



## Earthquake and Quality of Life: an Evaluation on Elderly Individuals

## Deprem ve Yaşam Kalitesi: Yaşlı Bireyler Üzerine Bir Değerlendirme

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### ABSTRACT

Earthquakes can negatively affect the quality of life of elderly individuals in terms of physical health, psychological recovery and social relationships. Physical health problems, difficulties brought about by aging and traumas caused by earthquakes make the recovery process of these individuals more difficult and reduce their quality of life. In addition, the psychological effects of earthquakes can trigger feelings such as stress and trauma, making the psychological recovery process of elderly individuals longer and more difficult. The feeling of social isolation and loneliness experienced after an earthquake, especially when combined with the lack of social support of elderly individuals, can further negatively affect their psychological health. Inadequate housing conditions and the insecurity provided by temporary accommodation areas can disrupt the physical and psychological recovery processes of elderly individuals. Lack of comfort and security concerns in these temporary living spaces can prevent elderly people from recovering quickly. In this context, it is of great importance to develop effective strategies at the national level so that the quality of life of elderly individuals is not negatively affected by earthquakes.

The purpose of this review is to draw attention to the impact of earthquakes on the quality of life of elderly individuals and to lay the foundation for future research.

**Keywords:** Earthquake, Elderly Individual, Quality of Life, Public Health

### ÖZET

Depremler, yaşlı bireylerin yaşam kalitesini fiziksel sağlık, psikolojik iyileşme ve sosyal ilişkiler açısından olumsuz etkileyebilmektedir. Fiziksel sağlık sorunları, yaşlanmanın getirdiği zorluklar ve depremin yol açtığı travmalar, bu bireylerin iyileşme süreçlerini zorlaştırarak yaşam kalitelerini düşürmektedir. Ayrıca depremin psikolojik etkileri; stres, travma gibi duygularını tetikleyerek yaşlıların psikolojik iyileşme süreçlerini daha uzun ve zorlu hale getirebilmektedir. Deprem sonrası yaşanan sosyal izolasyon ve yalnızlık hissi, özellikle yaşlı bireylerin sosyal destek eksiklikleriyle birleşince psikolojik sağlıklarını daha da olumsuz etkileyebilmektedir. Barınma koşullarındaki yetersizlikler ve geçici konaklama alanlarının sağladığı güvensizlik, yaşlı bireylerin fiziksel ve psikolojik iyileşme süreçlerini aksatabilmektedir. Bu geçici yaşam alanlarındaki konfor eksiklikleri ve güvenlik kaygıları, yaşlıların hızlı bir şekilde toparlanmalarını engelleyebilmektedir. Bu kapsamda bakıldığında, yaşlı bireylerin yaşam kalitesinin depremlerden olumsuz etkilenmemesi için, ulusal düzeyde etkili stratejilerin geliştirilmesi büyük bir önem taşımaktadır.

Bu derlemenin amacı, depremin yaşlı bireylerin yaşam kalitesine etkisine dikkat çekerek ileride yapılacak araştırmalar için temel oluşturmaktır.

**Anahtar Kelimeler:** Deprem, Yaşlı Birey, Yaşam Kalitesi, Halk Sağlığı

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## Introduction

In the last century, life expectancy at birth has increased due to developments in public health, advances in medical technology, socioeconomic development, and decreases in fertility and mortality rates. Significant developments in health and health services, improved hygiene measures, and the success of modern medical interventions have resulted in an increasing number of people living longer. It is possible to say that the increase in life expectancy at birth is a result of medical, technological, social, and economic developments. Basically, there has been a gradual increase in life expectancy at birth due to developments in the quality of health services and economic development in developing countries (1). As a result of this, the elderly population has increased. In particular, the elderly population (aged eighty-five and over) has increased significantly. Although the increase in the elderly population is a desirable development, it requires societies to be prepared for this development. The increase in long life expectancy has also brought to the agenda the issue of protecting and improving the quality of life (2). This concept refers to the fact that individuals; It is a comprehensive concept that includes physical health, psychological state, level of independence, social relationships, personal beliefs and relationships with the environment (3, 4). Quality of life is defined as a person's subjective judgment about what happens in their life through their experiences (5). The World Health Organization (WHO) defines well-being as individuals' perceptions of their place in life, shaped by the culture and value systems in which they exist, as well as their goals, expectations, standards, and concerns (3, 4). In this context, it is possible to say that quality of life is an indicator of how satisfied individuals are with their living conditions such as health, social relations and economic status (6). Considering the variability and subjectivity of the concept of quality of life, in order to guide policies for successful aging, it is necessary to know what is related to well-being, happiness, personal satisfaction and finally, to increase the quality of life for the elderly (5). In this context, although there are many factors affecting the quality of life, natural disasters such as earthquakes are one

of the important factors affecting the quality of life of elderly individuals (7).

This review aims to pave the way for future research by highlighting the effects of earthquakes on the quality of life of older individuals.

