



## OVERVIEW INDEPENDENCE AND COGNITIVE FUNCTION OF ELDERLY

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### ABSTRACT

Elderly is not a disease, but is an advanced stage of a life process characterized by a decrease in the body's ability to adapt to environmental stress. Elderly causes anatomical, physiological, and biochemical changes in the body, so that it will affect the overall function and ability of the body. The study aims to determine the picture of independence and cognitive function in the elderly. The study used a descriptive method with a sample of 108 elderly in the City of Kendal Indonesia. Data were analyzed using frequency distribution. The results showed the majority of respondents (81.5%) elderly were categorized as having the ability to independently level and 78.6% had normal cognitive function, 18.5% had mild cognitive impairment, and 1.9% had severe cognitive impairment.

**Keywords:** independence, cognitive function, elderly

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## INTRODUCTION

The elderly are individuals aged 60 years and over. Elderly is part of the process of growth and development, humans do not suddenly grow old, but develop from infants, children, adults and the elderly (Azizah, 2011). Elderly is not a disease, but is an advanced stage of a life process that is characterized by a decrease in the body's ability to adapt to environmental stress (Efendi & Makhfudli, 2009; Nugroho, 2008). The classification of the elderly according to the World Health Organization (2012) includes: middle age 45 to 49 years, elderly 60 to 74 years, 75 to 79 years old, very old over 90 years.

The prevalence of the elderly in Indonesia, according to the World Health Organization (2012), shows that the country with the most elderly population of 5 countries in the world, which reached approximately 18.3 million people in 2010 or 8.5 percent of the population, this elderly population projected to be 28.8 million people (11, 34%) of the total population of Indonesia in 2020, or according to Bappenas projections, the population of 60 years old will double (36 million) by 2025.

Elderly causes anatomical, physiological, and biochemical changes in the body, so that it will affect the overall function and ability of the body (MOH RI, 2013). Elderly influences physical conditions such as changes in the nervous system, hearing, vision, breathing, characterized by sagging skin, tooth loss, tooth slowing, graying hair, vision worsening, and disproportionate body figures, Psychosocial changes are often measured through productivity and identity associated with the role of work and outreach to the outside world. Spiritual changes are usually characterized by elderly people who more often participate in religious

activities, and mental or psychological changes can be seen in an elderly person such as emotional changes become irritable, depression, anxiety experienced by someone in responding to physical changes that occur in him (Nugroho, 2008) .

Healthy elderly people who are able to maintain, prevent disease, increase functional capacity, recovery and rehabilitation of the elderly, such as bathing, dressing themselves, personal hygiene, eating, drinking, and maintaining continence. Maintaining and preserving the ability to carry out basic activities of daily living are fundamental to prolonging the life of an elderly person (Barros, 2015).

The number of elderly people in the district. Kendal has increased, in the village of Bandengan 2015 data shows 23% of the population are elderly. A preliminary study conducted on 12-15 September 2018 showed that 2 out of 7 elderly people stated that to meet their daily needs, they were assisted by their families. 5 elderly said they were still able to do it independently, even they were still working to meet the economic needs of the family. The increasing number of elderly and the characteristics of Bandengan village which is the majority of its citizens are fishermen, will cause quite complex problems both from physical and psychosocial problems, so that research needs to be done to find out the level of independence and cognitive function of the elderly through quantitative research.

## **METHOD**

Quantitative research using descriptive methods was conducted on 108 elderly in the city of Kendal, Central Java, Indonesia. Data were taken using the Mini Mental State Examination (MMSE) questionnaire and the Katz Index questionnaire. Research data were analyzed by frequency distribution.

## **RESULTS**

The results of research related to the characteristics of respondents are presented in table 1, while the level of independence of respondents is presented in table 2, and the cognitive level of respondents is presented in tabel 3.

