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The level of independence and the level of life satisfaction among the elderly: a Cross-sectional study in Nursing Home

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ABSTRACT

Introduction: Elderly people will experience physical, psychosocial, and cognitive changes due to aging. These changes make the elderly at high risk of losing functional abilities, reducing their independence in daily activities and becoming dependent on others. The decline in the ability of the elderly to perform daily activities affects their quality of life and life satisfaction. **Purpose:** to analyze the correlation between the level of independence and the level of life satisfaction among the elderly at nursing home of Jember. **Method** This study used a cross-sectional design with total sampling on 73 respondents. The Katz Index was used to identify the level of independence, and the Satisfaction with Life Scale (SWLS) was used to identify the level of life satisfaction among the elderly. Data were analyzed using the Kendal Tau-C test. **Results:** The results showed that the majority of the elderly were independent (83.6%) and had a slightly satisfied life satisfaction (37.0%). Based on the results of this study, there was a correlation between the level of independence and the level of life satisfaction among the elderly at nursing home of Jember (p-value=0.024; r=0.750). It can be concluded that the higher the level of independence, the higher the life satisfaction of the elderly. **Conclusion:** Therefore, the elderly must maintain their health and physical activity regularly to prevent significant physical decline. The role of nurses/caregivers is to provide assistance to the elderly according to their abilities and pay attention to their social and spiritual needs.

Keywords: elderly, independence, life satisfaction

INTRODUCTION

As they get older, seniors experience changes due to aging. These changes include physical, psychosocial and cognitive changes (Ratnawati, 2018). In addition, the muscle mass and strength in the elderly decreases, and the joints experience wear and tear, making it easier for the elderly to fall and their mobility ability decreases (Meiner, 2015). Impaired mobility is an early predictor of physical disability and is associated with adverse outcomes such as falls, depression, decreased quality of life, loss of independence, and death (Touhy & Jett, 2016). These changes due to aging make it difficult for elderly people to carry out daily activities and become dependent on other people (Sari, et al., 2022)

Globally in 2022, there will be 771 million people aged over 65 years, a 3-fold increase from 1980. The elderly population is expected to reach 994 million people in 2030 and reach 1.6 billion in 2050 (World Population Prospects, 2022) . Indonesia has entered an elderly population structure, where the percentage of elderly population is more than 10 percent since 2021, namely 10.82 percent, an increase of 3 percent from 2010. Of the 8 provinces with an elderly population structure, East Java is the second highest province with a percentage of elderly population of 14 .53 %.

In 2022, the Central Statistics Agency stated that the elderly dependency ratio increases every year. In 2017 the ratio of dependent elderly reached 14.02 and increased to 16.09 in 2022 (BPS, 2022). The reduced ability of elderly people to carry out daily activities independently can have a negative impact on their quality of life (Almeida et al., 2023). Jember Regency has around 14.5% of the elderly population of the total population, namely 2,566,682 people (BPS, 2020).

Quality of life is a multidimensional concept that includes not only functional status and symptom severity but also psychological development, sociocultural issues, ethical issues, economics, and spirituality (Meiner, 2015)). The results of subjective evaluation of quality of life are called life satisfaction (Pavot, et al., 1993). Independent elderly people can take care of themselves so that it is easy to fulfill their daily needs, maintain health and well-being which ultimately encourages elderly people to be satisfied with life (Putri & Hamidah, 2014). Elderly people with life satisfaction are one indicator that they have achieved successful aging (Mauk, et al., 2016).

METHODS

This research is an analytical observational research with a cross sectional approach. Located at nursing home of Jember, starting from September 2023 to July 2024. The total population for this study is 140 elderly people. Research respondents were selected using total sampling with inclusion criteria, namely elderly people aged > 60 years and willing to be respondents and exclusion criteria, namely elderly people who had an MMSE score < 21, so that a sample of 73 elderly people was obtained. The level of life satisfaction variable was measured using the Satisfaction with Life Scale (SWLS) created by Diener, Emmons, Larsen and Griffin in 1985 with 5 questions on a Likert scale of 1-7 from very unsuitable to very suitable. Level variable independence was measured using the Katz Index developed by Katz S in 1970 which consists of 6 activities, namely bathing, dressing, toileting, moving, continence and eating. In the assessment, a score of 0 if someone is dependent and a score of 1 if they are independent.

The research results were analyzed using SPSS with the Kendall Tau-C correlation test because it has an ordinal data scale and is associative in both variables. The data distribution of the two variables does not have to be normal in the Kendall Tau-C correlation test. Value interpretation if p value < α then Ha is accepted but if p value > α then Ha is rejected. The correlation direction is positive if r is positive, whereas the correlation direction is negative if r is negative. Interpretation of the r value indicates the strength of the relationship (0.025 = very weak; 0.26-0.50 = fair; 0.51-0.75 = strong; 0.76-0.99 = very strong; 1.00 = perfect).

