

# Daily Life Challenges in an Earthquake Disaster Situation in Older Adults: A Qualitative Study in Iran

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## ABSTRACT

**Introduction:** Understanding the challenges of daily life in older adults after a disaster is a necessary precondition to manage the consequences of disasters in this vulnerable group.

**Aim:** The purpose of this study was to explore the challenges of daily life of older adults after an earthquake in Iran.

**Materials and Methods:** This qualitative study was conducted using a content analysis approach. A purposeful sampling method with maximum diversity was applied until reaching data saturation. In total, 18 older adults, four experts and four caregivers participated in the study. Data were collected using in-depth and semi-structured interviews. Data analysis was done with an inductive approach and with the help of the

recommended principles.

**Results:** By analysing 564 primary codes, three main categories: losses, ageism and disruption in usual routine life were extracted from the experiences of older adults. Each of these categories included several subcategories, which were categorized according to their significant characteristics.

**Conclusion:** Clarifying the challenges in the daily lives of the older adults after disasters can help to create an age sensitive approach for recovery and thus, more effectively addressing their needs. Based on the findings of the research, it is recommended that further research is needed to investigate the life processes in older adults after disasters and to extract their experiences in different contexts.

**Keywords:** Aging, Disasters, Earthquake experience, Recovery

## INTRODUCTION

Occurrence of disasters such as earthquakes, causes older adults to face many problems in their daily lives. Few studies have been done to account for the daily life problems of the older adults after the earthquake in Iran [1,2]. The statistics show a transition in the demographic pattern of aging in the world. It is estimated that the global number of older people will exceed the number of children for the first time in 2045, and the proportion of older people will rise to 22% by 2050 [3]. In Iran, it is estimated that by 2020, the older adults will account for 20% of the country's total population [4]. Older people are recognised as amongst the most vulnerable people in disasters [1] and may be disproportionately affected compared to the other age groups. Although, older adults comprised approximately 15% of the New Orleans population, they accounted for over 70% of the fatalities during the Hurricane Katrina in 2005 [5]. In Iran, during the earthquake in Azerbaijan, the highest number of victims were people over the age of 60 [6]. Therefore, considering the increasing population of the older adults and their vulnerability to disasters, paying more attention to them is important. On the other hand, some factors such as comorbidities [7], sensory deficits, chronic health conditions, and social-financial limitations may lead to challenges for older adults after disasters [5,8].

Various studies have been conducted in the world about the challenges of daily life of the older adults after disasters, focused on issues such as basic needs [9,10] physical problems [7,11-17], mental disorders [17,18], mistreatment [1,7,11,13,19], and tracking systems [7,16,19]. Studies in Iran have also addressed fields such as quality of life [1], resiliency [18], and daily life activities [1]. Although, each of these studies includes some parts of the older adults' life after disasters; however, there is still a significant gap in this field and it seems that this phenomenon has not been thoroughly investigated [20]. In addition, most of the previous studies have been conducted with quantitative methods while, in order to learn about individual

level experiences and build understanding from a ground level using qualitative methods can be very helpful. This study tried to explore in depth daily life challenges of older adults in recovery phase.

## MATERIALS AND METHODS

A qualitative content analysis was considered appropriate to build understanding about the daily life challenges of older adults' after a disaster. In this method, data were gathered directly from the participants without any previous hypothesis. The study was conducted between November 21, 2014 to February 20, 2015. Codes and categories were the product of the inductive process and abstractly ordered, considering properties were developed [21,22].

The study was conducted in the earthquake-stricken areas of eastern Azerbaijan province in Iran, where there were massive twin quakes on 12 August, 2012 that caused considerable damage in many areas. Participants were selected using a purposeful sampling method with maximum diversity. Sampling continued data saturation occurred, when the researcher concluded that further interview failed to provide new information. Study participants included 18 older adult survivors of the earthquake-stricken areas, four caregivers, one health professional involved in disaster management, two relief workers and one disaster psychologist. Firstly, we wanted to use the experiences of the older adults but then we had to add people who have related knowledge or caring experience of older adults in disasters, in order to understand different aspects of older adults' daily life challenges. Affected older adults living in these areas were approached for interviews, they were included if they had firsthand experience of earthquake disaster, aged 60 and over at the time of earthquake, also their ability and willingness to describe their experiences.

