



PROCEEDING

INTERNATIONAL SEMINAR

ENVIRONMENTAL HEALTH & SUSTAINABLE TOURISM

Widya Sabha Theatre, Faculty of Medicine, Udayana University

Bali, 23rd September 2016

**SCHOOL OF PUBLIC HEALTH
FACULTY OF MEDICINE
UNIVERSITAS UDAYANA**

**Proceeding of The International Seminar on
“Environmental Health and Sustainable
Tourism”**

Widya Sabha Theatre, Faculty of Medicine,
Udayana University
Bali, 23rd September 2016

**School of Public Health
Faculty of Medicine, Udayana University
Bali**

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PREFACE

The International Seminar on Environmental Health and Sustainable Tourism held in Denpasar, Bali on 23rd September 2016 by School of Public Health, Faculty of Medicine, Udayana University in collaboration with Indonesian Public Health Association (IAKMI) Bali Chapter. This International Seminar aimed to provide an opportunity for participant to increase their knowledge, sharing ideas and strategies, develop recommendation based on the recent research findings towards sustainable tourism and environmental health.

This volume of proceedings from the seminar provides an opportunity for readers to engage with a selection of refereed papers that were presented during the seminar. The paper published were ranging from issues under themes of sustainable development in Health Tourism, Environmental Health, Health Policy, Health Promotion, Occupational Health, Epidemiology, Maternal and Child Health, Community Nutrition and other topics related to Health and Tourism.

The seminar committee congratulates participants whose paper is finally published in this proceeding. The committee would like to thanks Indonesian Public Health Association (IAKMI), participants, sponsor, and Udayana Press for the contribution to the publishing to this proceeding.

Sincerely yours,

Committee of the International
Seminar

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Prevalence and Determinants of Demensia Among Elderly in West Selemadeg, Tabanan 2016

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Abstract

Mental changes in the old people can be seen with the decline in cognitive ability that is remembering and thinking ability that often called dementia. Dementia is a condition that is characterized by loss of intellectual abilities were a major hindrance to social relationships and the work function in real life. Dementia affects the entire activity of the elderly in community life both in the family, the environment, profession and the others it, that would cause a decline in the quality of life of the elderly themselves. In Bali, especially in Tabanan regency, the prevention activities of dementia in the elderly is still not performing well. The purpose of this research is to determine the prevalence and determinants of dementia in the elderly in Puskesmas Selemadeg Barat.

This research is a descriptive study with cross sectional design. The total sample of this research is 103 respondents. Respondents were selected from the age of 55-70 years. The data collection was conducted using questionnaires and forms the Mini Mental State Examination. Data analysis was performed using univariate and bivariate analysis, using chi square.

From the results of the bivariate analysis showed that the risk factors for dementia in the elderly in Puskesmas Selemadeg West were age OR = 21.00, education OR = 4.113, work OR = 14.438, history of hypertension OR = 6.125, history of diabetes OR = 7.347, behavior of smoking OR = 11.198, and consumption of alcoholic beverages OR = 9.574.

Among the 103 respondents, 46 respondents (44.7%) did not get dementia, as many as 57 respondents (55.3%) get dementia. From eight variables that had been researched, all of the variables had effected and could increase the odds to get dementia. So, it is suggested that from public health office and public health center at Selemadeg Barat to increase the program of health countermeasure intelegentia for old people.

Keywords: Dementia, Elderly, Dementia risk factors, Intelegentia health

Background

Development success is the ideals of a nation that is seen from the increase in the standard of living and life expectancy/ survival. The success of health development is marked by the increasing life expectancy of 68.8 years in 2004 to 70.5 in 2007. The increasing life expectancy of the population, causing the elderly population continues to increase from year to year. Period elderly (Elderly) is the last period life transition of the human being. Someone who was heading the elderly phase will usually feel the gradual changes in himself as in decline and a decrease in both physical condition and mental changes. In the elderly can be seen with decreased cognitive abilities that remembering and thinking ability that it is often called dementia. Dementia is a

condition that is characterized by loss of intellectual abilities were a major hindrance to social relationships and work functions in daily life.

There are several risk factors that affect dementia such as age, gender, education level, occupation, diabetes mellitus, hypertension and stroke. With many of these risk factors, it is very necessary in the initial treatment of dementia, so it can help prolong the quality of life of patients and prepare the caregivers to handle harder problems.

According to Health Departement RI (2014), prevention of cognitive decline in the elderly implementation originally is done by cadres in Posyandu activities. But according to the Bali Provincial Health Office has not carried out these activities in Bali, especially in Tabanan Regency. This is

evident from the absence of official data recorded in health district offices both in provincial health and regency area about dementia in the elderly people.