RESULTS

Table 1 Characteristics of Elderly Respondents at nursing home of Jember (n = 73)

Variable	**M±SD**
Age (years)	71,12±7,498
Variable	**Md±Min-Max**
Length of Stay (Months)	36±1-156
Variable	**F(%)**
Gender	
Male	25(34,2)
Female	48(65,8)
Disease History	
No disease	52(71,2)
Hypertension	8(11,0)
Osteoarthritis	3(4,1)
Strokes	2(2,7)
Diabetes mellitus	4(5,5)
Others (Injury)	4(5,5)
Education	
No school	17(23,3)
Elementary School	32(43,8)
Junior high school	7(9,6)

High school	17(23,3)
Family visit	
Never	40(54,8)
Seldom	12(16,4)
Sometimes	17(23,3)
Often	4(5,5)
Marital status	
Marry	6(8,2)
Single	4(5,5)
Divorced	15(20,5)
Death divorce	48(65,8)
Total	73(100)

M=Mean, SD=Standard Deviation, Md=Median, Min-Max=minimum-maximum value f(%)=number of percentages of respondents

Based on table 1, the average age of elderly people in PSTW is 71.12 years with a standard deviation of 7.645. The median length of stay for elderly people in PSTW is 36 months. The distribution of elderly people according to gender is that there are more women than men at 48 people (65.8%). Most elderly people's highest level of education was elementary school/equivalent, as many as 32 people (43.8%). During family visits, the most seniors who had never been visited were 40 people (54.8%). The marital status of the elderly at nursing home of Jember is the highest, namely divorced and 48 people (65.8%).

Table 2 Indicators of Independence in the elderly at nursing home of Jember, April 2024 (n=73)

	Independence Indicator	M (SD)	Z	*P- value*
1.	Bathe	0,97 (0,164)	4,603	<0,001
2.	Get dressed	0,99 (0,117)	4,553	<0,001
3.	Toilet	0,99 (0,117)	4,553	<0,001
4.	Move	0,88 (0,331)	4,459	<0,001
5.	Continental	0,93 (0,254)	4,594	<0,001
6.	Eat	1 (<0,001)	-	-
	Total	5,75 (0,722)	4.009	<0,001

M=Mean, SD=Standard Deviation, Z=calculated value of One Sample Kolmogorov-Smirnov Test, p-value=significance value of One Sample Kolmogorov-Smirnov Test

Based on Table 2, the results of the Kolmogorov-Smirnov test show that there is a significant difference in the independence indicator (p-value <0.001). The most dominant indicator is eating activity.

Table 3 Distribution of level of independence in daily activities of elderly people at nursing home of Jember (n=73)

Variable	Frequency	Percentage(%)
Level of Independence		
1. Total Independence	61	83,6
2. Lightest Hanging	9	12,3
3. Light Hanging	2	2,7
4. Medium Dependent	0	0
5. Depends on weight	0	0
6. Depends Heaviest	1	1,4
7. Depends on Total	0	0

Total	73	100

Based on table 3, it is found that the distribution of the highest level of independence for elderly people is 61 people (83.6%) in total, while 1 person (1.4%) is the most heavily dependent.

Table 4 Indicators of life satisfaction for the elderly at nursing home of Jember (n=73)

Life Satisfaction Indicators	M (SD)	Z	*P- value*
1. Life satisfaction with the present	13,58 (3,786)	0,908	0,381
2. Life satisfaction with the past	8,45 (2,539)	1,599	0,012
Total	22,03 (17,5-26)	0,777	0,582

M=Mean, SD=Standard Deviation, Z=calculated value of One Sample Kolmogorov-Smirnov Test, p-value=significance value of One Sample Kolmogorov-Smirnov Test

Based on table 4, the results of the Kolmogorov-Smirnov test show that the indicators of life satisfaction have a significant difference, namely life satisfaction with the past, while indicators of life satisfaction in the present do not have a significant difference.

Table 5 Distribution of the level of life satisfaction of the elderly at nursing home of Jember (n=73)

Variable	Frequency	Percentage(%)
Level of Life Satisfaction		
a. Very satisfied	8	11,0
b. Satisfied	15	20,5
c. A little satisfied	27	37,0
d. A little dissatisfied	19	26,0
e. Not satisfied	4	5,5
f. Very dissatisfied	0	0

From table 5, it can be seen that the majority of elderly people at the nursing home of Jember are slightly satisfied with their lives, namely 27 people (37.0%).