This qualitative study was done using in-depth and semi structured interviews beginning with open questions, gradually continuing to more detailed ones [23,24]. Interviews began with broad questions

about the experiences of the older adults, living after the earthquake such as “Tell me about what happened after that earthquake for you?” or “Could you explain your living situation after the earthquake?” or “What kind of problems have you experienced?”; “Would you explain more?” Probing was done according to the reflections of each older adult on experiences of daily hassles after the disaster, perception about relief services; facilitators and barriers to meeting needs. The interviews were taped and lasted between 25-74 minutes. Time and place of interviews was set by agreement between the researcher and older adults. Field notes were written during interviews to describe and interpret the responses correctly.

For analysing the data, we used principles of qualitative content analysis method recommended by Graneheim UH and Lundman B [25]. Each interview was read several times to achieve a better understanding before analysis. The meaning units of data were extracted and coded. Then, based on differences and similarities in properties and dimensions, similar codes were classified in the same categories with a higher abstract label. Finally, the explored concepts were translated into English.

### Rigor

In this study, researchers used multiple strategies for research rigor; the diverse experts in the research team helped us to take triangulation in analysing the data. A summary of primary results was checked by the participants to get assurance that the codes and extracted categories had portrayed their real daily life challenges (as a member check). Some parts of data were analysed by two PhD students, who concurrently were involved in qualitative studies. The extracted codes and categories were rechecked and there was a high agreement among the research team and content expert. Cases of disagreement were discussed to reach a final agreement [25].

Ethical approval was granted by the Ethical Committee of the University of Social Welfare and Rehabilitation Sciences, Tehran, Iran. An informed consent was obtained orally and in writing before the interview by explaining the aim and process of the study. Also, participants were informed about the purpose of the study, the interview method, confidentiality of their information, and right to withdraw from the study at any time.

## RESULTS

The mean age of the older adults was 78.8 years old and (n=10, 55.5%) of them were female. [Table/Fig-1] includes the demographic characteristic of the older adult participants. All four of the caregivers were female, the age range of them was 22 to 58 years with mean age of 40. The mean age of experts was 51 years and mean professional experience was nine years. After analysing the data, three main categories and eight subcategories were extracted; the main categories include disruption in usual routine life, ageism, and losses [Table/Fig-2].

Demographic characteristics		Number (%)
Age (in year) at time of earthquake	60-70	5 (27.8%)
	70-80	8 (44.4%)
	>80-year	5 (27.8%)
Sex	Female	10 (55.56%)
	Male	8 (44.4%)
Marital status	Married	10 (55.6%)
	Widow	8 (44.4%)
Education	Illiterate	6 (33.4%)
	Elementary	8 (44.4%)
	Junior high school	4 (22.2%)

[Table/Fig-1]: Descriptive characteristics of the older adults.

