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Health Science

THE RELATIONSHIP OF COGNITIVE FUNCTION WITH SOCIAL INTERACTION SKILLS OF THE ELDERLY IN PUSKESMAS SIKOLOS DISTRICT OF PADANG PANJANG

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ABSTRACT   Advanced age is a natural process that can not avoid, the process becomes old due to biological factors, happen naturally, continuous and sustained that can cause changes in anatomical, physiological, biochemical in body tissue, and ultimately affect the function, the ability of the body and soul. Elderly who live in the Puskesmas Sikolos District of Padang Panjang, when be done the assessment of cognitive function (MMSE), three of the five elderly included in the bad category and their social interaction is also different, there are to talks but there are just too quiet. This study aims to determine the relationship of cognitive function with the ability soasial interactions in the elderly. This type of research is analytic survey with cross sectional approach. This research was conducted in Puskesma Sikolos District of Padang Panjang. The overall population in this study as many as 1,262 elderly people. Sampling object under investigation and is considered to represent the entire population sample taken using simple random technique in which each member of the sample or unit of the population has an equal chance to be selected as samples and obtained a sample of 92 people. Data is collected using a questionnaire and checklist sheet. Analysis of the data is computerized chi-square test. The results showed that cognitive function in the bad category 35 (38.0%), and social interaction in the category of less than 36 people (39.1%). Statistical analysis showed that there is a relationship with the cognitive function in elderly social interaction skills with chi-square test obtained by value p = 0.000 (p <0.05). It can be concluded that there is influence cognitive function with social interaction skills in the elderly. For that suggest an attempt by the health centers can provide approaches to improve social interaction skills.

KEYWORDS : Cognitive Function, Social Interaction Ability, Elderly.

Introduction

The World Health Organization says that the elderly population in Indonesia in 2010 is 9.77 percent of the total population and by 2020 has reached 11.34% or recorded 28.8 million people causing the largest elderly population in the world (Badan Pusat Statistik [BPS], 2007). Indonesia is included in the top five most elderly countries in the world. Based on the population census in 2010, the number of elderly in Indonesia is 18.1 million people (7.6% of the total population). By 2014, the number of elderly people in Indonesia to be 18.781 million people and estimated in 2025, the number will reach 36 million people. Demography of the world population is undergoing change, along with the increase of Life Expectancy of Age (UHH). Life Expectancy of Age (UHH) is one of the indicators used to assess the health status of the population, meaning that if life expectancy increases, the health status of the population also increases. the increase of life expectancy in Indonesia shows that the level of welfare of Indonesian society increases. Behind the positive side of increasing the welfare of Indonesian society, it turns out that the increase of life expectancy can cause the increasing of elderly population[1].

This elderly population increase can cause problems. Problems related to the development of elderly life one of them is aging process, both physically, mentally and psychosocial. The more advanced a person, the physical ability will decrease, so it can lead to setbacks in social roles. This resulted in the occurrence of disruptions in terms of living needs, so as to increase dependence that requires the help of others. Anticipating this condition the assessment of elderly problems needs to be improved, including the nursing aspect in order to adapt to the needs and to ensure the achievement of a happy, efficient old age in family and community life in Indonesia[2].

Elderly is a natural process that can not be avoided, the process of growing old caused by biological factors, take place naturally, continuously and continuously that can cause anatomical, physiological, biochemical changes in body tissue and ultimately affect the function, ability and soul (Padila , 2013). According to WHO in the Minister of Health RI limit of elderly are: middle age "Middle Age" age between 45-59 years, elderly "Elderly" age between 60-74 years old, old "old" age between 75-90 years and age very old "Very old" age> 90years.

The process of aging is a lifelong process, not just at the start of a certain time but starting from the beginning of life (Maryam 2011). Being an old is a natural process which means a person has gone through the stages of life, the neonate, toodler, pre school, school , adolescents, adults and the elderly. This different stage begins both biologically and psychologically. In the elderly the physical condition decreases. This can be seen from several changes, namely changes in

the cell and various systems that exist in the body, including: persyarafan, hearing, sight, cardiovascular, respiration, gastrointestinal, genitourinaria, endokrin and skin. One of the health problems that can arise in the elderly is mental disorders. Mental disorders that often arise in this period is depression and impaired cognitive function[2].