Table 6 Analysis of the relationship between the level of independence and the level of life satisfaction of the elderly at nursing home of Jember (n=73)

	Level of Life Satisfaction	
Level of Independence	r	0,750
	p value	0,024

r=Kendall Tau's c test correlation coefficient value, p-value=Kendall Tau's c test significance value

Source: Researcher Data, March 2024

Based on the Kendal Tau C correlation statistical test, the p value was 0.024, which means H0 was rejected. This shows that there is a correlation between the level of independence and the level of life satisfaction. The correlation value obtained is positive at 0.750, which means the direction of the relationship is positive with the strength of the relationship being "Strong".

DISCUSSION

Level of Independence of the Elderly at Nursing Home of Jember

The results of research on elderly people at nursing home of Jember show that the majority of elderly people's level of independence in their daily activities is independent (83.6%). In line with research by Intan et al (2021), the majority of elderly people in PSTW Jember are able to carry out activities independently (47.5%). The elderly at UPT PSTW Jember have a level of independence that is classified as independent because the elderly at PSTW have good health conditions. Elderly people are used to carrying out their activities independently, not only basic activities, elderly people are also required to follow the routine activity schedule at nursing home of Jember.

Regular physical activity can help older adults face the challenges of aging such as pain, decreased mobility, weakness, and cognitive impairment (Eckstrom, et al., 2020). The elderly's self-care abilities must be stimulated and maintained to increase independence and autonomy in ADL performance (Kurdi, et al., 2022). Not only physical activities such as gymnastics, there are activities such as psychosocial therapy and religious activities. The activity of eating is the most dominant activity carried out by elderly people, namely taking food from a plate and feeding it to their mouths without the help of other people. The weakest indicator is moving activity. Elderly people who are not independent in carrying out moving activities need help from officers or assistive devices such as sticks or crutches. According to Potter & Perry (2010), this is because elderly people experience physiological changes due to aging, especially in the musculoskeletal system, namely decreased muscle mass and strength, bone decalcification, and degenerative joint changes.

In line with Orem's theory, self-care agency abilities can be influenced by fundamental factors such as age and health conditions. Self-care agency is the use of one's strengths and abilities in a self-care system. A person with inadequate self-care agency can be declared to have a self-care deficit (Alligood, 2014). In this study, the level of independence of the elderly at nursing home was classified as good. The majority of elderly people are completely independent, so it can be said that elderly people still have good self-care abilities. This can be influenced by the average age of the elderly in PSTW which is not too old or middle elderly and the majority of elderly also do not have a history of illness so that elderly people find it easy to move and interact because they tend to be in good condition and do not have obstacles in physical mobility.

Level of Life Satisfaction of the Elderly at Nursing Home of Jember

The research results showed that the majority of elderly people at UPT PSTW Jember were slightly satisfied with their lives (37.0%). In line with research by Van Damme-Ostapowicz et al (2021) that the majority of elderly respondents reported being slightly satisfied with life (34.4%). Life satisfaction is influenced by a person's life satisfaction with the present and a person's life satisfaction with the past (Diener & Biswas-Diener, 2008). The most dominant indicator is satisfaction with life in the present. This is shown by the fact that the elderly mostly choose neutral that their current life is in line with expectations. The elderly do not feel that their lives are completely in line with what they expected. Hurlock in Indati et al (2019) states that life satisfaction is a condition that arises when needs and expectations are met.

The majority of elderly people say that their lives as a whole are not what they expected. The hope of the elderly at nursing home is to spend their old age with their family and loved ones, however, most elderly people do not have or are far from family. The majority of elderly people are also widows or widowers who do not have a partner. Most seniors agreed that their living conditions were very good. Quality of life and good living conditions are indicators of prosperity according to the Organization for Economic Co-operation and Development (OECD). Well-being is one of the goals of self-care (Orem, et al., 2001). Many elderly people have no history of illness and are in good health. The elderly's activities at nursing home are also very diverse, including not only activities aimed at maintaining physical health but also psychosocial and spiritual activities. These characteristics of the elderly reflect

the well-being of the elderly and enable the elderly to assess that their living conditions are very good. Most seniors agree that they are satisfied with their lives. Gratitude is a good predictor of well-being (Kardas, et al., 2019). The majority of seniors expressed gratitude for the life they currently live because life at nursing home is very comfortable. They feel safe and calm because they don't have to think about the costs of basic needs such as food and medicine. Food is always available 3 times a day without the elderly needing to work and support themselves.

Life satisfaction with the past can be seen through the achievement of the elderly's desires in their life and the elderly's desire to change their lives. The majority of seniors said neutrally that they had got the things they wanted in life. The important things you want in life can be called life goals. Giuliani et al (2015) stated that as people get older, individuals choose more realistic goals. The life goals of old age focus on maintenance. In this study, elderly people in nursing home were not very satisfied with achieving their life goals in the past, but currently elderly people are experiencing changes in their life goals which are more focused on efforts to maintain their health so they are able to carry out daily activities and spend the rest of their lives in nursing home well. Elderly people are neutral about changing their lives if given the opportunity to repeat their lives. In this study, many elderly people in nursing home chose to be neutral about their desire to change their lives, elderly people did not really regret what they had done in the past but were also not very satisfied with what they had done in the past.

