

ORIGINAL ARTICLE

Comparison of the Quality of Life Between the Elderly People Who Live in Temporary Shelters and Non-temporary Shelters During Post Natural Disasters in Palu City

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ABSTRACT

Introduction: After natural disasters in Palu City, the houses of victims especially the elderly were destroyed and then they were placed in temporary shelters. This study aims to determine the differences in quality of life between the elderly who live in temporary shelters and those who do not after natural disasters. Method: This research used a comparative study design with cross-sectional method. The study sample was divided into 2, namely the elderly who lived in shelters (n = 189) and elderly who did not live in shelters (n = 201). Quality of life measurements were done using the WHOQOL-BREF questionnaires, and the statistical test was the Mann Whitney Test. Results: The average QOL dimension score in elderly in shelter was 20.1 (Physical), 19.5 (Psychological), 8.5 (Social Relationship), and 21.9 (Environment) while for the elderly who did not live-in shelters, the average QOL dimension was 23.4 (Physical), 20.2 (Psychological), 14.0 (Social Relationship), and 33 (Environment). The average value of QOL scores on the elderly living in temporary shelters was 70.0 while the value for the elderly who did not live-in shelters was 78.0. In short, there were significant differences in the QOL dimension score of physical, social relationship, and environment with value $p < 0.05$. The elderly Quality of Life also had a significant difference ($p < 0.05$). Conclusion: There was a higher quality of life scores for elderly who lived in non-shelters compared to the elderly who lived in shelters.

Keywords: Elderly, Disaster Impact, Quality of Life, Temporary shelters

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INTRODUCTION

Naturally, the decreased life quality of elderly people is due to the occurrence of diseases (physiological process) on them, as on them having strokes and other degenerative diseases(1). In addition, their life quality can also be decreased due to environmental factors and natural disasters (2). Natural disasters, such as earthquakes, cause the life quality of elderly survivors to decline. Research shows that the earthquake in Taiwan has resulted in a decrease in the life quality of the elderly people in their environmental dimensions after the earthquake (3). The life quality of the Indonesian population with the Less Criterion is more often found in elderly people, women, people with low-level education, unemployment, rural areas residents, and also people with poorly-classified socio-economic status. Elderly people generally live together with their families, but not a few of them who live in nursing homes or other

shelters. In Palu City, however, after the natural disaster occurred, the houses were perished, causing the elderly people to live in Temporary Shelters (Huntara) built by the government and donor agencies(4). Temporary shelter (Huntara) is a temporary place to live while disaster victims are displaced, either in the form of mass or family shelters or individuals. The purpose of building shelters is to secure refugees by keeping them away from the disaster area. Almost all of the shelter buildings which include the facilities and pre-facilities are non-permanent to emphasize their function as a place to live during the transition period.

The residence of the elderly people can cause differences in the physical, social, economic, and psychological environment as well as spiritual condition of them, all which can affect their health status (5). Research shows that the elderly people who move to new homes such as nursing homes and other dwellings have the possibility of difficulties in the adaptation, which can make them feel stressed, lose control of their lives, and lose their self-identity, which will indirectly affect their life quality (6). In addition, the elderly people who live with their families have a better life quality than the ones who live

in a nursing home. This is because the elderly people who live with their families at home not only get physical care but also get love, togetherness, good interaction or communication, and help from their families, all of which are the functions of a family.

When viewed from the aspect of the living environment, research concerning the life quality of elderly people are still limited, especially about the victims of natural disasters, even though also greatly affect the life quality of the elderly people. Thus, the purpose of this research is to analyze the differences in the life quality of the elderly people who live in *Huntara* (temporary shelters) and in *Non-Huntara* (non-temporary shelters). The contribution of this research is that the results of this research are used as input for the government to improve the quality of housing in shelters and in accordance with proper housing standards.