Cognitive function is the ability to know or know about things or circumstances or situations, which are associated with learning experiences and the capacity of one's intelligence (Suharnan, 2005). A number of psychosocial risk factors also lead to elderly in cognitive dysfunction. Risk factors are loss of social role, economic loss, death of friends or relatives, decreased health, increased isolation due to loss of social interaction and decreased cognitive function[2].

The impact of declining cognitive function in the elderly will lead to shifts in the role of elderly in social interactions in the community as well as in the family. This is supported by the attitude of elderly people who tend to be selfish and reluctant to listen to the opinions of others, resulting in elderly feel socially isolated who in the end feel isolated and feel useless because there is no emotional channeling through socializing. This condition causes social interaction to decline both in quality and quantity, because the role of the elderly is replaced by the younger generation, where this situation occurs throughout life and can not be avoided[3].

Social interaction is a reciprocal relationship, affecting each other in thought and action, and can not be separated from one relationship that occurs between individuals, social and society in healthy life

Table. 1 Elderly data age 60 and above, last 5 years in Padang Panjang

No.	Tahun	Kebun Sikolos	Bukit Surunggan	Jumlah Lansia
1	2012	1.219	808	2.027
2	2013	1.219	1.043	2.262
3	2014	1.085	1.273	2.358
4	2015	1.085	1.273	2.358
5	2016	1.262	1.168	2.430

Material and Method

This research type is quantitative research that is research data in the form of numbers and analysis using statistic, which uses descriptive correlation design that is a research method that aims to see the relationship between two variables or more. Research using cross sectional approach that is collecting data of independent variable and dependent variable done together or at the same time5. Population is the whole object of research or object under study. The population in

this study is the overall elderly in the working area of Sikolos Puskesmas, Padang Panjang sub-district numbered 1,262 people. In this research the sample technique used is by Simpel Random Sampling or the essence of simple random sampling is every member or unit of population have equal opportunity to be selected as sample, so that got the number of sample as much 92.

Result and Discussion
Univariate Analysis
Univariate analysis aims to explain or describe the characteristics of each research variable. In this study, the variables described by univariate analysis are independent variable and dependent variable that is cognitive function with social interaction ability in elderly in working area of Sikolos Puskesmas, Padang Panjang District. The results of univariate analysis in this study are as follows:

Table. 1 Frequency Distribution of respondennts based on characteristics (age) in Work Area of Sikolos District Health Center Padang Panjang

No	Umur	f	%
1	Young Elderly (60-69)	36	39,1
2	Middle Elderly (70-79)	42	45,7
3	Old Elderly (80-89)	14	15,2
Amount		92	100

Based on table 1 above found that of 92 people elderly, less than half (45.7%) in the middle age category (70 -79) years.

Table. 2 Frequency Distribution of Respondents by characteristic (sex) in the Working Area of Puskesmas Sikolos District of Padang Panjang

No	Gender elderly	f	%
1	Man	42	45,7
2	Woman	50	54,3
Amount		92	100

Based on table 2 above, it was found that out of 92 elderly people, more than half (54.3%) were female.

Table. 3
Characteristic Frequency Distribution of education in the Working Area of Sikolos district of Padang Panjang

No	Education	f	%
1	Elementary school	75	81,5
2	Junior high school	14	15,2
3	Senior high school	3	3,3
Amount		92	100

Based on table 3 above, it was found that out of 92 elderly people, most (81.5%) have elementary education.

Table. 4
Frequency Distribution of Respondents Based on Cognitive Function in Work Area of Sikolos District of Padang Panjang

No	Cognitive function in the Elderly	f	%
1	Poor	35	38,0
2	Good	57	62,0
Amount		92	100

Based on table 4 above found that of 92 elderly people, less than half (38.0%) poor cognitive function.

Table. 5
Frequency distribution of social interaction in the elderly in the working area of Sikolos District of Padang Panjang

No	Social interaction in the Elderly	f	%
1	Less	36	39,1
2	Good	56	60,9
Amount		92	100

Based on table 5 above obtained that from 92 elderly, less than half (39,1%) social interaction less.