Table 1  
Respondent characteristics (n = 108)

Characteristics	f	%
Age		
60-74 year old	88	81,5
75-79 year old	14	13
≥80 year old	6	5,5
Gender		
Male	17	15,7
Female	91	84,3
Jobs		
Working	16	14,8
Not Working	92	85,2
Income		
No Income	70	64,8
≤ 2 Million	30	27,8
> 2 Million	8	7,4

Table 1 shows that the majority of respondents aged 60-74 years, are female, do not work, and have no income.

Table 2.  
Cognitive respondent (n=108).

Cognitive respondent	f	%
Normal	86	78,6
Mild cognitive impairment	20	18,5
Severe cognitive function impairment	2	1,9

Table 2 shows that the majority of the elderly have normal cognitive levels.

Table 3.  
Independence of respondents (n=108).

Independence of respondents	f	%
Mandiri	88	81,5
Lack of independence	20	18,5

Table 3 shows that the majority of the elderly have abilities in the independent category (81,5%)

## DISCUSSION

The results showed the majority of respondents had normal cognitive levels. These results are in line with Ramadian (2013) research that the majority of the elderly measured using the MMSE questionnaire showed normal cognitive levels. The results showed that 2 respondents experienced severe cognitive impairment and were > 80 years old. This is in accordance with the opinion of Tombaugh (2004) which states that the increasing use will only decrease the results of examinations. The results of this study also agree with the study of Mongisidi, Tumewah, and Kembuan (2013) that the elderly measured using the MMSE questionnaire showed the majority had normal cognitive function even though the study sample was taken in different populations, where the study was taken at foundations in the city of Manado, while research conducted by researchers conducted in the community precisely in the city of Kendal. The results of this study differ from studies that have been done Sundariyati, Ratep, and Westa (2015) that the majority of elderly people experience mild cognitive impairment that is influenced by several factors including age, education, genetic, history of head trauma, immune disorders, vascular disease, environment (aluminum poisoning).

The results showed that there was an effect of providing health education about psychosocial development on the cognitive function of the elderly (p value = 0,000). Health education about psychosocial development provided to the elderly shows an increase in cognitive function in the elderly. These results are in accordance with research that has been done by Ramadian (2013); Sundariyati, Ratep, and Westa (2015) that the older the elderly, the less cognitive function they have. Research by Huppert, Gardener, Williams (2003) that has been done in America also shows that older people with age over 65 years tend to experience cognitive decline, especially in the memory domain. Increasing age will be followed by a decrease and changes in anatomic

function, such as biochemical changes in the composition of the central nerve, the shrinking of the brain so that by itself it can cause cognitive decline. Meanwhile, according to Fadhia (2012) cognitive impairment is caused by a disturbance in the brain's metabolic pathway, namely a reduction in homeostatic reserves resulting in a decrease in the supply of glucose and oxygen which is the main source of nutrition in brain metabolism.

The results showed that the majority of elderly people had a degree of independence in the independent category. This result is in accordance with research conducted by Amy, PH, Susanti (2017) that the majority of the elderly as measured by a questionnaire shows that the elderly can do their daily activities independently. These results are consistent with the opinion of Pratikwo (2006) that ideally humans become old and healthy and can reach the age of 80-90 years. The results showed that the elderly can do their daily activities independently despite being over 60 years old.

The results showed that there was an effect of providing health education about the psychosocial development of the elderly on the level of independence of the elderly as indicated by the value of  $p = 0,0002$ . Health education related to psychosocial development that has been given to the elderly is proven to increase the independence of the elderly in meeting their daily needs. This result is different from the research of Lestari, Wihastuti, and Rahayu (2013) that the elderly who conducted research related to independence showed the majority in the category of lack of independence. This happens because the elderly experience anxiety to meet their daily needs because the majority of the elderly do not have families, do not have money, and because of their existence who lives in nursing homes.

## CONCLUSION

The majority of respondents had self-level ability and the majority had normal cognitive functions.

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