# ACTIVITY DAILY LIVING RELATED WITH DEMENTIA AT ELDERLY IN SUKABUMI SUB URBAN AREA, WEST JAVA, INDONESIA YEAR 2019

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#### Abstract

Dementia is the 4th leading cause of death after heart disease, cancer and stroke for elderly people. There was an estimated 30 million people in the world who experience dementia with various causes such as illness, trauma, drugs, and depression. This study purpose was to prove geriatric depression scale that influenced dementia at elderly people in Sukabumi City. at 2019. This study used applied research; cohort designs amount 119 elder people in Integrated Health Services for Elder People in Sukabumi City. We were used questionnaire by standard Ministry of Health/World Health Organization, descriptive analysis, and multiple regressions logistic. Result was 83.2% Elderly, older people 16.8%, and dementia 9.2%. Less elderly medical history 61.3%, behavior elder person inadequate 15.1%, mental social activity 47.9%, less geriatric depression scale 45.4%, less activities daily living 42.9%, less instrument activities daily 41.2%. The risk factors that were significantly associated with dementia were activities daily living and geriatric depression scale, while other factors with a value <0.250 such as age, gender, insurance, and p value  $\geq 0.250$  as follows elderly medical history, behavior elder person, social mental activities, instrument activity daily. The risk factor of dementia in this research was proved such as activity daily living and geriatric depression scale.

#### Keywords: dementia, activity daily living, geriatric depression scale, elderly.

#### **1. INTRODUCTION**

Dementia is the 4th cause of death after heart disease, cancer and stroke. Until now there were an estimated 30 million people in the world who experience dementia with various causes such as illness, trauma, drugs, and depression. An estimated 2 million people in the United States have severe dementia and 1 to 5 million has mild to moderate dementia. Whereas in Indonesia 15% of the total population is suffering from dementia [1].

Dementia is a syndrome that decreases progressive intellectual ability which causes cognitive and functional decline. A person with dementia has impaired intellectual function and causes disruption in daily activities and relationships with people around him. People with dementia also lose the ability to solve problems, control emotions, and can even experience personality changes and behavioral problems such as irritability and hallucinations [2]. People with dementia need special care. Compared to the recipients of long-term care, they need personal care with more time and supervision, all of which relates to the greater burden of nurses and higher costs. That is why dementia needs to be a priority for public health and adequate planning needs to be implemented so that people with dementia can live well [3].

### 2. MATERIALS AND METHODS

Applied research, crossectional, 119 respondents in the elderly Integrated Health Services in Sukabumi City, direct interviews using the Indonesian Ministry of Health standard questionnaire, descriptive and analytical analysis with fisher excact and multiple logistic regression.

### 3. RESULTS AND DISCUSSIONS

### Table 1

Ditribution and Frequency of Elderly Health History, Elderly Behavior, Social Mental Activity, GDS, ADL, IADL and Age Group in the Elderly at Integrated Health Services in Sukabumi City in 2019.

No.	Variable	Frequency	%
1	Dementia	11	9.2
	No Dementia	108	90.8
2	Elderly Health History		
	Not good	73	61,3
	Good	46	38,7
3	Elderly Behavior		
	Not Good	18	15,1
	Good	101	84,9
4	Social Mental Activity		
	Not Good	57	47,9
	Good	62	52,1
5	Geriatric Depression Scale		
	(GDS)		
	Not Good	54	45,4
	Good	65	54,6
6	Aactivities Daily Living		
	(ADL)		
	Not Good	51	42,9
	Good	68	57,1
7	Intrument Activities Daily		
	Living (IADL)	49	41,2
	Not Good	70	58,8
	Good		
8	Age Group		
	The Elderly	99	83,2
	The Old	20	16,8
9	Gender		
	Female	88	73.9
	Male	31	26.1
10	Health Insurance		
	Have Health Insurance	99	83.2
	Have not Health Insurance	20	16.8

Base on Table one the problem of the risk factors for dementia at Elderly in Sukabumi City as follow dementia 9.2%, not good Health History 61.3%, Behavior 15.1%, Social Mental Activity 47.9%, GDS 45.4%, ADL 42.9%, The old people 16.8%, Female 73.9% Have not Health Insurance 16.8%.

	Table 2	
Determinant Relationship with Dementia	at Elder People in Integrated Health Services	in
Sukabum	i City Year 2019.	