Bivariate Analysis
Bivariate analysis is done on two variables to determine whether there is relationship between independent variable with dependent variable.

This analysis aims to determine whether there is a relationship between the two variables using the statistical test "Chi Square" with a significance level of Pvalue ≤ 0.05. If the value of Pvalue ≤ 0.05 means there is a meaningful relationship between the independent variable with the dependent variable. If the value of Pvalue $> 0,05$ means there is no significant relationship between independent variable with dependent variable. The result of bivariate analysis in the research can be explained in the table below:

Table. 6
Relationship of Cognitive Function with Social Interaction Ability Respondent in Sikolos District of Padang Panjang

No	Cognitive function	Social interaction ability					Total		p.value
		Less	%	Good	%	N	%		
1	Poor	22	23,9	13	14,1	35	38,0		0,000
2	Good	14	15,2	43	46,7	57	62,0		
	Amount	36	39,1	56	60,8	92	100		

Based on Table 6 it is known that from the percentage of respondents the ability of social interaction is less high in respondents whose cognitive function is poor compared to the respondents whose cognitive function is good (23.9%: 15.2%). Statistically there is relationship of cognitive function with social interaction ability in elderly, where the value of Pvalue <0,05.

a. Ages
Based on table 5.1 it can be seen that from 92 elderly people, less than half (45,7%) in middle age category (70 - 79) year. The elderly is a male or female 60 years of age or older, both physically capable (potential) and because something is no longer able to play an active role in development[1].

Elderly is a natural process that can not be avoided, the process of growing old is caused by biological factors, take place naturally, continuously and continuously which can cause anatomical, physiological, biochemical changes in body tissue and ultimately affect the function, body and soul6.

The elderly are part of the growing process. Man does not suddenly grow old, but develops from infants, children, adults and eventually grows old. This is normal, with physical changes and predictable behavior that occur in all people by the time they reach a certain stage of development. Elderly is a natural process determined by God Almighty, everyone will experience the process of growing old and old life is a life.

This research is in line with research conducted by Fahyuni Deu (2015) entitled Relationship of Cognitive Function with Social Interaction Ability in Elderly in District Health Center of Kabila Sub-district, Bone Bolango District, showed from 30 respondents, got elderly with age characteristics as many as 22 people (73, 3%) more than half the elderly category of middle age (70-79) years.

According to researchers age factor is very influential on cognitive function in elderly. Because in general elderly it is difficult to remember new things or old things like the day, date and address of the elderly's own house. And while interviewing the elderly, the elderly seems difficult to answer the questions given, because in the age range (70-79) years old people tend not motivated or feel lazy to remember something because he felt it just adds to the burden of his mind only.

b. Sex
Based on table 2 it can be seen that from 92 elderly people, more than half (54.3%) are female.

Women seem more at risk of cognitive decline. This is due to the role of endogenous sex hormone levels in changes in cognitive function. Estrogen receptors have been found in areas of the brain that play a role in learning and memory functions, such as the hippocampus. Low levels of estradiol in the body have been associated with decreased general cognitive function and verbal memory. Estradiol is thought to be neuroprotective and can limit damage due to oxidative stress and is seen as a protector of nerve cells from amyloid toxicity in Alzheimer's patients.

This research is in line with research conducted by Marlina Dwi Rosita

(2012) entitled Relationship of Cognitive Function with Social Interaction Ability in Elderly in Mandan Sub-District of Working Area of Sukoharjo Public Health Center, it is known that from 80 respondents studied, got with gender characteristics as much as 55 elderly (68.8%) more than half of the female sex.

The same study was conducted by Heny Maryati (2013) with the title of Cognitive Function in Elderly at UPT Panti Werdha Mojopahit Mojokerto regency, it is known that from 30 respondents in the meticulous, get with gender characteristics as much as 21 elderly (70,0%) partially big female sex.

According to researchers the instrument that researchers use the average elderly women tend to stress because at the time of the elderly have the problem of elderly more often close themselves from memlih telling others. Elderly women are also difficult to believe especially to people who just met and at the time of questioning elderly women are reluctant or hesitant to answer questions posed so that researchers continue to convince the elderly until the elderly willing to answer questions given.

c. Education
Based on table 3 it can be seen that of 92 elderly people, most (81.5%) educated elementary school.