MATERIALS AND METHODS

This research was a quantitative research with cross-sectional approach. The research used a method of simple random sampling, conducted from May to June 2019, and the sample was 189 elderly victims of natural disasters living in Temporary Shelters (*Huntara*) and 201 elderly people who lived in Non-Temporary Shelters (*Non-Huntara*), in Palu City. Figure 1 shows the map of hammer city as the area affected by Earthquake, Tsunami and Liquefaction in 2018.

The research variables were measured using questionnaires, consisting of the respondents' characteristics including age, sex, education, occupation, ethnicity, marital status, medical history, and ever-fallen history. The life quality of the elderly people was measured using the questionnaires of WHOQOL-BREF (The World Health Organization Quality of Life) which consisted of 26 questions and were divided into four dimensions, namely the dimensions of physical health, psychological, social relations, and environment (7). WHOQOL-BREF is proven to be valid and reliable to measure the quality of life which consists of 26 questions. The aspects of WHOQOL-BREF are (8):

1. Physical health: Activities of daily living; Dependence on medicinal substances and medical aids Energy and fatigue; Mobility; Pain and discomfort; Sleep and rest; Work Capacity
2. Psychological: Bodily image and appearance; Negative feelings; Positive feelings; Self-esteem; Spirituality / Religion / Personal beliefs; Thinking, learning, memory and concentration
3. Social relationships: Personal relationships: Social support; Sexual activity
4. Environment: Financial resources; Freedom, physical safety and security; Health and social care: accessibility and quality; Home environment; Opportunities for acquiring new information and

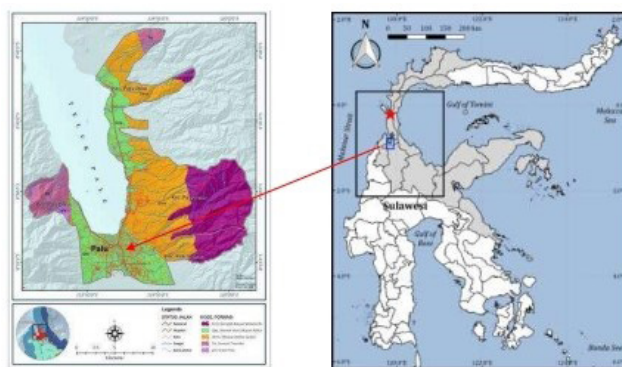


Figure 1: Palu City Map

skills; Participation in and opportunities for recreation /leisure activities; Physical environment (pollution/noise/traffic/climate); Transport

The data analysis was univariate and bivariate using the SPSS application. The test type was the Whitney Mann test with a significance level of $p < 0.05$.

This study was approved by research ethic committee, Universitas Tadulako, Palu, No. 4228/UN.28.1.3/KL/2019.

RESULTS

Table I shows that there were more elderly females living in *Huntara*, which reached 56.60%, compared to females living in non-*Huntara*, which stood at only 50.2%. Also, most of the elderly people living in *Huntara* had low educational level, with 54% were junior-high school graduates; meanwhile, the elderly people with high educational level living in non-*Huntara*, were at 36.8%. Moreover, most of the elderly people were unemployment, accounting for 74.6% (in *Huntara*), and 73.10% (in non-*Huntara*). In terms of ethnicity, most of the elderly people were Kaili ethnic, standing at 75.1% (in *Huntara*) and 79.6% lived in non-*Huntara*. In addition, most of the elderly people were married, reaching 72.5% in *Huntara* and 62.2% in non-*Huntara*. Furthermore, the percentage of the medical history of the elderly people living in *Huntara* and in non *Huntara* was at 66.7% and 49.3% respectively.. The ever-fallen history of the elderly people living in the *Huntara* was at 50.8%, which was bigger than that in non-*Huntara*, which stood at only 23.9%. Figure 2 shows that most of the elderly in the study were elderly (60-74 years), namely 86%.

