

# THE RELATIONSHIP BETWEEN DIETARY AND PSEUDODEMENSIA IN THE NURSING STUDENTS OF S1 STUDY PROGRAM OF UNIVERSITY NU SURABAYA

**Farida Umamah\***

\*Faculty of Nursing and Midwifery, University of NU Surabaya

Jl. Smea 57 Surabaya

Email : [umamahfarida@unusa.ac.id](mailto:umamahfarida@unusa.ac.id)

## ABSTRACT

**Introduction:** Pseudodementia is not normal thing, it can be hindered by addressing the causes, one of them is diet. Students pay less attention to diet so that many students who complained of forgot and confused about what to do. The purpose of this study was to identify the relationship between the diet and the incidence pseudodementia happening to the students of S1 Nursing program at the *University of Nahdlatul Ulama* Surabaya. **Method:** The research used *analytical design*. The population involved 119 6<sup>th</sup> semester students of S1 Nursing program, and 91 respondents were taken as the sample by using *proportional random sampling technique*. The independent variable of this research was a diet, while the dependent variable was the incidence of pseudodementia events. **Result:** The result of the research showed there is a significant relationship between the diet and occurrence pseudodementia ( $\rho = 0:00$ ,  $\alpha = 0.05$ ). **Discussion:** Nearly a half of the students of S1 Nursing Program of the University of NU Surabaya have the good diet. Nearly a half of the students of S1 Nursing Program of the University of NU Surabaya suffer from *probable cognitive impairment* which commonly referred to *pseudodementia*. There is a relationship between the diet and the incidence of *pseudo dementia* on the students of S1 Nursing Program of the University of NU Surabaya.

**Key words:** diet, pseudodementia

## INTRODUCTION

*Pseudodementia* is a condition that similar to *dementia*, but the main cause is depression. In pseudodementia, a person may seem confused, show symptoms of depression such as sleep disorders, memory disorders and other cognitive problems such as *dellirium*. However, memory and language functions normally (Hill, 2008). *Pseudodementia* may occur progressively after reaching the highest growth and development (age 15 years) but a lot of people think *pseudodementia* occur only in the elderly, this syndrome can occur as a result of stress, anxiety, environment and lifestyle. (Brodaty, 2011). In fact, *pseudodementia* may occur among teenagers. They complain of forgetfulness and confusion about what to do.

Data taken from *Encyclopedia Britannica* states that in 2005 there were 24.3 million people around the world suffer from, *dementia*. Nowadays the number increased 35.6 million. This number is assumed to increase by two-fold in 2030, and three times in 2050 (Alzheimer's Disease International, 2009). Marc Wortmann, the executive director of 78

the Alzheimer's organizations explained that every 4 seconds there is a new patient, and in the future there might be one new case every second in 2050 (Khatijah, 2013). The psychiatry of FKUI RSCM. Martina WS Nasrum explained that in Indonesia it is estimated in 2050 *pseudodementia Alzheimer's* sufferers could reach 3 million cases (Rosary, 2013).

The research conducted by Rahmawati (2014) about the relationship between anxiety with the incidence of *pseudodementia* among s1 second semester students of nursing program of UNUSA, it was revealed that 52.2% of the students have *probable* cognitive impairment or called by *pseudodementia*. From 10 respondents whose age between 18-20 years, it was obtained that the students had experienced often forgotten and sometimes confused what to do, for example: when they want to drink they took a dish, or when they want to run the motorcycle, they took flashdisk instead of key.

*Pseudodementia* may occur due to various factors including: anxiety, stress, environment, and lifestyle. A person's lifestyle can be seen from the diet. A healthy diet is rich

in vitamins from fruits and vegetables helps to protect the brain and maintain memory. (American Journal of Epidemiological, 1999) (inParetta, 2005). If *pseudodementia* is not handled immediately this will potentially develop into *dementia* in which someone loss his part of their cognitive (Wells, 1979) (in Chiu & Ames, 2006).