## Materials and Method

In this review, literature published between 2000 and 2024 was examined in order to examine the effects of earthquakes on the quality of life of the elderly. International academic databases PubMed, Scopus and Web of Science were used in the literature search process. Different combinations were created in the search process using the keywords “earthquake”, “disaster”, “elderly” and “quality of life” and Boolean operators (“and”, “or”). The inclusion criteria were that the study had a scope that examined the relationship between elderly individuals and quality of life after an earthquake, was published in peer-reviewed journals and had full-text access. Case reports, conference abstracts and editorials were excluded from the review. Since there were a limited number of academic studies on the relevant subject during the literature search process, the review focused on two more primary sources. The first of these sources was a report prepared by Help Age on the displacement experiences of elderly individuals during the 2011 Great East Japan Earthquake and Tsunami. The second source is the guidelines of the Sphere Handbook (4th edition), published by the Sphere Association and setting minimum standards for humanitarian interventions. Both sources were chosen because they provide internationally accepted information, contain comprehensive data on the needs of elderly individuals after disasters, and address humanitarian standards in detail. These sources were accessed and examined via the internet, and their contents were systematically analyzed in line with the purpose of the study and integrated into the compilation.

## The Impact of Earthquake on the Quality of Life of Elderly Individuals

Earthquakes are one of the most dangerous and destructive natural disasters that occur suddenly and uncontrollably, affecting the geography

where millions of people live in a very short time (8). A devastating earthquake can lead to a collective sense of mourning due to the loss of emotional relationships, material goods and daily reference points, and the need to redefine life patterns accordingly. The disruption of people's lives and their loss of certainty can affect their physical and mental health both in the short term and in the years following the disaster (9, 10). In addition, earthquakes can cause more loss of life than other types of disasters due to low predictability. Vulnerable groups constitute a high proportion of such losses of life (11). Elderly individuals are also among these vulnerable groups in disasters such as earthquakes (12). The main reasons for their presence in this group include; physical (hearing loss, visual impairment, etc.) or cognitive (dementia, etc.) disability, having one or more chronic diseases (hypertension, cardiovascular diseases, diabetes mellitus, osteoarthritis, etc.), having difficulties with preparations or adaptation before, during and after disasters such as earthquakes (13). This group in particular is disproportionately harmed by earthquakes due to factors such as age-related physical, psychological (14), social isolation, poor financial conditions, limited access to resources and communication difficulties in using modern technologies (15), and social inequality (16-18). For these reasons, elderly individuals are seen as a group that deserves special attention (14). In a study, it was observed that elderly individuals were unable to adapt to environmental changes and perform daily life activities after an earthquake because they had to leave their homes and live in unfamiliar communities and temporary housing (19). In another study, it was observed that the incidence of chronic degenerative diseases increased in elderly individuals after an earthquake and that existing conditions worsened. In this context, earthquakes can lead to many factors that negatively affect elderly individuals in various ways, and these situations can affect the quality of life of individuals (9). Because earthquakes occur without warning and do not give the population the opportunity to psychologically adapt to face the disaster. The lack of predictability, reminders of the destruction, and the need to move due to the collapse of homes can exacerbate emotional reactions associated with trauma, leading to effects ranging from discouragement to serious mental health problems (20). In addition, disasters such as

earthquakes may necessitate living in temporary shelters. However, living in such shelters can cause significant changes in the physical, social, economic, and psychological environments, especially for older individuals, and this can negatively affect their health. A study shows that older individuals may have difficulty adapting when they move to a new living space, and this indirectly reduces their quality of life by causing stress, loss of control, and loss of self-identity (21). In addition to these, lack of hygiene, inadequate ventilation and crowding can cause infections to spread quickly and existing chronic diseases of elderly individuals with low resistance to worsen. It has been reported that elderly individuals who were placed in crowded temporary shelters after the earthquake in 2011 in Japan experienced inadequate ventilation, hygiene and nutrition problems (inability to access chewable and diet-friendly food) as well as privacy and adaptation problems. In addition, it has been observed that the lack of movement space in temporary shelters causes elderly individuals with limited mobility to become bedridden, while crowding and noise cause stress, sleep disturbances and fatigue (22, 23). On the other hand, the most important factor affecting the survival of elderly individuals after disasters such as earthquakes is their isolation. However, elderly individuals, who should have a greater place in society with social inclusion; Knowledge and experience in coping with problems after disasters such as earthquakes, preservation of social ties, caregiver support, resource management, and taking an active role in generating income have been effective in healing the wounds that have occurred (24). In this context, it is very important to take measures at the national level to increase the quality of life of elderly individuals (25).

## Conclusion

Earthquakes create multidimensional challenges that deeply affect the quality of life of elderly individuals in terms of physical, social and psychological aspects. While physical limitations, chronic diseases and reduced mobility make it difficult for elderly people to adapt to disaster situations, environmental changes and temporary housing conditions that occur after earthquakes make it even more difficult to maintain their physical health. In addition, the disruption of social connections, the

experience of losing loved ones and the weakening of social belonging trigger feelings of loneliness and isolation in elderly individuals, causing a significant decrease in their quality of life. In terms of psychology, problems such as anxiety and depression are among the difficulties that elderly individuals frequently encounter in the post-disaster period. In this context, the development of national strategic plans that take into account the vulnerabilities of elderly individuals is extremely important. Special support services for elderly people in the post-earthquake period can promote both physical and psychological recovery. In addition, strengthening social support systems can facilitate the reintegration of elderly individuals into society. Ensuring food security, regular health screenings, service delivery by mobile health teams and post-disaster rehabilitation programs should be the basic approaches in protecting and improving the quality of life of elderly individuals. It is thought that such measures will not only increase the well-being of elderly individuals, but will also strengthen social solidarity, allowing the elderly to live a more dignified and quality life.

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