Variable	Dementia		Total		Р	OR (95%CI)		
	Dem	entia	No Dementia				value	
	n % n		%					
Elderly Health History								
Not good	8	11	65	89	73	100	0,526	1.764
Good	3	6.5	43	93.5	46	100		(0,443-7,024)
Elderly Behavior								1.278
Not Good	2	11.1	16	88.9	18	100	0.672	(0.252-6.467)
Good	9	8.9	92	91.1	101	100		
Social Mental Activity								
Not Good	7	12.3	50	87.7	57	100	0,349	1.030
Good	4	6.5	58	93.5	62	100		(0,561-7.341)
Geriatric Depression Scale								
(GDS)	9	16.7	45	83.3	54	100	0,022	6.300
Not Good	2	3.1	63	96.9	65	100		(1.299-30.562)
Good								
Aactivities Daily Living								
(ADL)	9	17.6	42	82.4	51	100	0,009	7.071
Not Good	2	2.9	66	97.1	68	100		(1.456 - 34.340)
Good								
Intrument Activities Daily								
Living (IADL)	12	24,5	37	75,5	49	100	1.000	0.800
Not Good	13	18,6	57	81,4	70	100		(0,221-2,897)
Good								
Age Group								
The Elderly	20	20,2	79	79,8	99	100	0.088	0.304
The Old	5	25	15	75	15	100		(0,080-1,160)
Gender								0.380
Female	6	6.8	82	93.2	88	100	0.152	(0.107-1.350)
Male	5	16.1	26	83.9	31	100		
Health Insurance								1.125
Have Health Insurance	0	0	20	100	20	100	0.120	(1.049-1.206)
Have not Health Insurance	11	11.1	88	88.9	99	100		

Base on table 2 the result of analysis by fisher excact only two variables were significant with dementia such as Geratrict Depression Syndrom and Activity Daily Living. The others variables were followed to regression analysis with p value  $\leq 0.250$  suc as: age group, gender, health insurance.

		Dementit	••			
No	Variable	Р	OR	95% CI		<b>R</b> <sup>2</sup> (%)
		vaiue		Lower	Upper	
The Final	Model					
1	Geriatric Depression Sindrom	0,051`	5.137	0.991	26.624	12.0
2	Activities Daily Living	0,053	4.983	0.980	25.340	14.0
3	Age Group	0.117`	0 310	0.071	1 341	49

Table 3 The Analysis Multivariat Adl With Gds And Age As Counfounding Factors Of Dementia.

The Table 3 result of research for 3 variables have the p value GDS and ADL quite similar and significants, and age group was not significant to became dementia.

			Table 4.				
The	Most Determinant	Correlation With	Dementia	At Elder Peo	ple In Sukabumi	City '	Year 2019

Variable	Dementia				Total		Р	OR (95%CI);
	Der	nentia	No De	ementia	-		value	R2
	n	%	Ν	%				
Geriatric Depression Scale								
(GDS)	9	16.7	45	83.3	54	100	0,061	4.674
Not Good	2	3.1	63	96.9	65 100			(0.930-23.495)
Good								12%
Aactivities Daily Living								
(ADL)	9	17.6	42	82.4	51	100	0,040	5.390
Not Good	2	2.9	66	97.1	68	100		(1.076-26.994)
Good								14%

Base on table 4 result this research ADL was significant because p value < 0.05 and has risk factor to dementia, with opprtunity more than five times at not good activity daily living than good ADL to dementia and was contributed to dementia 14%. GDS has oppurtunity almost fime times to not good GDS compare with good GDS to dementia. GDS was contributed to dementia amount 12 %.

### The relationship between Health History and Dementia of the elderly.

The relationship between the health history of the elderly and the incidence of dementia, there were 8 (11%) elderly who had a medical history lacked and with dementia and 3 (6.5%) elderly had a good medical history of dementia. The result was known p value 0.526 (> 0.05) that there was no relationship between the health history of the elderly and dementia.

The relationship between the behavior of the elderly and the incidence of dementia, there were 2 (11,1%) elderly who had a behavior lacked and have the dementia, they were 9 (8.9%) elders peoples have good behavior and dementia. The result was known p value 0.526 (> 0.05) that there was no relationship between the behavior of the elderly and dementia.

#### The Relationship between Social Mental Activity and Dementia.

The results of the study of the most variable mental social activities are good mental social activities compared to less social mental activities. However, in relation to social mental activity with the incidence of dementia, there were 7 (12.3%) elderly who had social mental activities who were less suffering from dementia and 4 (6.5%) elderly had good mental social activities suffering from dementia. The results of the chi-square statistical test were known that the p value was 0.070 (> 0.05) so that it can be stated that there was no relationship between social mental activity and the incidence of dementia.

#### The Relationship between GDS with Dementia.

The relationship between depression and dementia itself until now has not been clearly concluded from the research that has been done. Depression was considered influential in the onset of dementia, but there were also studies that consider dementia can arise due to depression and appear only for a moment which does often referred to as dementia syndrome from depression.