The brain is very easily be broken by free radicals, harmful chemicals which is easily absorbed by the fat, while the brain structure mostly consisting of fat. Therefore researchers agree that free radicals caused signs of aging (Paretta, 2005). Affected brain from free radical declines in the number of neurons gradually covering the area of the superior temporal gyrus (the areas that most rapid loss of neurons), gyrus prefrontalis and striata area. Pathologically, the decreasing in the number of cholinergic neurons will cause a reduction in the neurotransmitter acetylcholine, causing cognitive and behavioral disorders.

In order to overcome pseudodementia someone has to cope with the anxiety, understanding its triggers, change negative thoughts and helplessness with an optimistic attitude, no worry about a small problem, talk to friends or family, do exercises, avoid caffeine and sleep regularly. These are essential to be more calm and think clearly (Audinovic, Viscardine, 2013). Keeping a diet is also necessary in order get off pseudodementia. Having a healthy diet is important for many reasons, one of those reasons is to improve the workings of the brain and protect it from free radical damage. A healthy diet includes schedules, amount and type of food to be consumed. (Paretta, 2005).

## METHOD

The method used in this study is analytic. Based on time of the sampling taken this study used cross sectional approach. Researcher analyzed the relationship between independent variables and the dependent variable which is done simultaneously. The population is all the students of S1 Nursing program of UNUSA in the academic year of 2012, the total number is 119, and the sample is 51 respondents.

The samples used in this study was probability sampling with proportional random sampling technique. The location of the research conducted at the Faculty of Nursing and Midwifery University Nadlatul Ulama

Surabaya in April 2015. The independent variable in this study was the diet and the dependent variable in this study was the incidence of pseudodementia. In this study used a questionnaire on the independent variables (diet) and MMSE in the dependent variable (incidence pseudodementia).

The data collection method is a researcher ask for an approval and signature of the respondent, if they were willing to be investigated. Then researcher began taking data in the way respondents answered the questions on the questionnaire honestly in accordance with the attitude of the respondents. Data Analysis used SPSS 18 and Spearman Rank Test to test the validity of 0.05.

## RESULTS

### a. Age

Age (Year)	Frequency	(%)
19 – 20	35	38,5
21 – 22	53	58,2
23 – 24	3	3,3
Total	91	100

Source: Primary Data, 2015

It can be seen from 91 respondents (58.2%) aged were 21-22 years.

### b. Gender

Gender	Frequency	(%)
Male	21	23,1
Female	70	76,9
Total	91	100

Source: Primary Data, 2015

It can be seen from 91 respondents almost entirely (76.9%) were female.

### c. Ethnicity

Ethnicity	Frequency	(%)
Javanese	80	87,9
Madurese	11	12,1
Total	91	100

Source: Primary Data, 2015

It can be seen from 91 respondents almost entirely (87.9%) ethnicity of Java.

### d. Health Status

Health Status in the last 6 months	Frequency	(%)
Ever been Sick	66	72,5
Never been sick	25	27,5
Total	91	100

Source: Primary Data, 2015

It can be seen from the 91 respondents (72.5%) experienced pain in the last 6 months.

e. Stress

Stress	Frequency	(%)
No	53	58,2
Yes	38	41,8
Total	91	100

Source: Primary Data, 2015

It can be seen from 91 respondents almost half (41.8%) experienced stress.

f. Anxious

Anxious	Frequency	(%)
No	45	49,5
Yes	46	50,5
Total	91	100

Source: Primary Data, 2015

It can be seen from most of the 91 respondents (50.5%) experienced anxiety.

g. Residence

Residence	Frequency	(%)
Far away from highway	47	51,6
Near highway	44	48,4
Jumlah	91	100

Source: Primary Data, 2015

It can be seen from 91 respondents almost half (48.4%) reside near the highway.

Typical data include diet and the incidence of *pseudodementia*.

a. Characteristics of respondents based on diet

Diet	Frequency	(%)
Good	28	30,8
Enough	44	48,4
Bad	19	20,9
Total	91	100

Source: Primary Data, 2015

It can be seen from 91 respondents almost half (48.4%) have a good diet.

b. Characteristics of respondents based on events *pseudo dementia*

Pseudo dementia Level	Frequency	(%)
Normal	31	34,1
Probable cognitive impairment	42	46,2
Definite cognitive impairment	18	19,8
Total	91	100

Source: Primary Data, 2015

It can be seen from 91 respondents almost half (46.2%) experienced *probable cognitive impairment*.

