



# Anxiety and Dementia in Older Adults in Indonesia

Sri Susanty\*<sup>1,2</sup>, Devi Savitri Effendy<sup>2,3</sup>, Ramadhan Tosepu<sup>2,3</sup>, Wa Ode Ratna<sup>2,4</sup>,  
I Nengah Sunarto<sup>2,4</sup>, Indrawati Indrawati<sup>2,5</sup> and Sarah Faradillah<sup>2</sup>

<sup>1</sup> Nurse Professional Education Study Program, Faculty of Medicine, Universitas Halu Oleo, Kendari 93232, Indonesia

<sup>2</sup> Magister of Public Health Study Program, Faculty of Public Health, Universitas Halu Oleo, Kendari 93232, Indonesia

<sup>3</sup> Public Health Study Program, Faculty of Public Health, Universitas Halu Oleo, Kendari 93232, Indonesia

<sup>4</sup> Bahteramas General Hospital Kendari, Southeast Sulawesi Province 93116, Indonesia

<sup>5</sup> Abunawas Hospital Kendari, Southeast Sulawesi Province 93231, Indonesia  
sri.susanty@uho.ac.id

**Abstract.** Previous studies have indicated that anxiety and dementia are correlated with a poorer quality of life. Therefore, it is important to pay attention because there is a lack of information regarding the prevalence and relationships of anxiety and dementia among older adults in institutions in Indonesia. This study aimed to determine the prevalence of anxiety and dementia among older adults and assess the correlation between anxiety and dementia. The study used a cross-sectional, descriptive, and correlational research design. Purposive sampling was applied to 200 participants who came for treatment at the polyclinic geriatric General Hospital Bahteramas, Province Southeast Sulawesi. The questionnaires were used to collect data, including demographic information, The Hamilton Anxiety Rating Scale (Epstude, Skiba, & Harsch), and The Mini-Mental State Examination (MMSE). The prevalence of anxiety among older adults was high in each level (moderate, severe, and panic) 5.5%, 62%, 32.5% and 74.5% respectively. The results for older adults with dementia reported high in each levels (44% and 30.5%). The correlation between anxiety and dementia was  $r = -0.787$ ,  $p < 0.001$ . The finding that increased levels of anxiety are associated with a reduced risk of dementia suggests a new intervention for these two common disorders. Anxiety and dementia are serious health problems among the elderly population in Indonesia. Governments, social workers, and health professionals should urgently take steps to reduce anxiety and dementia among the elderly and provide educational counselling and psychological support for the elderly to address these problems.

**Keywords:** Indonesia, Institutional, Anxiety, Dementia, Older Adults, Prevalence.

## 1 Introduction

Aging happens biologically as a result of several kinds of molecular and cellular damage accumulating over time. As a result, physical and mental function gradually deteriorate, disease risk rises, and eventually mortality results. Aging is frequently linked to other life transitions, such as retirement, moving to a another or better place, and the death of a friend or partner [1]. The aging process in humans is a natural occurrence. Aging is the process by which tissue loses its ability to repair or replace itself and becomes unable to maintain normal structure and function. As a result, the body is unable to defend itself against infection and repair the damage [2].

It is estimated that by 2050, 80% of the elderly population will live in low- and middle- income countries. The speed of population aging is much higher compared to the past. In 2020, the number of people over 60 years old exceeded the number of children under 5 years old. Between 2015 and 2050, the percentage of the world's population aged over 60 will almost double from 12% to 22% [1]. According to WHO, the Asian region's population has been rapidly growing. The proportion of people aged 60 and over reached 9.8% in 2017, but is expected to rise to 13.7% in 2030 and 20.3% in 2050 [3]. Aging can cause a variety of changes, including a reduction in cognitive performance. Dementia-related cognitive decline can be severe, with loss of the capacity to remember, reason intellectually, interact socially, and react emotionally. However, a reduction in cognitive performance is a natural part of the aging process [4].

