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Research Paper

Investigating Social Vulnerability of the Elderly in the Earthquakes of Bam, Varzaghan, and Ahar

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ABSTRACT

Objectives Although the earthquake is a natural disaster, it has become a social subject and has created vulnerable groups due to its various social effects. One of these groups is the elderly. The present study aimed to investigate the social vulnerability of elderly people who experienced earthquakes.

Methods & Materials The present study involved a cross-sectional qualitative-quantitative method. The population comprised all the elderly people in Kerman and East Azarbaijan provinces. In the qualitative part, in order to identify the social problem of elderly who experienced an earthquake, Categories has been collected By focus group. For this purpose, 17 people were selected by purposive sampling method for focus group of elderly and the social damage of the earthquake was determined. In the quantitative phase, 90 older people who have experienced the earthquake in Bam, Varzaghan and Ahar were selected randomly, and 90 older people who have not experienced an earthquake were selected and matched with the first group. Both groups answered the questionnaire on social isolation, social support, social adjustment questionnaire, and Marlowe–Crowne Social Desirability Scale. The collected data were analyzed by SPSS software (version 21) and t-test.

Results In the qualitative part, social damage of earthquakes, including social incompatibility, social isolation, lack of social acceptance and lack of social support were identified through interviews. In the quantitative results, the average of social incompatibility was 4.93±0.66, social isolation was 12.23±3.91, social acceptance was 11.41±2.38, and social support was 34.12±6.81 among the older people who faced an earthquake. However, the average of social conflict was 3.42±1.16, social isolation was 8.06±3.17, social acceptance was 24.7±4.66, and social support was 68.9±8.96 among the other older people. The findings of the study showed that the rate of social compatibility of the older people who have experienced the earthquake is less than that of other older people, but the social isolation is more than that in other older people (P<0.01). The results showed that feelings of social support and acceptance of older people who have experienced the earthquake were less than that of other older people (P<0.01).

Conclusion Based on the results of the study, it was concluded that older people is one of Social groups that in the earthquake addition of distraction and loss of orientation and memory, confront with social problems that have not been considered. So, planning and preparing strategies to reduce and control such injuries are important.

Key words:
Social vulnerability, Elderly, Earthquake

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Extended Abstract

1. Objectives

Earthquake is one of the most terrible and saddest natural disasters. The results of the study by Najarian et al. (2010) indicated that the lack of financial resources and special psychological conditions after the earthquake expose people more severely [1]. Although the earthquake is a natural incident, it turns into a sociological issue due to its various social effects and creates vulnerable groups. One of these groups is the elderly. Ahmadzadeh (2004) reported that a person's place in the life cycle has a Sig.nificant impact on his vulnerability [2]. Research on natural disaster vulnerability is mostly limited to mental and physical damages, and thus, these incidents will have many social consequences. Therefore, it is expected that social dimensions of events, particularly natural disasters, should be more addressed. Therefore, the purpose of this study was to investigate the social vulnerability of the elderly in the earthquake.

2. Methods & Materials

The research method was qualitative and quantitative. The statistical population consisted of all the elderly in the provinces of East Azarbaijan and Kerman in 2015. In the qualitative section of the study, the perception and mentality of the elderly towards social damages of the earthquake were recorded using interviewing tools. Inclusion criteria were age of 60 years and older, attendance at earthquake time, being injured, and lack of cognitive impairment such as dementia and Alzheimer's disease. Exclusion criteria were death and refusal to answer the questionnaire. In order to reach the focus groups of the elderly, the well-known experts in the cities of Bam, Ahar, and Varzaghan were consulted. With the help of these experts, 17 people were interviewed.

To analyze the data obtained from the interview, a thematic analysis method was used. The following steps were followed for the analysis: 1. Browsing the data; 2. Organizing data; 3. Encrypting data; 4. Classifying data; 5. Categorizing; 6. Creating a topic; and 7. Compiling the report.

In the quantitative section, the Cochran formula was used for an unlimited society to determine the sample size. According to this formula, the sample size for each group (elderly people experiencing earthquakes and other elderly people) was considered to be equal to 90. Cluster sampling was used for sampling. Research instruments such as social isolation questionnaire, SAS social compatibility by Piccol & Weissmann (1999), social support, and the Marlowe–Crowne Social Desirability Scale were used. With the help of SPSS 21 software, the amount of social damage caused by the earthquake-ridden aging population was compared with the other elderly using the deSig.n of the table and the statistical Student's t-test. Also before running the test, the assumption of the nature of the data was confirmed using the Kolmogorov-Smirnov test. This article was approved by the Welfare Office of the East Azerbaijan and Kerman provinces.