Cross tabulation of the relationship between diet and the incidence of *pseudo dementia*

Dietary	Incidence of Pseudodementia (MMSE)			Jumlah N(%)
	Normal N(%)	Probable cognitive impairment N(%)	Definite cognitive impairment N(%)	
Good	26 (92,9)	2 (7,1)	0 (0)	28 (100)
Enough	5 (11,4)	36 (81,8)	3 (6,8)	44 (100)
Bad	0 (0)	4 (21,1)	15 (78,9)	19 (100)
Total	31 (34,1)	42 (46,2)	18 (19,8)	91 (100)

Source : Primary Data, 2015

It can be seen from 28 respondents those who have a good diet is almost entirely (92.2%) did not experience *cognitive impairment* (normal). Spearman Rank test results shows that the value  $\rho = 0,000$  which means  $\rho < \alpha$  then  $H_0$  is rejected, this means that there is a correlation between diet and the incidence of pseudodementia on the students of S1 Nursing Program of the University of NU Surabaya.

## DISCUSSION

This section will describe the results of research on the relationship between diet and the incidence of pseudo dementia on the students of S1 Nursing program of the University of NU Surabaya. In accordance with the objectives that have been set. It can be described the discussion as follows:

### a. Overview Diet

The Results of research showed that nearly half of respondents (48.4%) have enough diet (good diet). This means the eating habits based on the preference level, frequency, and schedules make students prefer to choose any food just for pleasure such as; instant noodles and fast food, however they ignore the benefits to health. The eating habits caused a problem since the content of nutrients in the food or fast food is not balanced. Food manufacturers often use saturated fats for food processing in order to enhance the aroma and taste.

According Pujiyanti(2005) in general adolescents have poor eating habits. Some teens, especially young women often eats food in unbalanced numbers compared to their needs because they fear of becoming obese. Pujiyanti also explained that teenagers love to have

snack, especially sweet pastries. Meanwhile, the group of vegetables and fruits which contain many vitamins and minerals are not popular among them.

#### **b. The level of Pseudodementia Incidence**

Based on the results of research as listed in Table 5:10 it was found that nearly half (46.2%) experienced *Probable cognitive impairment*.

The American Journal of Epidemiological, 1999, in Paretta in 2005, contended that *pseudo dementia* may occur due to various factors including: anxiety, stress, environment, and lifestyle. One of lifestyle can be seen from the diet. A healthy diet rich in vitamins from fruits and vegetables helps to protect the brain and maintain memory. *The antioxidants, A vitamin, C vitamin, and E vitamin* in fruits and vegetables work together to protect the brain and body to immobilize free radicals. *A vitamin, C vitamin, and E vitamin* are also important in improving and maintaining the memory.

#### **c. Eating relationship with Genesis Pseudodemensia**

Based on the result of *Spearman Rank Test* a significance value of  $\alpha = 0.05$ . It was obtained the value of  $\rho = 0,000$  which means that  $\rho < \alpha$  then  $H_0$  is rejected, it means that there is a correlation between the diet and with the incidence of *pseudo dementia* on the students of the 6th semester of Nursing Program of the University of NU Surabaya.

From the results above, it showed there is a relationship between the diet and the incidence of *pseudodementia*. This can be concluded that the diet has significant effect on the incidence *pseudodementia*, whereby if a person's diet is good then *pseudodementia* events can be suppressed. In principle, every person has different diets, because he/she has different characteristics in the application of diet. A good diet can reduce the *pseudodementia* in adolescents. A diet which rich in nutrients is the key to add a memory function.

#### **CONCLUSIONS**

1. Nearly a half of the students of S1 Nursing Program of the University of NU Surabaya have the good diet.
2. Nearly a half of the students of S1 Nursing Program of the University of NU Surabaya suffer from *probable cognitive*

*impairment* which commonly referred to *pseudodementia*.

3. There is a relationship between the diet and the incidence of *pseudo dementia* on the students of S1 Nursing Program of the University of NU Surabaya.

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