Age And Occupation Related to The Event Of Dementia in The Elderly in Binanga Community Health Centers

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ABSTRACT

Dementia will interfere with the daily activities of the elderly and the elderly's social relationships with their surroundings and even one of the causes of death in the elderly. As life expectancy increases, the number of elderly continues to increase. As similarly, the number of people with dementia.

The purpose of this study was to determine factors associated with the incidence of dementia in the elderly in Binanga Community Health Centers in 2018.

The type of research used is analytic research with a cross-sectional design. The sample was obtained by purposive sampling as many as 124 respondents who met the inclusion criteria, namely the elderly who live in Binanga Community Health Centers, Mamuju Regency.

The results showed that there was an influence of age variable on the incidence of dementia by 15.1% and there was an occupation with the incidence of dementia with a p-value = 0.000.

It is hoped that there will be a program specifically for elderly to actively involve elderly so that they can be more productive and avoid dementia.

Keywords: *Dementia, elderly, occupation*

ABSTRAK

Demensia merupakan salah satu masalah kesehatan pada lansia. Demensia akan mengganggu aktivitas sehari-hari lansia serta hubungan sosial lansia dengan lingkungannya, bahkan menjadi salah satu penyebab kematian pada lansia. Seiring meningkatnya usia harapan hidup, jumlah lansia dari tahun ke tahun terus meningkat. Begitu pula dengan jumlah penderita demensia.

Tujuan penelitian ini adalah untuk mengetahui faktor-faktor yang berhubungan dengan kejadian demensia pada lansia di Wilayah Kerja Puskesmas Binanga Tahun 2018.

Jenis penelitian yang digunakan adalah penelitian analitik dengan desain cross sectional. Sampel diperoleh secara purposive sampling sebanyak 124 responden yang memenuhi kriteria inklusi yaitu lansia yang berdomisili di wilayah kerja Puskesmas Binanga Kabupaten Mamuju.

Hasil penelitian menunjukkan bahwa ada pengaruh variabel umur terhadap kejadian demensia sebesar 15,1% dan ada pekerjaan dengan kejadian demensia dengan p-value = 0,000.

Diharapkan ada program khusus bagi lansia untuk melibatkan lansia secara aktif sehingga dapat lebih produktif dan terhindar dari demensia.

Kata kunci: Demensia, lansia, pekerjaan

INTRODUCTION

The Elderly is someone who has reached the age of sixty (60) years and over (Law Number 13 of 1998). Currently, the number of elderly people worldwide is around 727 million people (over 65 years old) and is expected to double or 1.5 billion by 2050(1). In Indonesia, the number of elderly people in 2020 will reach 26 million (9.92% of the total population. The number of elderly continues to increase, prompting more and more problems that may be experienced. This includes health problems. One of the things that become the centre of attention when someone is Entering old age is a symptom of dementia and difficulty remembering new memories, this condition is often known as dementia.

Dementia is one of the health problems that are often experienced by the elderly. Dementia is a state of progressive

and quite large cognitive decline. Dementia can become severe so that it interferes with the daily activities and social activities of the elderly, including the elderly's social relationships with their environment [(2), (3).]

People with dementia will experience memory loss, especially short-term memory, personality changes, reduced social interaction, depression, paranoia, and so on. Sufferers may also experience changes in the way they consider and perceive things, including decreased language skills and motor behaviour. This greatly affects the quality of life of the elderly.

Dementia experienced by the elderly does not only burden the individual but also burdens the family, closest people, and caregivers [(4), (5)].

Data from the World Health Organization (WHO) and the Alzheimer's Disease International (ADI) report that around 50 million people will suffer from dementia in 2020, and it is estimated that this will reach 82 million in 2030 and 152 million in 2050[(6)]. The prevalence of Dementia in Asia varies from 2% to 13% with the main risk factors being age, gender, low education. Meanwhile, the number of sufferers in Indonesia continues to increase, but there is no valid data that clearly states the number of people with dementia [(7)].

There are seventeen risk factors for dementia including hypertension, chewing tobacco, high waist-to-hip ratio, smoking habits, head injury, overweight, alcohol intake, age (elderly), people with diabetes, stroke, family history of dementia, obesity, arterial disease. coronary, depression, educational factors, epilepsy, and sleep pattern disorders [(8)].

Age is a risk factor for dementia. The results of Suriastini's research, 2020, show that the elderly aged 80-84 years and 94 years have a 2-4 times greater risk of suffering from dementia than the elderly aged 60-64 years. In the Prevalence of Risk Factors for Dementia in Elderly Population in a Tribal Area of Central India – A Community-Based Cross-Sectional Study, it was found that the incidence of dementia at the age of 71-80 was (9.25%)[(7)].