3. Results

In this research, first, the concepts extracted from the focal group of the elderly were extracted in two social and psychological categories. Given the scope of the research, only social categories (social compatibility, social protection, social isolation, and social acceptance) were investigated and studied among the extracted components. Before performing a quantitative analysis, the parametric distribution of scores while presenting the skewness and kurtosis of the distribution of grades was examined using the Kolmogorov-Smirnov test. Skewness and kurtosis values observed for variables were in the domain of 2 and -2, which indicates the normal distribution of variables. Also according to Kolmogorov-Smirnov test ($P<0.05$), the zero assumption was based on the normal distribution of scores.

According to the information in Table 1, the mean score of social incompatibility of the elderly who experienced the earthquake (4.93±0.66) was higher than that of the other elderly (3.42±1.16). The difference was at the Sig.nificance level of $P<0.01$. Thus, with regards to the first hypothesis, social adjustment of elderly people in an earthquake was less than that of other elderly people. With regards to the second hypothesis, there was a Sig.nificant difference between the elderly who experienced the earthquake (34.12±6.81) and other elderly people (69.9±8.29) in terms of social support ($P<0.01$). Given the low social support score of the elderly present in the earthquake compared to other elderly people, the elderly in the earthquake had lower social support. With regard to the third hypothesis, a Sig.nificant difference was observed between social acceptance of elderly people (11.41±2.38) who had experienced an earthquake and that of other elderly people (24.7±4.6) ($P<0.01$). Since the elderly present in an earthquake had a lower mean in social acceptance, it

Table 1. Results of independent t-test for difference of research variables in two groups of elderly present at an earthquake and other elderly

Variable	Group	N		S	Levin Test for Homogeneity of Variance		Independent T-Test for Homogeneity of Means		
					F	Sig.	T	df	Sig.
Social incompatibility	Elderly present at an earthquake	90	4.93	0.66	7.55	0.08	6.07	178	0.000
	Other elderly	90	3.42	1.16					
Social support of family	Elderly present at an earthquake	90	11.68	4.02	6.84	0.01	-11.37	178	0.000
	Other elderly	90	21.5	2.43					
Social support of friends	Elderly present at an earthquake	90	11.27	3.68	3.63	0.062	-12.43	178	0.000
	Other elderly	90	22.5	3.24					
Social support of important people	Elderly present at an earthquake	90	11.2	3.76	0.637	0.428	-11.97	178	0.000
	Other elderly	90	24.9	4.92					
Social support	Elderly present at an earthquake	90	34.12	6.81	0.111	0.741	-16.7	178	0.000
	Other elderly	90	68.9	8.96					
Social acceptance	Elderly present at an earthquake	90	11.41	2.38	25.25	0.000	-13.69	178	0.000
	Other elderly	90	24.7	4.66					
Social loneliness	Elderly present at an earthquake	90	12.23	3.91	1.72	0.194	-0.905	178	0.009
	Other elderly	90	8.06	3.17					

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can be concluded that their social acceptance level was less than that of other elderly. For the fourth hypothesis, a Sig.nificant difference was observed between the social isolation of the elderly present who experienced the earthquake (12.23±0.91) and other elderly people (8.06±3.17) (P<0.01). Therefore, the elderly present in an earthquake had a higher social isolation than other elderly people.

4. Conclusion

The results of the study showed that the mean of social compatibility of the elderly present in an earthquake was less than that of other elderly. The result of this hypothesis is consistent with Ziemann's theory because the damaged elderly thought that they were not effective in social situations. Thus, they had feelings of powerlessness, meaninglessness, and selflessness (hatred of oneself). In addition, the research findings showed the degree of social acceptance of elderly people in an earthquake was less than that of other elderly. Prioritizing the needs of the elderly creates this feeling; they believe that they will not be accepted or are not prioritized due to their age. The results also indicated that the mean of social support for elderly people in an earthquake is less than that of the other elderly. This result is consistent with the social network approach because this approach emphasizes that the extent and severity of relationships in the social support of individuals within the network are effective.

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Conflict of Interest

The authors declared no conflicts of interest.