 182 studies were reviewed and it was found that social support was the strongest predictor of general health in life [13]. In addition, a study conducted after an 8-Richter earthquake in China showed that social support had an impact on the quality of life and the survival of the victims, and people with low mental health needed to be paid more attention in terms of their social support [14].

Given the extent of the disaster, the number of casualties and the damage to people, the present study aimed to evaluate social support for earthquake victims in East Azerbaijan in 2012 so that, by knowing about people's perceptions of the degree of support available to them, some educational interventions could be designed for earthquake survivors on the basis of sociodemographic variables.

METHOD

This was a cross-sectional descriptive research. The study population included earthquake victims in Ahar city and its neighboring villages that suffered the most damage in the August 2012 earthquake; it was performed in September 2012. The sample size was estimated at 300 according to previous studies and a Krejcie–Morgan standard table. The samples were selected through a simple random sampling method. The data collection tools were a sociodemographic questionnaire and the MOS Social Support Inventory (social support scale) that included the following subscales based on the victims' situation: tangi-

ble, emotional and informational social support. Participants indicated their agreement with each statement on a 5-point Likert scale (never = 1, rarely = 2, sometimes = 3, often = 4, always = 5). The face and content validity of the questionnaire were evaluated as desirable through a pilot study using a panel of experts. The Cronbach's alpha and split-half coefficients were obtained at 0.75 and 0.73 for the questionnaire, respectively. The questionnaire was approved by the Research Center of Shiraz Red Crescent.

Before the questionnaires were distributed among the households participating in the study, participants were informed of the implementation method and the research objective, and their verbal consent to take part in the study was obtained. To collect the required data, a team containing relief worker researchers of the Red Crescent Society of Fars Province was trained and sent to the region. The relief workers asked the participants to complete the social support questionnaire during oral interviews. In order to observe ethical considerations in this study, the research objectives were explained to the participants and the questionnaires were given only to those who were willing to participate in the study. They were also assured that information they provided would remain completely confidential. In addition, all participants' questions were answered and they were assured that the results would be released statistically as general but not personal conclusions, and they had full authority not to participate in the study. To describe the data, the parameters of frequency, mean and standard deviation were used, and the independent *t*-test as well as ANOVA and Pearson correlation coefficient statistical tests were applied to data analysis. The data analysis was performed using SPSS version 16. The significance level was set at 0.05 at all levels.

RESULTS

It total, 300 Tabriz earthquake victims participated in this study, among whom 115 were female (38/3%) and 185 were male (61/7%). The primary variables of the participants are shown in Table 1. The descriptive analysis of the study showed that the 21–39 years age group had the most social support (38.2%), followed by 45 to 60 year olds (35%), 12 to 20 year olds (10%) and over 60 year olds (8.3%).

Table 1. Primary characteristics of study participants

Variables		Number	Frequency (%)
Gender	Female	115	38.3
	Male	185	61.7
Age, years	12–20	30	10
	21–39	140	46.7
	45–60	105	35
	Over 60	25	8.3
Marital status	Married	244	81.3
	Single	44	14.7
	Divorced/widowed	12	4
Education	Illiterate	92	30.7
	Elementary	66	22
	Junior high school	61	20.3
	High school diploma	49	16.3
	Higher than diploma	31	10.3
Income, rials[1]	Less than 4,000,000	226	75.3
	4,000,000–8,000,000	34	11.3
	More than 8,000,000	5	1.7

Dwelling place after earthquake	Tent	280	93.3
	Private house	15	5
	Public place	1	0.3

1. 1,000,000 Iranian rials = 28.38 US dollars.

Regarding the damage to residential units, of all 298 samples participated in the study 174 samples (58%) reported a damage of 75–100% whereas 58 participants (19.3%) reported 50–75% of damage; 49 (16.3%) reported 25–50% and 17 (5.7%) reported less than 20% of damage.

Table 2 indicates an estimate of the total social support as well as tangible, emotional and in-formational social support. As can be seen in the table, most participants evaluated the total social support as average (51.3%) and low (41.3%). Regarding tangible social support, most partici-pants reported it had been average (59.7%). This was also true about emotional support (40%); most participants evaluated informational sup-port as low (48.7%).

Table 2. Evaluation of total, tangible, emotional and informational social support by study participants

Rating	Total social support	Tangible social support	Emotional social support	Informational social support
	N (%)			
Very low	1 (0.3)	6 (0.2)	61 (20.3)	47 (15.7)
Low	124 (41.3)	93 (31)	98 (32.7)	146 (48.7)
Average	154 (51.3)	179 (59.7)	120 (40)	79 (26.3)
High	13 (13)	19 (6.3)	16 (5.3)	26 (8.7)
Very high	1 (1)	2 (0.7)	5 (1.7)	1 (0.3)
Missing	7 (2.3)	1 (0.3)	-	1 (0.3)
Total	300	300	300	300

To determine the relationship between the to-tal social support and its subscales and the de-mographic variables, independent t-tests, ANO-VA and Pearson correlation coefficient were used. The results are shown in Table 3.