Occupational history is also a risk factor for dementia. Elderly who have a complicated or complex work history have a lower risk of developing dementia compared to the elderly whose work history is not complex. The elderly who have a history of higher education and get a job with a high level of complexity is estimated to have a better global cognitive level. So it was found that the elderly with high education and jobs with high complexity had 7.1 or 4.6 times higher to have a better global function than the elderly who had a low level of education and less complex jobs [(9)].

Based on the health profile of Mamuju Regency in 2015, it is known that the number of elderly people is 866 people and the most are in the Binanga Health Center Work Area as many as 180 people. This number of elderly causes a high chance of dementia in the Binanga Health Center Work Area. In addition, there has been no research on the incidence of dementia in the Binanga Health Center Work Area. Therefore, researchers are interested in researching factors related to the incidence of dementia in the Binanga Health Center Work Area.

MATERIALS AND METHODS

This research used a cross-sectional study. The population in this study were all old age living in the working area of the Binanga Community Health Centers, Mamuju Regency as many as 180 people. Samples were obtained by purposive sampling that met the inclusion criteria, namely aged >60 years old, can read and willing to be a respondent and being in the place when the research was carried out with 124 samples. The instrument used in this study was the Mini Mental State Examination (MMSE) questionnaire. Data analysis was carried out by univariate analysis by displaying the distribution and percentage of each variable. Furthermore, bivariate analysis was performed using Chi Square and T test with 95% confidence level (α 0.05). Data were analyzed using SPSS for windows version 17. This research has obtained ethical approval recommendations at the Health Research Ethics Commission of the Makassar Health Polytechnic number 029/KEPK-PTKMKS/II/2018 and research recommendations at the Kesbangpol Kab. Mamuju with the number: 070/118/V/2018/BKBP.

RESULT

1. Univariat Analysis

a. Characteristics of Respondents

Table 1. Characteristics of Respondents Based on Gender, Age, Education Level, and Occupation in Binanga Community Health Centers

	Karakteristik Responden	n	%
1.	Sex		
	Man	64	51,6
	Woman	60	48,4
2.	Age		
	60-70	90	72,6
	71-80	31	25,0
	81-90	3	2,4
3.	Level Education		
	Not in school/didn't finish elementary school	14	11,3
	Graduated elementary school	61	49,2
	Graduated junior high school	14	11,3
	Graduated senior High School	27	21,8
	Graduated academy/PT	8	6,5
4.	Occupation		
	Low Risk	51	41,1
	High risk	73	58,9

Table 1 shows that of the 124 respondents in this study, most of the characteristics of the clients were male by 64 (51.6%), Age mostly between 60-70 years old by 90 (72.6%), Education level i.e. graduated from elementary school/equivalent by 61 (49.2%) and employment by 51 (41.1%) not working (low risk)

b. Dementia Incidence

Table 2. Distribution of Respondents by Dementia Status in in Binanga Community Health Centers

Status Dementia	n	%
Dementia	43	34,7
Normal	81	65,3
Total	**124**	**100**

Table 2 shows that of the 124 respondents in this study, 34.7% were categorized as dementia and 65.3% were not dementia.

2. Bivariat Analysis

a. Age Relationship with Dementia Incidence

Table 3. Relationship Between Age Variable with Dementia Incidence

Age	Dementia				Jumlah		p
	Dementia		No Dementia				
	n	%	n	%	n	%	
Low Risk	24	26,7	66	73,3	90	100	0,002
High Risk	19	55,9	15	44,1	34	100	
Jumlah	**43**	**34,7**	81	65,3	**124**	**100**	

Table 3 shows that from 90 respondents with low-risk age (60-70 years), 44 people (26.7%) had dementia and 66 people (73.3%) did not. Meanwhile, from 43 respondents with a high-risk age (≥ 71 years), 19 people (55.9%) had dementia and 15 people (44.1%) did not. The results of statistical test analysis (chi-square) p-value of 0.002 ($p < 0.05$), thus Ho is rejected, which means that there is a relationship between work and the incidence of dementia.

Table 4. Correlation between Age and Dementia Incidence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.388[a]	.151	.144	3.962

Table 4 shows that the correlation value between the age variable and the incidence of dementia is 0.388 with a coefficient of determination of 0.151 which means that the effect of the age variable on the incidence of dementia is 15.1%, while the rest is influenced by other variables.

b. Employment Relationship with Dementia Incidence

Table 5. The Relationship Between Occupational Variables and the Incidence of Dementia

Pekerjaan	Dementia				Jumlah		p
	Dementia		No Demensia				
	n	%	n	%	n	%	
High Risk	29	56,9	22	43,1	51	100	0,000
Low Risk	14	19,2	59	80,8	73	100	
Jumlah	**43**	**34,7**	81	65,3	**124**	**100**	

