

The Relationship Of Self Efficacy And Family Support With Self Care In Elderly Age Diabetes Mellitus Type II

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Abstract: Family support is an element that is very closely related to old age. Increased self-efficacy will control symptoms, medication and lifestyle so that patients are able to adapt to their conditions. This study will analyze the relationship between self-efficacy and family support with self-care in the elderly with type II Diabetes Mellitus at Cipondoh Health Center, Tangerang City. The research design is a quantitative study with a cross-sectional approach. Sampling using purposive sampling with a total of 167 respondents. Data collection used the self-efficacy for diabetes scale questionnaire, The Hensarling's Diabetes Family Support Scale (HDFSS) and Diabetes Self-Management Questionnaire (DSMQ). Bivariate analysis using the chi-square test stated that there was a relationship between self-efficacy and self-care in type II DM patients, namely ($p=0.016$) the OR value of 2,474 meant that self-efficacy had a chance of 2,474 times good self-care. There is a relationship between family support and self-care ($p=0.004$) with an OR value of 4,033 meaning that family support with a good chance has 4,033 times good self-care. Multivariate analysis shows that the variable most related to self-care is family support with OR= 3.682. It is hoped that health workers at the Cipondoh Health Center in Tangerang City will improve health promotion through Posbindu PTM activities, both in the form of education about self-efficacy and family support, which can be done by involving the family.

Keywords: DM Type 2, Self-efficacy, Family Support, Self-care , Elderly.

INTRODUCTION

Non-Communicable Diseases (PTM) are diseases that cannot be transmitted so that they are considered no threat to other people. PTM is a burden on primary health care in developing and industrialized countries. Based on reports *World Health Organization* (World Health Organization 2016), in the Southeast Asian region most often found five NCDs with very high morbidity and mortality rates, some in in between is disease Heart (cardiovascular) as much (39%), Diabetes mellitus, cancer, chronic obstructive respiratory disease and accidental disease. Most PTMs are categorized as disease degenerative and tend to be suffered by people who carry on (Irwan , 2014).

Diabetes Mellitus is a very important health problem in society, is part of four which disease noninfectious the main thing that be the main goal of action carry on from para world leader. Incidence figures and the number of cases of Diabetes Mellitus patients have always been increasing for several years back year (Kemenkes RI 2019). So that every year, prevalence. The incidence of type II Diabetes Mellitus continues to increase. WHO of year 1980 until 2014 has there has been an increase in the incidence of DM which part big is type II as much 3.8% (Chaidir, Wahyuni, and Furkhani 2017). Diabetes mellitus yes one condition health which is very urgent from several people age, approx quarter people aged in on 65-year experience Diabetes mellitus, and this proportion is expected to increase rapidly in the next few years (Prasetyo 2019).

Diabetes Mellitus is a chronic disease that requires extensive treatment complex and requires family support as a *support system* in coping worries and emotional burden because of the disease (Soelistijo et al. 2015) (Adinata, Minarti, and Kastubi 2022).

Based on the results of Isnaini and Ratnasari's research (2018), risk factors that have a relationship to the incidence of type 2 DM are age ≥ 45 years (OR=0.312), low education level (OR=0.272), obesity

(OR=0.297), family history of DM (OR=10.938) and diet (OR=0.424). (13) Elderly with DM for a long time generally have a poor quality of life because it has a negative impact on the physical and psychological aspects of sufferers (Isnaini and Ratnasari 2018). According to WHO, the elderly are a group population aged 60 years or over. *Self-efficacy* is related to belief that self has actions as well as abilities which are desired (World Health Organization 2016).

The results of the research (Putu Wira & Komang Putri, 2018) tell *Self Efficacy* towards Diabetes Mellitus type II from 79 respondents as many as 47 respondents (59.2%) that the average *self-efficacy* of type II DM patients in the moderate category. Feelings of boredom and boredom appear and it will be very easy for type II DM sufferers to stop discipline and do action *self-care* (Luthfa 2016). category enough as many as 24 respondents (83.1%), from the results above stated that family support had a relationship with *self-care* in patients with type DM II (Hanifah et al. 2019). Self-efficacy in people with DM is focused on a belief and ability client in manage, plan behavior with independent so that could increase internal patient compliance control sugar blood and quality life Becomes better (Rahman, Yulia, and Sukarmini 2017).