Low-education groups have never been better than those with higher education (Scanlan, 2007). Educational facilities, increasingly years of increasing, so that the present generation has a chance to get a better education than the previous generation. The experiences in the world of education, it is positively correlated with the results of scores on intelligence tests and information processing tasks.

This research is in line with research conducted by Fahyuni Deu (2015) entitled Relationship of Cognitive Function with Social Interaction Ability in Elderly in District Health Center of Kabila Sub-district, Bone Bolango District, showed from 30 respondents, got elderly as many as 15 people (50%) half elderly educated elementary school.

According to researchers, most (81.5%) of elementary-school respondents are due to several factors, such as environmental factors, economic factors and the lack of knowledge that continuing education to the higher is very important. Because the school has not been as many schools at this time and there is a school, the distance to the school home and even then far and takes a few minutes walk to get to school. At that time transportation is not as many as now, not everyone can go to school with trasportasi that exists because of the cost or the cost that is difficult to reach to be issued every day. Because of the limitations that the average elderly choose to help his parents in the fields or selling in the market than to continue the school is a long distance and cost is not small.

Cognitive function of Respondent in Work Area Sikolos District of of Padang Panjang
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Social Interaction of Respondent in Working Area Sikolos district of Padang Panjang
Based on table 5 it can be seen that from 92 elderly, less than half (39,1%) social interaction less.

According to Walgito (2003), social interaction is the relationship between individuals with each other, individuals can affect other individuals or vice versa, so there is a mutual relationship. Social interaction is a reciprocal relationship, affecting each other in thought and action, and can not be separated from one relationship that occurs between individuals, social and society in everyday life (Maryati and Suryawati, 2006). Social interaction tends to decline due to cognitive impairment, death of friends, living facilities or home care[9].

According to Santosa (2010), which states that the ability of social interaction is influenced by forms of social interaction consisting of cooperation, competition, conflict and conformity considering the respondents live in the social sphere.

Elderly who has the ability of social interaction is the elderly who are still able to perform social interactions are still healthy physical and psychological. This is in accordance with the opinion of Soekanto (2005), which states that the terms of the existence of social interaction, among others, is the presence of social contact and the existence of communication. Without these two conditions, one can not be said to interact socially because what is meant by interaction is when there are two or more people.

This research is in line with research conducted by Sehanto (2012) with the title of Social Interaction Relationship With Depression Rate At Seniors in Leyangan Village, East Ungaran Sub-district, Semarang Regency showed that 66 respondents got 35 people (53,0%) more than half had social interaction less.

According to researchers, more than half of the elderly have good social interaction due to family factors and environmental factors. The family always carries elderly for routine at least in 1 month that 2 times follow activity at posyandu elderly like elderly gymnastics. And the family also always invites elderly to travel out of the house like go wirid pengajian or gotong royong, although when gotong royong the elderly are not in demand to participate but only for friends telling stories, exchange ideas and laugh. So the elderly can interact well with everyone. And fewer than half of the elderly have less social interaction due to several factors that interfere with them, such as rarely communicating, slightly mingling with others and likes to withdraw and some of the elderly choose to stay home because they feel inferior to join with others because of age and energy that can no longer participate in social activities.

Relationship of Cognitive Function with Social Interaction Ability in Elderly in Work Area of Sikolos District of Padang Panjang
Based on Table 6 it is known that the percentage of respondents of social interaction ability is less high in respondents whose cognitive function is poor compared with respondents whose cognitive function is good (23.9%: 15.2%). Statistically there is relationship of cognitive function with social interaction ability in elderly, where the value of Pvalue <0,05.

The cognitive concept (from Latin cognosere, to know or to recognize) refers to the ability to process information, apply science, and change trends. Cognition is a complex concept that involves aspects of memory, attention, executive function, perception, language and psychomotor functions. The problem, every aspect of itself is complex. Memory itself includes the process of encoding, storage and retrieval of information and can be distributed into short-term memory, long-term memory and working memory.