Table 4 shows that of the 73 respondents with low-risk occupations, 14 (19.2%) had dementia and 59 (80.8%) had no dementia. Meanwhile, of the 51 respondents with high-risk occupations, 29 people (56.9%) had dementia and 22 people (43.1%) had no dementia. The results of statistical test analysis (chi-square) p-value of 0.000 ($p < 0.05$), thus Ho is rejected, which means that there is a relationship between work and the incidence of dementia.

c. Analysis of Related Variables

Table 5. Logistics Multiple Regression Model Associated With Dementia Incidence in the Elderly in Binanga Community Health Centers

						95% C.I.for EXP(B)	
		B	**Wald**	**Sig.**	**Exp(B)**	**Lower**	**Upper**
Step 1[a]	old(1)	-1.143	5.952	.015	.319	.127	.799
	Job(1)	-.870	2.275	.131	.419	.135	1.298
	Constant	1.086	6.181	.013	2.961		

Table 5 shows that of the 2 variables included in the logistic regression test, namely age and occupation, based on the final results of the multiple logistic regression test, it was found that the age variable that had the most role in the incidence of dementia with the highest wald value was 5.955.

DISCUSSION

Dementia is a problem that has a large impact if experienced by the elderly. To diagnose dementia, it is necessary to have a history of evaluation of cognitive decline and disturbances in carrying out daily activities, as evidenced by testimonies from close people such as family members. In addition, a cognitive impairment screening questionnaire is needed to confirm the presence of cognitive impairment [(10)].

In this study, it was found that most of the respondents aged between 60-70 years were 90 people (72.6%) and there were 24 people (26.7%) who had dementia, while at the age of 71 years there were 34 people (27.4 years). %) and suffer from dementia as many as 15 people (44.1%). This shows that most of the older elderly have a greater risk of developing dementia. This study is supported by the results of Ezra's study, which found that the incidence of dementia increases with age [(11)]. Likewise, a study conducted in France also found that for every year of age, an elderly person has a 0.968 risk [95% confidence interval = (0.962–0.973)] for developing dementia each year [(12)], and Incidence rates of dementia. increased exponentially with age from 2.4 per 1000 person-years in the 65–69 age group, to 70.2 per 1000 person-years in the 90+ age group [(13)].

Many risk factors that cause the emergence of dementia in the elderly. One of them is age. With age, a person will experience a decrease in brain volume of about 0.5% per year after someone is 40 years old. This is caused by the occurrence of brain atrophy. So the researchers concluded that brain volume is negatively correlated with age [(14)]. The results of our research, found that age has a correlation with the incidence of dementia by 15.1%. This shows that age only has an effect of

15% on the incidence of dementia. The results of the study on the elderly who had normal cognitive abilities compared to their age friends known as Super Agers turned out to have larger corticals than the elderly with dementia [15].

Other studies have also shown that the elderly are super ager, lose fewer brain cells, even though their IQ and education level are the same. This is because there is a great willingness to learn new things such as learning things that they were not good at before. Challenging brain activities like doing crossword puzzles, learning math or learning a new language. If done consistently, it can improve or maintain the cognitive abilities of the elderly [16]. The results of epidemiological studies also show that not all very old elderly people can develop dementia [17]. That means the proportion of 15% for the occurrence of dementia is a number that is in accordance with the study. The decline in the incidence of dementia in developed countries such as Europe and North America occurs because of higher education, better cardiovascular control, changes in healthier lifestyles, leisure activities, better control of cardiovascular disorders. All of this is the cause of the decreasing incidence of dementia in the elderly [17].

The variable that is also a risk factor for the incidence of dementia is occupation. Work is the main activity carried out by individuals in their lives. According to research results, the more complex a job, the smaller the risk of dementia. Jobs that require higher intellectual abilities can help maintain cognitive abilities for longer and delay the onset of disease [18]. From this study, it is known that of the 73 people who work, only 14 (19.2%) have dementia, while the remaining 59 (80.8%) do not have dementia. On the other hand, of the 51 elderly people who did not work, 29 (56.9%) had dementia, while 22 (43.1%) did not. Based on this fact, we can see that a person's tendency to develop dementia is greater in the elderly group who do not work.

The results of Hong-yun's research (2020), more specifically explain that a person's type of work greatly affects the process of developing dementia in the future. From this study, it is also known that the level of income and the number of children also influence the incidence of dementia [19]. This research is also in line with research

This study is slightly different from the results of research which found that type of work was not associated with the incidence of dementia due to differences in the distribution of sex in the occupational groups studied [20].

One of the recommendations to improve the cognitive function of the elderly is to perform daily physical activities, cognitive activities, and instrumental activities [21].

CONCLUSION

This study found that there was a relationship between age and occupation with the incidence of dementia in the elderly in Binanga Community Health Centers, Mamuju Regency and that age variable had the most role in the incidence of dementia.

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