The Relationship between the Level of Independence and the Level of Life Satisfaction of the Elderly at nursing home of Jember

The results of research conducted by researchers show that there is a relationship between the level of independence and the level of life satisfaction of the elderly at nursing home of Jember. Both variables have a positive correlation with strong correlation strength. In line with research by Putri & Hamidah (2014) that there is a positive correlation between independence in daily activities and life satisfaction in elderly people. The concept of health in the elderly generally depends on personal perception of the ability of the body to function. Elderly people who are involved in daily activities will usually consider themselves healthy, while elderly people who have physical, emotional or social disorders that hinder their activities will consider themselves sick (Potter & Perry, 2010). In this study, the majority of elderly people were able to carry out these daily activities, especially eating activities. The use of one's strengths and abilities in a self-care system is called self-care agency. Self-care agency develops and improves over time through learning and experience rather than talent. These changes are influenced by basic factors such as age, gender, developmental circumstances, health, socio-cultural orientation, environment, resources, family, health care system and lifestyle (Orem, et al., 2001)

The results of research conducted by Maher et al (2015) stated that the greater the daily physical activity carried out, the greater the life satisfaction of elderly people. Independent elderly tend not to have the desire to change their lives. They feel satisfied and grateful with their current living conditions. Gratitude is a feeling of gratitude for the things obtained during life, both from God, humans, other creatures and the universe (Listiyandini, et al., 2017). Feelings of gratitude can be increased through prayer routines and spiritual activities (Karina, 2021). Independent elderly people can carry out physical mobility well so that it is easy to participate in spiritual activities at nursing home.

Independent elderly who are satisfied with their lives can be because independent elderly people are able to take part in the activities at PSTW and have good social interactions. Fitriyadewi & Suarya's (2016) research states that there is a significant positive relationship between social interaction and life satisfaction. Elderly people who are active in social interactions have feelings of being needed by others, self-actualization, and self-esteem

(González-Herero & García-Martín, 2012). On the other hand, non-independent elderly who are dissatisfied with their lives can occur because dependent elderly people often face challenges, one of which is fulfilling their basic self-care needs or self-care requirements. Self-care requirements are activities or basic needs (Orem, et al., 2001)). Therapeutic self-care demands are demands for self-care to maintain health and improve well-being. The priority demands for therapeutic self-care are for the benefit of life processes, preventing harm/injury or significant deterioration in health conditions, improving health and contributing to well-being (Alligood, 2014). In this study, the majority of elderly people were independent so that the demands for self-care needs were easy for the elderly to fulfill independently and the priority demands for therapeutic self-care could be achieved. This need is difficult for elderly people who are not independent, so the demand for therapeutic self-care is even greater.

According to Orem, to meet the demands of therapeutic self-care, nurses must be able to diagnose self-care deficits. The first phase begins with establishing a relationship between the nurse and the elderly and establishing a contract to identify and discuss current and potential therapeutic self-care demands. Note underlying factors and consider their relationship to universal self-care needs, development, and health conditions and estimate the value of needs (Alligood, 2014)). Orem's self-care theory-based care approach provides a comprehensive framework for increasing the independence of elderly people and improving their quality of life. The importance of diagnosing self-care deficits and assessing the capabilities of older adults is key in planning and implementing appropriate interventions. Thus, the implementation of self-care theory can improve the quality of life and independence of the elderly, which ultimately has a positive impact on the welfare of the elderly.

Conclusion

Based on the research results, it was found that the level of independence of the respondents was that most of the respondents were totally independent (83.6%). The most dominant indicator of the level of independence in daily activities is eating. The level of life satisfaction of respondents was mostly slightly satisfied with their lives (37.0%). The most dominant indicator felt by respondents is current life satisfaction. There is a relationship between the level of independence and the level of life satisfaction in the elderly at nursing home of Jember which shows a positive relationship and has a strong correlation.

Future research is expected to focus more on respondents who are limited in carrying out daily activities so that they can discuss in more detail the relationship between the level of independence and life satisfaction. Nursing Education Institutions are expected to understand physical health issues such as independence and life satisfaction. For the nursing home of Jember Health Service, in maintaining the independence of the elderly, nurses can provide education on the importance of carrying out daily activities, namely basic activities and routine activities at nursing home such as gymnastics, progressive muscle relaxation and balance training, while for elderly people who are not independent, officers can provide appropriate physical exercise. such as active and passive ROM. Increasing the life satisfaction of the elderly can be done by providing psychological assistance and support, doing recreation, facilitating the elderly in pursuing hobbies, then facilitating and paying attention to the spiritual and social needs of the elderly because it can contribute well to life satisfaction.

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