Anxiety is a serious mental health concern in elderly individuals, according to the Geriatric Mental Health Foundation. Anxiety can cause feelings of worry and fear when confronted with uncertain and uncertain situations, influencing the behavior of elderly people, which is characterized by withdrawal from interpersonal relationships, avoidance, tremors, and hyperventilation [5]. The anxiety felt by parents in Indonesia is very high. Fear affects to 6.9% of people aged 55-65, 9.7% of people aged 65-75, and 13.4% of people aged 75 and up [6]. Anxiety must be treated because if left untreated for a long period of time, it can cause fatigue and even death [7].

Dementia is a prominent cause of disability and dependency in older persons around the world, affecting memory, cognitive abilities, and behavior, ultimately decreasing a person's capacity to conduct everyday activities. Dementia has a substantial financial impact, but it also has a significant human cost for governments, society, families, and people [8]. The WHO reported in 2018 that the number of persons who died from dementia in Indonesia reached 3.22%. The death rate from age-related dementia is 41.55 per 100,000 people, ranking Indonesia 14th worldwide [9]. The aim of this research is to determine the prevalence of anxiety and its dimensions in older adults in the geriatric clinic in Indonesia.

## 2 Methods

The study was used a quantitative descriptive study using a cross-sectional approach. The population was chosen as 200 respondents based on the inclusion criteria, which

were patients over the age of 60 years and over, able to converse properly, ready to participate, and not being treated for mental problems based on medical diagnosis. The purposive sampling approach was utilized in this study, and the data analysis was Univariate and Multivariate. The Hamilton Anxiety Rating Scale (HARS) is used to assess anxiety, whereas the Mini Mental State Examination (MMSE) is used to assess dementia. The research carried out was a quantitative descriptive study with a cross sectional design. The population was selected as 200 respondents based on the inclusion criteria, namely patients aged over 60 years, able to communicate well, willing to be respondents, and not being treated for mental disorders according to medical diagnosis. The sampling technique used in this research is the Purposive Sampling method, the data analysis used is Univariate and Multivariate. The instrument for measuring anxiety is the Hamilton Anxiety Rating Scale (HARS) and for measuring dementia the Mini Mental State Examination (MMSE).

### 3 Results

#### 3.1 Anxiety in Older Adults

The results of this study showed that the highest frequency was in respondents who showed severe levels of anxiety at 62%, 32.5%, panic anxiety, and 5.5% respondents showed moderate levels of anxiety. However, we did not find any respondents who showed mild levels of anxiety (Table 1).

**Table 1.** Frequency distribution based on anxiety level variables.

No	Anxiety level	N	%
1	Mild anxiety	0	0.00%
2	Moderate anxiety	11	5.50%
3	Severe anxiety	124	62.00%
4	Panic	65	32.50%
Total		254	100%

#### 3.2 Dementia in Older Adults

The frequency distribution based on the MMSE variable is as follows the highest frequency reported in our findings were respondents who showed low dementia, namely 88 people with a percentage of 44%, then respondents who showed moderate dementia were 61 people, with a percentage of 30.5%, and respondents who showed no dementia were 51 people. with a percentage of 25.5%. No respondents showed severe dementia (Table 2).

**Table 2.** Frequency distribution based on anxiety level variables.

No	Clean living behavior	N	%
1	No dementia	51	25.50%
2	Low dementia	88	44.00%
3	Moderate dementia	61	30.50%
4	Severe dementia	0	0.00%
<b>Total</b>		<b>200</b>	<b>100.00%</b>

**3.3 Relationship between Anxiety and Dementia**

The distribution of the relationship between respondents' levels of anxiety and dementia can be seen in Table 3. The results of this study show that 11 (5.5%) respondents had moderate levels of anxiety, 4 (2%) respondents had low dementia and 7 (3.5%) respondents had moderate dementia. Of the 124 (62%) respondents who had a severe level of anxiety, 15 (7.5%) respondents had no dementia, 70 (35%) respondents had low dementia, and 39 (19.5%) respondents had moderate dementia. Of the 65 (62%) respondents who had panic anxiety levels, 46 (23%) respondents had no dementia, 14 (7%) respondents had low dementia, and 5 (2.5%) respondents had moderate dementia.