The results of the most GDS variables were good GDS compared to the lack of GDS. However, in the GDS relationship with the incidence of dementia, there were 9 (16.7%) elderly who had GDS who were less suffering from dementia and 2 (3.1%) of the elderly had GDS who were either suffering from dementia. The results of the chi-square statistical test were known that the p value was 0.022 (<0.05) so that there can be a significant relationship between GDS and the incidence of dementia. The final model as GDS as risk factor of dementia despite the p value 0.061, OR 4.674 ,95%CI (0.930-23.495), and it was contributed for dementia 12%. This result similar with William.J.Burke.1989,.David W Gilley.1997. Nathalie Le Bastard et.all.2008 [4-6].

### The Relationship between ADL with Dementia

The Decreasing for body functions in the elderly which can cause the physical condition of the elderly to change from time to time such as a decrease in the number of cells, impaired respiratory system, impaired hearing system, decreased gastrointestinal system, loss of fat tissue and reduced muscle strength can cause impaired ADL. Changes in social life in the elderly, inadequate economy, their spirit of life will decline so that their ADL will change and may not have the spirit to live their lives, environmental changes with lack of recreation, inadequate transportation can also affect the ADL itself.

The level of independence of ADL that occurs in the elderly shows the limitations of the elderly in fulfilling their life needs. The level of independence of the elderly was largely assisted as shown in the results of the 2014 Indonesian elderly population survey. The limited ability of ADL in the elderly was common as shown in several studies.

The existence of the independence of the elderly ADL is a limitation of the elderly in fulfilling their life needs and their care. Increasing age in the elderly causes a decline in the ability of the elderly to meet their needs and care for themselves. Nugroho (2008) stated in general that the physical condition of someone who has entered the elderly has decreased. This can be seen from changes in appearance on the face, hands and skin.[7]

The results of the most extensive ADL variables were good ADL compared with less ADL. However, in the relationship of ADL with the incidence of dementia the were 9 (17.6%) of the elderly had ADL who had less dementia and 2 (2.9%) of the elderly had ADL who had good dementia. The results of the chi-square statistical test show that the value of p value was 0.009 (< 0.05) so that there was association between ADL and the incidence of dementia. And the final of risk for dementia was most determinat has associated with dementia with p value 0.040, OR 5.390, 95% CI 1.076-26.994. ADL was contributed to dementia 14 %. The study despite the

number of sample size 119 elderly peoples result of no good ADL compare with good to be come dementia fivetimes more than good ADL this study better than the study Sabeh, et all.year 2017 that reported OR ADL 1.14, 95% CI 1.02-1.28 [8].

#### Relationship between IADL with dementia

Respondents who experienced symptoms of dementia were more likely to still be able to carry out their daily activities independently whereas respondents who experienced a moderate level of demotion did not do activities independently or with other terms respondents had to be helped by others in carrying out daily activities. This picture was in line with the opinion of Boustani (2007) who states that dementia was caused by a continuous process of deterioration in cognitive functions related to brain damage or diseases of the brain that were not in line with expectations in the normal aging process [9].

Setyawati (2005) suggests that the elderly will feel safer when living in the midst of the family so that the family can provide assistance in carrying out daily activities. As a result of the family's assistance, the elderly get love and security [10].

The most significant results of the IADL variable study was IADL which was good compared to the less IADL. However, in the relationship of IADL with the incidence of dementia, there were 12 (24.5%) of the elderly who had no good IADL who were either suffering from dementia and 13 (18.6%) of the elderly had good IADL who has dementia. The results of the chi-square statistical test was known that the p value was 1.000 (> 0.05) so that there can be no association between IADL and the incidence of dementia.

#### The Relationship between Age Group Elderly and OLD with Dementia

The incidence of dementia increases with increasing age of the elderly according to the Alzheimer's disease report in 2007. This can be explained because the weight of the brain and neuron cells decreases in someone entering the elderly, so the elderly experience a setback of 20-45% in the speed of writing hands cut with a knife. In addition, the elderly become slower to process information, decrease short-term memory, reduce the brain's ability to distinguish between stimulus and stimulation that comes and calculation ability. The results of the study of the most age group variables were the age group of the elderly compared to the elderly elderly group. However, in the age group relationship with the incidence of dementia, there were 20 (20.2%) elderly groups suffering from dementia and 5 (25%) Old groups suffering from dementia. The results of the chisquare statistical test was known that the p value was 0.088 (> 0.05) so that there can be no relationship between age groups and the incidence of dementia. The results of this study was not in line with the research conducted by Purnakarya in West Jakarta which reported a relationship between the age group and the incidence of dementia, despite in this research age group as coufounding factors because in multivariat analysis has changed odd ratio > 10 % we cannot removed age group [11]. W.M Des Flier, P.Schewltens. (2005) was founded risk factors for dementia age, the female sex, especially at high age [12].

#### 4. CONCLUSION

The most determinant relationship with dementia was proved such as activity daily living, and geriatric depression scale, and age. Three variables have contributed for dementia amount 25%.

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