Method

This research is descriptive research with cross sectional design. This research was conducted in Puskesmas West Selemadeg Tabanan, in March and April 2016.

The population in this study were all elderly in Puskesmas West Selemadeg. Affordable population is the elderly who actively participates Posyandu in Puskesmas Selemadeg West. Research samples were selected using cluster sampling.

The data collection is done by using a questionnaire. With reference to the registers at the Posyandu

elderly who have been elected, the investigator will visit the elderly to their homes in order to conduct interviews.

Results

This study was conducted on 103 respondents consisting of 32 male respondents and 71 female respondents.

Based on data collected through questionnaires, the characteristics of the samples obtained were age, sex, occupation, education level, history of hypertension, history of diabetes mellitus, smoking and consumption of alcoholic beverages.

Table 1. Characteristics of Respondents in Puskesmas West Selemadeg Territorial

Characteristics	Frequency	Percentage
Age		
55-64	61	59,2%
65-70	42	40,8%
Gender		
Man	32	31,1%
Female	71	68,9%
Work		
Work	66	64,1%
Does not work	37	35,9%
Education		
High	21	31,1%
Low	82	79,6%
Hypertension		
Normal	78	75,5%
Hypertension	25	24,3%
Diabetes		
Normal	94	91,3%
Diabetes	9	8,7%
Smoking behavior		
Never	75	72,8%
Ever	28	27,2%
Consumption of alcoholic beverages		
Never	92	89,3%
Ever	11	10,7%

According to the table above can be seen, elderly who have dementia at most at the age of 65-70 years by 66.7%. The P value obtained was <0.000 (p

<0.05), it indicates that there is a significant relationship between age of respondents and dementia. The variables of age had an OR = 21.00, this

Table 2. Prevalence of Dementia in the Elderly

Check up result	Frequency	Percentage
Normal	46	44,7%
Dementia	57	55,3%
Total	103	100%

value means that the elderly aged 65-70 years have the odds for dementia 21 times higher than seniors aged 55-64.

Elderly men who develop dementia as much as 43.9%. The P value obtained was 0.002 ($p < 0.05$), it indicates that there is a significant relationship between sex and dementia. The variable gender had an OR = 4.353, this value means that the male sex has the odds for dementia 4.353 times higher than the female sex.

Elderly and less educated got dementia the most consist of 89.5%. The P value obtained was 0.006 ($p < 0.05$), it

indicates that there is a significant relationship between education and dementia in the elderly. Variable education had an OR = 4.113, this means that the education have lower odds of dementia 4,113 times higher than in higher education.

Elderly who did not work got dementia 57.9%. The P value obtained was < 0.001 ($p < 0.05$), it indicates that there is a significant relationship between job and dementia in the elderly. Variables job had OR = 14.438, this value means that someone who didn't work has odds for dementia 14.438 times higher than working.

Table 3. Distribution of variables Against Dementia in the Elderly at Puskesmas West Selemadeg 2016

Variable	Dementia		OR	P
	Dementia	Normal		
Age				
55-64 years	19 (33.3)	42 (91.3)	21.00	<0.001
65-70 years	38 (66.7)	4 (8.7)		
Gender				
Man	25 (43.9)	7 (15.2)	4.353	0.002
Female	32 (56.1)	39 (84.8)		
Education				
High	6 (10.5)	15 (32.6)	4.113	0.006
Low	51 (89.5)	31 (67.4)		
Work				
Work	24 (42.1)	42 (91.3)	14.438	<0.001
Does not work	33 (57.9)	4 (8.7)		
Hypertension				
Normal	36 (63.2)	42 (91.3)	6.125	0.001
Hypertension	21 (36.8)	4 (8.7)		
Diabetes				
Normal	49 (86)	45 (97.8)	7.347	0.040
Diabetes	8 (14)	1 (2.2)		
Smoking behavior				
Never	32(56.1)	43(93.5)	11.198	<0.001
Ever	25(43.9)	3(6.5)		
Alcohol Consumption				
Never	47(82.5)	45(97.8)	9.574	0.021
Ever	10(17.5)	1(2.8)		

Seniors who have a history of hypertension develop dementia as much as 36.8%. The P value obtained

was 0.001 ($p < 0.05$), it indicates that there is a significant association between a history of

hypertension and dementia in the elderly. Variable history of hypertension had an OR = 6.125, this value means that the hypertension has odds for dementia 6.125 times higher than those who did not have hypertension. Elderly diabetic with a history of dementia by 14%. The P value obtained was 0.040 ($p < 0.05$), it indicates that there is a significant association between a history of diabetes and dementia in the elderly. Variable history of diabetes had an OR = 7.347, this value means that diabetes has odds for dementia 7.347 times higher than those without diabetes.