This study reports that there is a significant relationship between the level of anxiety and dementia in the elderly in Kendari City. The obtained correlation value was  $-0.787$ . These findings revealed a "High Correlation" level of link between the variable's anxiety and dementia. Increasing anxiety reduces the chance of dementia.

**Table 3.** Distribution level of anxiety with dementia.

		Dementia								Total	
		No dementia		Low dementia		Moderate dementia		Severe dementia		N	%
		n	%	n	%	N	%	n	%		
Anxiety level	Mild anxiety	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Moderate anxiety	0	0.0%	4	2.0%	7	3.5%	0	0.0%	11	5.5%
	Severe anxiety	15	7.5%	70	35.0%	39	19.5%	0	0.0%	124	62.0%
	Panic	46	23.0%	14	7.0%	5	2.5%	0	0.0%	65	32.5%
<b>Total</b>		<b>61</b>	<b>30.5%</b>	<b>88</b>	<b>44.0%</b>	<b>5</b>	<b>2.5%</b>	<b>0</b>	<b>0.0%</b>	<b>200</b>	<b>100.0%</b>

## **4 Discussion**

### **4.1 Anxiety Levels in Older Adults**

Aging is a normal and inevitable process that will go through several processes of change, both physical, psychological and social. Aging refers to gradual irreversible changes in which physical and mental vitality are significantly reduced [10]. Our findings report that the number of elderly people with severe anxiety levels is very high (62%). In line with research conducted by Bryant et al which reported high anxiety in elderly clinical samples of up to 56% [11]. Anxiety in the elderly can occur due to many factors. There are 2 types of anxiety, namely primary and secondary. Anxiety in the elderly is primary anxiety, which develops with age. Secondary anxiety is generally related to health conditions, such as experiencing chronic illnesses, decreased quality of life, and the manifestation of side effects of certain medications [12]. Changes commonly experienced by the elderly include changes in the immune system which tends to decrease, changes in the integument system which causes the skin to be easily damaged, changes in the elasticity of the arteries in the cardiovascular system which can make the heart work harder, decreased metabolic capacity by the liver and kidneys and decreased ability to see and hear. The decline in physical function is characterized by the inability of the elderly to move or carry out activities that are classified as strenuous. The consequences of the changes that occur in the elderly cause anxiety in the elderly because of these changes [13]. Older adults are more susceptible to stress and anxiety as a result of loss or decline in self-esteem, reduction in activity and stimulation, loss of friends and relatives, loss of physical independence and chronic illness, changes in daily life or living environment, and also fear [10].

### **4.2 Dementia Levels in Older Adults**

Cognitive disorders known as dementia can cause changes in an individual's functional abilities, behavior and mental health in interacting in daily life. This can result in social isolation for sufferers and affect their quality of life [14]. Our research results report that the dementia rate among elderly people in Kendari City is high (69.5%). This figure is in line with findings conducted by Leung et al which showed an increase in dementia in a systematic review and meta-analysis study [15]. Dementia conditions cause decreased body performance, especially in terms of memory and thinking ability. People who experience dementia will have difficulty remembering any memories from their past [16]. Dementia with mild criteria for social activities and independent activities can still be done but it is difficult to learn new things. Dementia with moderate criteria begins to experience difficulty carrying out daily life activities, showing symptoms such as being easy to forget, especially for events that happened recently and forgetting people's names. Dementia with severe criteria experiences lack of independence and does not recognize family members, personal disorientation and difficulty understanding and assessing events that have been experienced so that daily life activities are disrupted and dependent on other people and require support from the family [16].

## 5 Conclusion

Anxiety and dementia in the elderly in Kendari City were reported to be very high in our study. Risk factors that can increase the prevalence of anxiety and dementia in the elderly include social and environmental changes, decreased cognitive function, family history, chronic disease, and lifestyle factors such as lack of physical activity and smoking. It is important to carry out appropriate treatment and care for elderly people with anxiety or dementia through nursing intervention as an approach to reducing the level of anxiety and dementia in these elderly people. A comprehensive treatment approach can include symptom management, psychosocial support, management of comorbidities, healthy lifestyle changes, and involving family and caregivers in providing the necessary support.

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