Table II shows that there were significant differences in the dimensions of the life quality of the elderly people who lived in *Huntara* and in Non-*Huntara* with $p < 0.05$ ($p = 0.00$), namely the dimensions of physical, social relationship, and environment; except for the psychological dimension ($p = 0.140$), where each dimension of the life quality of the elderly people in the *Huntara* was on average lower than the score of the

Table I. Characteristics of Respondents

Characteristics	Huntara		Non-Huntara		Total		
	n	%	n	%	n	%	
Sex	Male	82	43.40%	100	49.80%	182	46.70%
	Female	107	56.60%	101	50.20%	208	53.30%
Education	Elementary	7	3.70%	0	0.00%	7	1.80%
	Junior-high	102	54.00%	85	42.30%	187	47.90%
	Senior-high	38	20.10%	42	20.90%	80	20.50%
	College/University	42	22.20%	74	36.80%	116	29.70%
Occupation	Employee	48	25.40%	54	26.90%	102	26.20%
	Unemployment	141	74.60%	147	73.10%	288	73.80%
Ethnicity	Kaili	142	75.10%	160	79.60%	302	77.40%
	Bugis-Makassar	23	12.20%	23	11.40%	46	11.80%
	Javanese	15	7.90%	14	7.00%	29	7.40%
	Others	9	4.80%	4	2.00%	13	3.30%
Marital Status	Married	137	72.50%	125	62.20%	262	67.20%
	Death Divorced	38	20.10%	74	36.80%	112	28.70%
	Divorced	14	7.40%	2	1.00%	16	4.10%
Medical History	Yes	126	66.70%	99	49.30%	225	57.70%
	No	63	33.30%	102	50.70%	165	42.30%
Ever-fallen History	Yes	96	50.80%	48	23.90%	144	36.90%
	No	93	49.20%	153	76.10%	246	63.10%
Total		189	100.00%	201	100.00%	390	100.00%

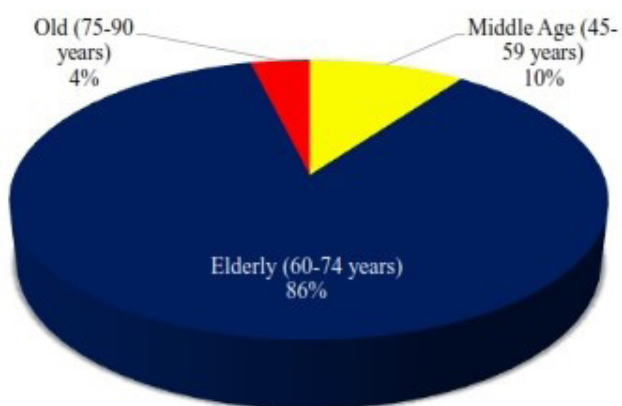


Figure 2: Elderly Age Group Distribution

life quality of those who lived with their families (Non-Huntara). Figure 3 shows that the mean score of quality-of-life dimensions of the elderly in Huntara is lower than that of the elderly in Non Huntara.

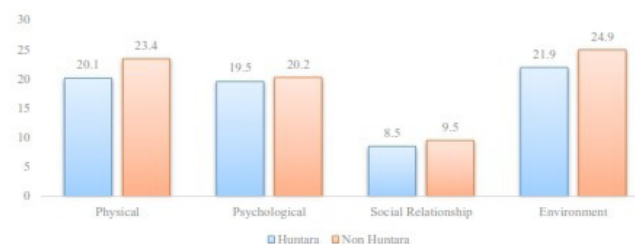


Figure 3: Comparison of the dimensions of the life quality of the elderly people who lived in Huntara and in Non-Huntara

DISCUSSION

The results showed that there were significant differences in the life quality scores of the elderly people living in Huntara with those in Non-Huntara ($p < 0.05$), where the life quality of the elderly people in Huntara was lower than that living in Non-Huntara. The low life quality of the elderly people indicates that the environment in