Self-care management (*self-care activity*) is a maintenance capital. It is most appropriate for patients suffering from chronic diseases such as diabetes mellitus. Self-care is a very important thing to be done by patients with diabetes mellitus. They can control disease and are a deterrent to complications. Activity *self-care* on patient diabetes mellitus, among others, is to make dietary arrangements, increase physical activity, controlling blood sugar, and doing maintenance foot (Soelistijo et al. 2015).

Results study which in do by (Chaidir, R., Wahyuni, Furkhan 2017) showed a positive relationship between *self-care* and quality of life of DM patients, where the higher the *self-care*, the better the quality life of diabetes mellitus patients (Chaidir, R., Wahyuni, Furkhan 2017). *Self-care* needs support for the family based on research conducted by (Marlinda, Nuryanto, and Noriani 2019).

Family support i.e., a form of providing support to other family members who experience problems, namely providing support and maintenance and emotionalization, to achieve prosperity in family members and fulfill psychosocial (Potter & Perry 2009). In line with research conducted by Hanifah (2019) proving that the average support is from category family _ enough that is 40 respondent (63.5%), *Self-Efficiency* categorized _ good as much 50 respondent (79.4%) and *self-care* categorized enough that is as much 24 Respondents (83.1%), family support is related to *self-care* for people with type Diabetes Mellitus II (Hanifah et al. 2019).

From research conducted by previous researchers, the results of analysis of the relationship between poor family support and self-efficacy of elderly type 2 DM were good (p value = 0.008; r = 0.258). It is supported by research (Ramadhani, MM, and Hadi 2016) which shows (p value = 0.010), where family support has a 4.97 times chance of showing good self-efficacy compared to family support (Ariani et al. 2012). The results of other studies show that high self-efficacy is related to social support.

From the stadium preliminary conducted by researchers in wrong one Public health center in Tangerang with interview patient elderly with DM Type II ie 6 type II Diabetes Mellitus patients consisting of old and new Diabetes Mellitus patients, 4 respondents no regular do visit to the health center. because you have felt know about the situation so feel no need for a health check, with clients only need to buy medicine at the pharmacy. Know about nutritional management for Diabetes Mellitus is to reduce sweets, limit calories, and also foods that contain lots of fiber. But 5 participants are not sure to regulate their eating patterns and are still routine consumption of food that is not allowed for patient Diabetes Mellitus, no once do sport in 1 week. Sufferers of Diabetes mellitus say that the reason they do not do sports is because they are lazy and too tired to do homework, as well as busy work. Participants already get recommendations to join the elderly program for exercise regularly. From Thing on researchers are interested to know the connection between self-efficacy and Support family with *self care* on Elderly Diabetes mellitus type II in region work Cipondoh Community Health Center, Tangerang City.

METHOD

Study this use quantitative research with approach *cross sectional* where researchers see whether there is a relationship between the independent and dependent variables in one measurement time which together (Dharma 2015). Sampling used in this research is to use *purposive sampling technique* and in a manner written has state ready follow as well as in research and have signed the informed consent *sheet consent* . The sample size is determined by the *Slovin formula* with 5% confidence. The instrument in this study in collecting data was the researcher's *Diabetes Questionnaire Self-Management Questionnaire*, family support, *The Hensarling's Diabetes Family Support Scale (HDFSS)* in the elderly with Diabetes mellitus type II. The test was performed using *Multiple Logistic Regression*.

RESULTS

Univariate analysis

Characteristics of Respondents

Table 1 : Frequency distribution of respondents based on demographic factors (age) of type 2 DM patients (N = 167)

Variable	Means Median	Standard deviation	Minimum Maximum
Age	58.64 59.00	5012	47 72

Table 1 it can be concluded that the respondents were based on age, the average age of the respondents was 58.64 years, with a median of 59 years, a standard deviation of 5.012, the youngest age was 47 years and the oldest was 72 years. The following table describes the average respondent characteristics which include gender, education and length of suffering in type 2 DM patients.