Category	Subcategory	Code	Meaning unit
Disturbing the usual routine of life	The challenge in routine care	-Taking care of after-earthquake problems -Increased elderly care needs	-Not prioritising the care of the elderly people due to the priority of taking care of their children -The difficulty in care of the elderly after separation from the extended family and their settlement in separate homes -The need for more care in older adults and the lack of timely access to medication
	Mismatch of relief services with the needs	-Not considering the physical limitations of the elderly in the provision of relief services -Not taking into account the cultural considerations in the provision of services	-The problem with the use of toilets because of the distance from their place of residence -Movement problems to stand in service queues -The inability of the older people to complete the new home -Maintaining their dignity, prevents efforts to get relief services -Women are not comfortable in using toilets because of the presence of men -Feeling uncomfortable with new modern kitchens instead of traditional kitchens
	Challenges of displacement	-Decreasing autonomy -Not expressing the needs -Conflict due to different views of the family -Feeling uncomfortable	-The need for ask for help from others to do things (because they are not familiar with the new environment) -Neglecting personal needs due to the feeling of shame and discomfort in helping others -Disagreement with the family in the way of raising children -The sadness of being considered annoying by their family -Miss their previous environment
Ageism	Jeunism	-Discrimination in the distribution of relief services -The discriminatory attitude of the community to older adults	-Non allocation of tents for the elderly -Non allocation of state aids -No new home for the elderly people -Priority for the lives of the younger as compared to the elderly -Knowing young people are more deserving to use the relief services
	Negative self-reflection	-Preferring younger people life to himself -Preferring others in getting relief aids	-Avoid taking medications because of they feel younger people need them more -Feeling guilty in using the relief services
Losses	Weakening of health	-Physical damages -Mental damages	-Trauma to the head and fracture in the ankle due to rubble debris -The deterioration of the blood pressure of the elderly and the addition of essential daily medications -Disability of older adult due to damages caused by earthquake -Feeling of fear and anxiety after an earthquake -Feeling insecure while sleeping at home
	Losing relatives and neighbours	-Loss of people due to their death -Loss of people due to post earthquake events	-Losing a spouse after his/her death -Losing neighbours because of displacements after an earthquake -Separation of families due to construction of smaller new houses
	Loss of property	-Loss of symbolic assets -Loss of properties due to earthquake damages -The inability to maintain properties due to post-earthquake conditions	-Losing photos and memorabilia of the past -The destruction of the house in an earthquake -Feeling deprived due to the loss of the village environment -Sale of animals/pets because they do not have the place to care for and/or feed them

[Table/Fig-2]: Examples of extracting of codes, subcategories and categories from raw data.

Each category and their participant's comments are explained below.

## I. Disruption in Usual Routine Life

Disruption in the usual routine life had three subcategories: challenges in routine care, mismatch between relief services and needs and challenges of displacement. According to participants' experiences, before the earthquake, the elder people had a usual routine which was influenced by their personal, social, economic and cultural background. Post-earthquake conditions lead to a displacement in their living place, and it disturbed the routine care and could not satisfy their needs. On the other hand, the relief services were not responsive to meet the needs or preventing the problems of older adults. These factors may have facilitated the conditions likely to disrupt the routine of life.

**a) Challenges in the routine care :** According to research findings, in the pre-earthquake period, families were generally responsible for the care of the older adults. After the earthquake, some families were in no condition to care for them. In some cases, the small size of the newly built houses had led to the separation of the elderly from their primary family and the disruption of their routine care. Sometimes, due to various post-earthquake problems, the family had to prioritise and their care was inevitably not a priority. All these issues lead to challenges in the routine care of the elderly. One old adult describes this situation as follows:

"Before the earthquake, my granddaughter helped me to do things. But, after the earthquake, strangers occupied this place and made it unsecure. My son was worried about his daughter's security and he had to call her back to him. Now, I am alone with all my needs unattended".

One of the elderly man in relation to disruption of care due to the burden of needs said;

"My wife was disabled before the earthquake, but I was healthy. I helped my daughter at home, but now I have to use a stick. Now, I cannot help my family but I depend on their help. In this situation, my daughter cannot take care of us and meet all of our needs alone".

**b) Mismatch of relief services with the needs:** The second subcategory related to disruption in usual routine life was the mismatch of relief services with the needs of the elderly which was due to the lack of attention to the abilities of the older adults. Long distances between drinking water and sanitary service provision that were made after the earthquake and their living place, prevented the people who had movement disorders from an easy access to these services. Long standing hours in the queues for relief services have prevented the elderly from using them. Some elderly people who needed medication talked about the lack of drugs available early in the first week after the earthquake. In some cases, relief agencies provided their services regardless of the cultural considerations of the earthquake-struck community. An older woman said:

"They have a latrine but it was located where men gathered for relief supplies. Here, old women like me, feel shy in using a bathroom in the presence of men. Also, I did not feel comfortable and avoided going there as much as I could".