Elderly with dementia smoking behavior as much as 43.9%. The P value obtained was < 0.001 ($p < 0.05$), it indicates that there is a significant relationship between smoking behavior and dementia in the elderly.

Variable smoking behavior had an OR = 11.198, this value means that the smoke has the odds for dementia 11.198 times higher than non-smokers. Seniors who consume alcoholic beverages develop dementia as much as 17.5%. The P value obtained was 0.021 ($p < 0.05$), it indicates that there is a significant relationship between alcohol consumption and dementia in the elderly. Variable consumption of alcoholic beverages had an OR = 9.574, this value means that the consumption of alcoholic beverages has the odds for dementia 9.574 times higher than those not consuming alcoholic beverages.

Discussion

Results of bivariate analysis showed that the age effect on dementia in the elderly. The increasing age of the elderly is

increasing the risk of dementia faced by the elderly. The results of this study are consistent with both the results of research Widayanti and Hartati (2010), which states that with increasing age dementia risk factors will also increase. People aged 65 and older will have a risk of 11% and above 85 years of age the greater the risk is 25% - 47%. Other studies conducted by Basuki et.all (2015) which states that there is a significant relationship between age and dementia by examination portable mental status examination in the Kemantren Village Tulangan District of Sidoarjo regency Reinforcement on May 2014.

Men can increase the odds for dementia larger than females. The results of this study are consistent with the results of research Mangosidi et.all (2013) which states that the average sample by gender

men have more abnormal percentage compared with the female sample. However, this study does not concur with those of Larasati (2013) which states that women are at higher risk of dementia compared to men. This is because the way women solve problems more emotional, sensitive, dependent and passive, while men are more independent, more emotionally stable, dominant and more impulsive.

Low education can improve the odds for dementia larger than high education. The results of this study are consistent with the results of research Mangosidi et.all (2013) which states that the sample was educated nine or more years of basic education (high school diploma or undergraduate), has the result that relatively normal cognitive function. Judging on results of the mini-

mental state examination and clock drawing test in which class educational history of over 9 years achieve 100% normal.

No work can increase the odds for dementia larger than the working. The results of this study are consistent with Muzamil et al. (2014) which states that the elderly by working with an active physical activity had normal cognitive function of elderly is higher than the level of physical activity were less active. Basuki et.al (2015), also expressed the elderly who are still working will be more frequent cognitive abilities honed so that it can influence the occurrence of dementia.

Hypertension can increase the odds for dementia. The results are consistent with the results of research Abadi et.all (2013), which states that the research

results obtained by the risk of dementia in the elderly with hypertension was 2.2 times over the risks of hypertension (PR=2.2; $p=0.01$). Significant relationship between hypertension and dementia is not changed after the risk factors of age, sex, diabetes mellitus and stroke synchronized.

Diabetes can increase the odds for dementia. The results of this study are consistent with the results of research Mangosidi et.all (2013) which states that sampel with a history of diabetes have an average positive results with impaired cognitive function or abnormal. Larasati (2013) also suggested the research results as much as 3 respondents who had a history of diabetes mellitus (20.0%) got a decline in cognitive function, while respondents who had no history of diabetes 10 (10.8%)

of respondents got a decline in cognitive function.

Smoking can increase the odds for dementia. The results of this study are consistent with the results of research Mangosidi et.al (2013) which states that most or 71.9% of the sample who do not smoke have a normal result, so it can be concluded that smoking is a significant risk factor of decline in cognitive function. According to a recent study conducted by WHO, smokers had a 45 percent higher risk of dementia or dementia compared with those who do not smoke. Also estimated about 14 percent of Alzheimer's sufferers are caused by smoking.

Consuming alcohol can increase the odds for dementia. The results of this study are consistent with the results of research conducted at the University of Turku, University of Helsinki and

National Institute for Health and Welfare in Finland stating that those who drink large amounts of alcohol have a greater risk of having cognitive impairment than light drinkers.

Conclusion

Based on the calculation of the prevalence of dementia in the elderly in Puskesmas West Selemadeg result that the majority of elderly dementia that is equal to 55.3%. From the results of the bivariate analysis of eight variables such as age, sex, education, occupation, history of hypertension, history of diabetes, smoking, and consumption of alcoholic beverages obtained the result that all variables are influential and can increase the odds of dementia in the elderly in Puskesmas West Selemadeg in 2016.

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