Table 3. The relationship between total social support and its sub-scales and demographic variables

Variable		Total social support	Tangible social support	Emotional social support	Informational social support
Age	Correlation coefficient	–0.44	–0.06	–0.02	0.001
	P-value	0.38	0.23	0.62	0.98
Gender (male, female)	F	1.35	4.38	1.24	0.28
	P-value	0.17	0.03	0.26	0.59
Marital status	F	3.15	6.78	4.38	0.94
	P-value	0.04	0.0001	0.03	0.38
Education	F	5.16	5.61	1.21	0.62
	P-value	0.000	0.000	0.29	0.64
Occupation	F	4.75	6.41	3.78	0.81
	P-value	0.001	0.000	0.0005	0.51

As can be seen in Table 3, the total and tangible social support had a significant relationship with gender, marital status, education and occupation (p ≤ 0.05). Our study results showed that men (compared with women) and married people (compared with single and/or widowed individuals) enjoyed more social support. Emotional social support had a significant relationship with marital status and occupation (p ≤ 0.05), whereas informational social support had no relation with any demographic variables (p ≥ 0.05). With an increase in age, the level of social support was reduced, but this was not statistically significant in total social support and other subscales (p > 0.05).

DISCUSSION

As an earthquake-prone country, Iran has experienced 18 powerful earthquakes of a magnitude greater than 7 Richter during the past 90 years, which have caused financial, economic and social damage as well as costing lives and causing bereavement of a huge part of the community. The present study aimed to evaluate the extent of social support for earthquake victims in East Azerbaijan 2 months after the earthquake. It showed that the majority of earthquake victims evaluated social support available to them as barely average. Regarding tangible social support, most participants reported it was average and this was also true about emotional support. Most participants stated that informational support was low.

Many studies have been conducted to investigate social support for those affected by earthquakes [15-17]. It was shown that rapid response during natural disasters must be accompanied by social support for victims [18]. Previous studies suggested that social support to help the victims cope better with their current situation, increase their quality of life and overcome the psychological consequences of the earthquake was very important [14,19,20]. A study in Pakistan showed that social support for earthquake survivors can significantly reduce post-earthquake stress [12]. Another study showed that social support was a strong predictor of well-being in earthquake survivors [22]. As Aldrich showed in his study, communities that were stronger in terms of social support could rebuild themselves much faster after earthquakes [23]. In addition, social support is considered a key factor in short-term and long-term psychological reconstruction after an earthquake [24].

The findings of this study showed that social support for earthquake victims was insufficient and the results were consistent with those of the previous studies [25]. The unmet psychosocial needs of people after the earthquakes in Birjand and Ardebil were investigated in five parallel studies by a health professional subcommittee of mitigating the consequences of natural disasters affiliated to the Ministry of Health and Medical Education [26]. The studies showed that 1 year after the earthquakes, adults and children were suffering from mental disorders, respectively, three and two times as much as the uninjured population and their psychological needs had not been taken into consideration. The studies also suggested that relief workers needed to be educated on how to deliver psycho-social support for earthquake victims.

Studies on earthquake victims in Ardebil and Qaem also showed that 75% of people aged 15 and over and 43% of people less than 15 years of age had mental health problems after the earthquakes [26]. As individuals affected by disasters had experienced a lot of stress and needed psychological and social support, mental health problems are very common among people who do not receive good social support after an earthquake. The results of our study showed that in general, those affected by earthquakes tend not to enjoy high social support.

Several studies have shown that an increase in perceived social support would not only be useful for the victims at the time of an earthquake, but it would also be effective for the prevention of psychiatric complications afterwards [27,28]. A study in China revealed that more than a third of the affected people were suffering from post-earthquake mental health problems and 38% were depressed [29]. Similar studies showed that people who had experienced earthquakes described the lack of perceived social support as one of the post-earthquake problems [27-30].

The results of our study showed that social support had a significant relationship with the variables of gender, marital status, education and occupation. These results were consist-

ent with those of the study by Xiong et al., who showed that men received more social support than women and married people enjoyed higher social support than single and widowed individuals [14]. The definition of social support is broad – social support can be defined as an interaction between people, receiving tangible help and being put in a community network when a person really needs help. But the importance of this issue in post-trauma responses has been shown in many studies and given the effects of disasters on individuals and societies, perceived social support is considered as an effective factor in post-disaster rehabilitation. Conversely, lack of social support systems is a known causative factor in damage after disasters.

CONCLUSIONS

Studies conducted to examine people's responses to earthquakes have shown that most experience shock when faced with this phenomenon and cannot show appropriate reactions. Therefore, preparation and taking proper measures against earthquakes is considered among the basic strategies to reduce loss to life and property in earthquake-prone regions. In this regard, public education as a key element in preparedness plans to deal with earthquakes and landslides plays an important role in reducing casualties. However, educating populations about risks, particularly the risks of earthquakes, is a very complicated and difficult process.

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