Attention can be selective, focused, divided or continuous, and

perception includes several levels of process to recognize objects obtained from different sensory stimuli (visual, auditory, touch, smell). The executive function involves reasoning, planning, evaluation, thinking strategies, and so on. On the other hand, the cognitive aspects of language are about verbal expression, vocabulary, fluency and language comprehension. Psychomotor function is related to motor programming and execution. In addition, all of the above cognitive functions are influenced by various factors, such as mood (sadness or joy), alertness and energy levels, physical wellbeing and also motivation.

According to Walgito (2003), social interaction is the relationship between individuals with each other, individuals can affect other individuals or vice versa, so there is a mutual relationship. Social interaction is a reciprocal relationship, affecting each other in thought and action, and can not be separated from one relationship that occurs between individuals, social and society in everyday life (Maryati and Suryawati, 2006). Social interaction tends to decline due to cognitive impairment, death of friends, living facilities or home care[9].

This research is in line with research conducted by Marlina Dwi Rosita (2012) entitled Relationship of Cognitive Function with Social Interaction Ability at Elderly in Mandan Sub-District of Working Area of Sukoharjo Public Health Center, it is known that from 80 respondents who studied, got respondents who have good cognitive function with social interaction is better than the others, ie 31 elderly (38.8%).

According to elderly researchers who have good congenial function but social interaction is less due to the elderly who prefer to spend time at home only, as busy with taking care of his grandchildren, his home yard and there is also because of health conditions that do not allow elderly to participate in community activities that create social interaction with others. While elderly people who have bad congnitive function but good social interaction caused by elderly still lack of knowledge or information so that they try to find the latest information by way of asking to other people either already familiar or belun he know, so as to create good social interaction with people others and the environment.

Conclution

Based on the results of the analysis of research and discussion on the relationship of cognitive function with social interaction ability in Elderly in the work area Sikolos district of Padang Panjang can be concluded with details as follows:

1. Characteristics based on age from 92 elderly people almost half (45,7%) in middle category.
2. Characteristics based on the sex of 92 elderly people who are more than as hell (954.3%) are female.
3. Characteristics based on education of 92 elderly people mostly (81.5%) educated elementary school.
4. Cognitive function of 92 elderly less than half (38,0%) cognitive function in poor category.
5. Social interaction of 92 elderly less than half (39,1%) social interaction in less category.
6. There is relationship of cognitive function with social interaction ability in Elderly with chi-square test obtained value p = 0,001 (p <0,05).

Suggestion

The researcher suggested that the work area Sikolos district of Padang Panjang from the result of research shows more than half have less interaction ability, so it is necessary to do approaches to improve social interaction ability such as improve communication with elderly and hold gathering activity such as elderly gymnastic activity .

To educational institutions to reproduce some sources from guideb ooks, previous research and some journals on the latest cognitive and social interaction functions to make it easier to find reading material for further research and to researchers who wish to continue their cognitive function with social interaction in order to continue more specific research .

REFERENCES
1. Depkes RI. 2013. Riset Kesehatan Dasar. Jakarta: Badan Penelitian dan pengembangan Kesehatan Kementrian Kesehatan RI.
2. Padila, dkk. (2013). Buku Ajar Keperawatan Gerontik. Bengkulu: Nuha Medika
3. Bandiah, Siti. (2009). Lanjut Usia Dan Keperawatan Gerontik. Yogyakarta: Nuha Medika
4. Maryati, Heni. (2013). Gambaran Fungsi Kognitif Pada Lansia Di UPT Panti Werdha Mojopahit Kabupaten Mojokerto. Jombang. Penelitian : STIKes Pemkab Jombang.
5. Notoatmodjo, Soekidjo. (2012). Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta
6. Nugroho, W. (2008). Keperawatn Gerontik Dan Geriatrik Edisi 3. Jakarta: EGC
7. Azizah, L,M. 2011. Keperawatan lanjut usia. Edisi Pertama. Yogyakarta:Graha Ilmu.
8. Desmita. 2010. Psikologi Perkembangan. Bandung: Remaja Rosdakarya
9. Estelle, Kirsch, & Pollack. 2006. Enhancing Social Interaction In Elderly Communities Via Location- Aware Computing. CBI Journal.