**c) Challenges of displacement:** Another subcategory related to the main challenge of disturbing the routine of elderly life was the challenges of displacement. After the earthquake, different types of displacements occurred in the living places of some elderly people, these displacements were sometimes short lived (between two weeks to two months) and sometimes longer and sometimes even as their permanent residence. Some elderly people, who lived alone before earthquake, had to live in a tent or temporary houses (connex) after the earthquake for a while with their family or they were moved to their relatives' home. Reducing the sense of

autonomy, not expressing needs in order to maintain their dignity and conflict with family members were some of the problems faced by the elderly in families. In some cases, the lack of familiarity with the new environment made the elderly dependent on others help,

In this regard, one of them said:

"Home sweet home", I said to myself. I left my home and I am now dependent on others, my son's wife does not seem comfortable, I do not wish to express my needs to her. I wish, I was at my own home".

## II. Ageism

Participants' experiences showed that many of the disparities in the access of elderly to relief services after earthquake were due to ageism. Two subcategories related to the ageism were: "jeunism" and negative "self-reflection".

**a) Jeunism:** Jeunism is the tendency to prefer younger people over the elderly during the distribution of relief services. Older adults received fewer benefits from government services due to jeunism, In this regard, one of them said:

"They did not give me a tent saying that your son should come and take your tent, they gave it to him, I wanted to be identified as an individual and take responsibility of everything myself but they only gave them to the younger ones".

Some people also preferred to help the younger people to survive. This view is expressed in sentences of an older adult as follows:

"I was alive and my six-year-old grandson died. People showed their opinion by their behaviors, I think they believed that my grandson deserved to live more since I had become old and already experienced life".

**b) Negative self-reflection:** Negative self-reflection was another aspect of ageism, in addition to the discrimination by the community and relief agencies had in dealing with older adults. They also valued themselves less. In some cases, they refused to receive relief services because they prioritised the needs of the others.

An older adult preferred his grandson living longer and saved him from debris and said:

"After the first earthquake, we all escaped. Our child was at home and trapped, his mother did not dare to go inside and bring him. Despite the fears of the others, I went inside to bring him out. I thought he was a kid and he must live more.

## III. Losses

Losses had three subcategories: "weakening of health", "losing relatives and neighbours" and "losing properties".

**a) Weakening health:** Weakening of health was observed as getting worse than the previous physical ailments and injuries caused by the earthquake in older adults. One of the participants said:

"Before the earthquake, I did not have very high blood pressure but after the earthquake, my blood pressure raised and sometimes, I even get palpitations. Even now, I take some pills for my blood pressure".

In addition to physical problems, fear, anxiety and uncertainty were the problems older adults referred to, one of them said:

"Since the earthquake occurred, I have always been scared. I think the houses are made of hollow pottery, I was scared to go inside the newly built houses. After the construction of the houses, I still used to sleep in the cabins for six months, because I was scared to sleep at home. Even by the movement of heavy machine or the wind, I thought the earthquake would occur again".

In addition, some elderly people pointed to a decrease in social interactions after the earthquake, including the factors such as physical disability, job loss, loss of friends (due to death or displacement) had role in this situation.

"I used to be a dairy farmer, we worked with other villagers, after the earthquake, I sold my cattle and sheep. Now, I am jobless and have

to stay home most of the time”.

**b) Losing relatives and neighbours:** Another challenge related to the main challenge of losses, was the loss of relatives and neighbours, either because of the death of these people or because of their displacement. In this regard, an older adult said:

“The earthquake caused my son to get separated from me, before the earthquake, he took his subsidy and worked as a shepherd and we lived together; but now, he has an independent house and has separated from me”.

**c) Losing properties:** The loss of property was another challenge the older adults were faced with. Some properties were destroyed directly by the earthquake and others were lost due to their inability to save them after the earthquake. Some old people said that they were unable to start and resume their activities.