Table II: Score Comparison Test of Life Quality Dimension of Elderly People

Group		Physical	Psychological	Social Relationship	Environment
Huntara	Mean	20.1	19.5	8.5	21.9
	DS	3.1	3.2	1.9	4.6
	Minimum	12.0	10.0	3.0	9.0
	Maximum	29.0	26.0	14.0	33.0
Non-Huntara	Mean	23.4	20.2	9.5	24.9
	DS	2.1	1.9	1.4	2.8
	Minimum	17.0	14.0	5.0	18.0
	Maximum	26.0	24.0	13.0	32.0
<i>p</i> value (Mann Whitney test)		0.000	0.140	0.000	0.000

which they were living affected their life(9).

Different living environments caused changes in the role of elderly people as they need to adapt. For elderly people, the changing roles in the family, socioeconomic aspect, and social aspect of the community result in setbacks in adapting to the new environment and interacting with their social environment (10,11). The elderly people who were in an environment were affected by the level of the economy which played an important role in fulfilling the needs of a proper and adequate environment, including the availability of a clean and healthy shelter, availability of information, transportation, and affordability of health services (12). Research shows that the elderly people with refugee status experience inadequate food intake, feelings of anxiety, depression, loneliness, and a level of dependence on humanitarian assistance(13). In addition, life quality and employment status are major threats for the mental health of refugees(14,15).

The dimensions of the life quality of elderly people were: Physical, Social Relationship, and Environment; all of them showed significant differences. This means that the environment in which the elderly people lived affected these three dimensions. The physical dimensions of the life quality of the elderly people who lived with their families, and the elderly people who lived in social homes were significantly different(16). The decreased physical ability in the elderly people, due to the aging process that occurs continuously, can cause changes in the body including the anatomic, physiological, and biochemical aspects; therefore, it affects the body's functions and abilities(17,18). The elderly people who lived in Huntara experienced changes in their daily activities due to being in a new environment and a feeling of inability to meet certain heavy needs that were very dependent on humanitarian assistance.

The dimension of social relations also shows a significant difference between the elderly people living in Huntara and in Non-Huntara. Elderly people need social support to improve their social aspects. The life of the elderly people living in Huntara was a brand-new life, and it required adaptation. The social support refers to the comfort, attention, appreciation, or assistance that other people or groups provide to individuals. The results show a positive relationship among the emotional support, appreciation support, information support, and social network support, with the level of earthquake survivors' resilience in Canan Village(19). The emotional support resulted in, among other things, the reduce of the anxiety of survivors, the comfortable feeling of the the survivors, serene, and the feeling of being cared for and loved when facing various pressures due to the earthquake (20).

However, the environmental dimension shows that the dimension of the life quality of the elderly people

in Huntara was lower than that of the elderly who lived in Non-Huntara. This environmental dimension refers to the financial resources, residential homes, and opportunities to do some fun activities. The elderly people who lived in Huntara were the elderly victims of natural disasters who suffered financially due to damage and loss of property owned and destroyed homes. Different living environments resulted in changes in the role of the elderly people in adapting to new environment(21). For them, the changing roles in the family, socioeconomic aspect, and social community, led to a setback in adapting to a new environment and interacting with their social environment. A place to live must be able to create a peaceful, relax, and pleasant atmosphere for its residents, so the residents can feel at home and feel like they want to live there forever. Thus, the elderly people will be supported by the environment to achieve a high quality of life (22). A development of thermally acceptable shelters to be prepared for a future disaster (23).

CONCLUSION

The life quality of the elderly people who lived in Huntara was lower compared to the elderly people who lived in Non-Huntara. The psychological dimension was a dimension of life quality showing no difference between the elderly people who lived in Huntara and the ones who lived in Non-Huntara. Elderly trauma due to natural disasters that occurred so that they psychologically decreased and lived in shelters with uncomfortable and safe conditions. Therefore, the development of shelters must pay attention to the condition of residents, especially the elderly because they are vulnerable to a decrease in the quality of life and increase the burden on family members.

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