One of them said:

“The earthquake took everything. Agricultural products disappeared, my house was ruined. I had a cow, after the earthquake but I did not have a place to keep and feed it. I had to sell it at a very cheap rate, Even now, if I want to buy a cow, I cannot, I have no money”.

In addition to the assets, a part of the lost properties were symbolic properties, which sometimes did not even have any material value but the elder considered them as irreplaceable losses. Items such as pictures, memorabilia, houses and the previous village environment were among these properties.

## DISCUSSION

The findings of this study showed that after the earthquake, the usual routine life of older adults was disturbed. They were faced with different degrees of weakness in health, loss of relatives, neighbours and properties. In addition, during the distribution of services, they encountered a variety of ageism.

In examining the challenges of daily life of the older adults after the earthquake, the inadequacy of relief and recovery programs was seen in many cases. For example, in the ordinary conditions in Iran, most elderly people were living at the home and the care was provided informally [26]. After the earthquake, informal care was disturbed and formal alternative care was not provided for the adults in the older age group.

As previously mentioned, many elders experience negative self-reflection. This resulted in denial of food and services by the older population to increase opportunities for the younger, more deserving population [27]. On the other hand, it has been reported that in some disasters, relief agencies, ignored the privacy of elderly women because of their age [28]. To prevent these problems, the use of a tracking system to locate and identify older adults and provide training for service providers can be helpful. Further research is needed to be done about the different aspects of ageism against the older adults in disasters.

Physical health of the elderly after disasters have been addressed in various articles while, psychological and social well-being have had a less focus [1,28,29]. For example, psychiatric disorders in the elderly people may occur days or even weeks after the disaster [1,5,30] and there is a possibility of worsening cognitive problems, depression and untreated anxiety over time [31]

In this regard, some studies have pointed out to the relative deprivation of elderly people from post-disaster psychological services [2,7]. Focusing on physical problems, negative self-reflection prioritising the services for the young, lack of information about available mental health services and stigma are some of the reasons of deprivation of psychological services for the elderly from post-disaster circumstances. Finally, it should be noted that some studies have considered the elderly to be more resilient than the youth and have pointed out to the role of previous experiences

and wisdom of the elderly people in this matter [31,32]. However, contradictory results are found in the literature [5,33]. Considering different perspectives that exists in this regard, further research is needed to elucidate this issue.

Another finding of this study was reduction in social interactions of the elderly due to reasons such as job loss and former friends, while in the study of Ardalan A et al., after Bam earthquake older adults had experienced increased social relationships because of family and relative supports [30]. To increase social participation of the elderly after disasters, factors such as family support, social capital and the participation of elderly people in recovery are helpful [18]. Also, some studies have pointed to relative deprivation of elderly people than other groups after the disasters which can be related to financial constraints before the disaster and the relative deprivation of relief services [34].

Also, in disasters, where leadership patterns have been destroyed, elderly people, taking into account their experience and knowledge, play the leadership role in the community. In cultures that traditionally respect seniors, they help to establish peace among the younger members of the society, social justice and community re-formation after the disasters [35].

This study is going to provide valuable information about the experiences of the elderly in the challenges they faced after the earthquake. However, since the data were collected through semi-structured interviews, the results are abstract.

Due to the different characteristics of the context, the results should be interpreted cautiously, although, this study is similar to the rest of the studies, the generalisation of the results is not within the scope of qualitative studies. Finally, since the process of the elderly people returning to their normal life after disasters has not yet been well-defined, a grand theory approach is recommended for further studies.

## CONCLUSION

The purpose of this study was to explore the challenges of the daily life in older adults after the earthquake in Iran. Disruption in usual routine life, losses and ageism were challenges that older adults were faced with. The data collected in this study suggest that responses to disasters should be developed, taking into account the special needs and capabilities of the elderly people. This research was one of the first to study the challenges of older adults after earthquakes. More research is needed to explore their experiences in different settings. Due to the variety in the nature of some of the needs, beliefs and characteristics of the elderly, it seems that an age-sensitive approach can be helpful for recovery programs in such situations.

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