Table 2 : Frequency distribution of respondents based on demographic factors (gender, education and length of suffering) elderly type 2 DM (N = 167)

Characteristics	f	%
Gender		
Man	69	30.6
Woman	98	57.6
Education		
Low education	81	47,6
Higher education	86	50,6
Long suffered		
1-4 year	107	62.9
>4 years	60	35.3

From the elaboration of the table above, it shows that 98 respondents (57.6%) have female sex, high school education, higher education or equivalent, namely 86 respondents (50.6%). and long suffered 1-4 years as many as 107 respondents (62.9%).

Self-efficacy

Table 2 : Frequency Distribution of *Self Efficacy* in Elderly with Diabetes Mellitus at Cipondoh Community Health Center, Tangerang City (n=167)

<i>Self efficacy</i>	F	%
<i>Self efficacy</i>		
Not sure	54	31.8
Certain	113	66.5

From the elaboration of the table above, it can be seen that the proportion of respondents based on *self-efficacy* has a striking difference between confident *self-efficacy* and those who are less sure. There were 113 respondents (66.5%) who were sure of their *self-efficacy* . And those who are less sure of *self-efficacy* are 54 respondents (31.8%).

Family support

Table 3 : Frequency Distribution of Family Support in Elderly with Diabetes Mellitus at Cipondoh Community Health Center, Tangerang City (N=167)

Family support	F	%
Family support		
Not good	19	11,2
Well	148	87,1

From the description of the table above, it can be seen that the proportion of respondents based on family support has a striking difference between good and poor family support. Those with good family support were 148 respondents (87.1%). And those with poor family support were 19 respondents (11.2%).

Self Care

Table 4 : Frequency Distribution of *Self Care* in Elderly with Diabetes Mellitus at Cipondoh Community Health Center, Tangerang City (n=167)

<i>self care</i>	F	%
<i>self care</i>		
Not enough	36	21.2
Well	131	77.1

Table 4 above can be seen that the proportion of respondents based on *self care* has a striking difference between good *self care* and poor *self care*. *Self care* is good as many as 131 respondents (77.1%). And those who lack *self care* are 36 respondents (21.2%).

Bivariate Analysis

The relationship between *self-efficacy* and *self-care* in the elderly with Diabetes Mellitus tipe II at Cipondoh Health Center, Tangerang City.

Table 5 : Connection *self-efficacy* with *self-care* in the elderly with type II Diabetes Mellitus in the work area of the Cipondoh Community Health Center, Tangerang City (n=167)

<i>Self efficacy</i>	<i>Self-care</i>		F	%	P	OR
	Not enough	Well				
Not sure	18 (12.0%)	36 (42.0%)	54	32.2%	0.016	2.474
Confident	19 (25.0%)	98 (56.3%)	113	67.7%		

Table 5 shows that elderly people with *self-efficacy* believe they can do *self-care* well, namely 98 respondents (56.3%), elderly people with *self-efficacy* believe they can do *self-care* with less, namely 19 respondents (25.0%). The statistical test results obtained were $p = 0.016$ ($p < 0.05$), there was a relationship between *self-efficacy* and *self-care* in the elderly with DM Tipe II at the Cipondoh Health Center, Tangerang City. And the results of the statistical test showed an OR value of 2,474, meaning that elderly people with diabetes mellitus had *self-efficacy* sure that they had good *self-care* 2 times compared to those with *self-efficacy* who were less sure.

Relationship between family support and *self care* in the elderly with Diabetes Mellitus tipe II at the Cipondoh Health Center, Tangerang City.

Table 6 : Relationship between family support and *self-care* in the elderly with type II DM in Cipondoh Community Health Center, Tangerang City (n=167)

Family support			F	%	P	OR
	Not enough	Well				
Not enough	9 (4.1%)	10 (14.9%)	19	11.4%	0.004	4,033
Well	27 (31.9%)	121 (72.5%)	148	88.6%		

Table 6 shows that the elderly with good family support can do *self-care* well, namely 121 respondents (72.5%), elderly with family support both can do *self care* with less namely 27 respondents (31.9%). The statistical test results obtained $p = 0.004$ ($p < 0.05$) there is a relationship between family support and *self care* in the elderly with type 2 Diabetes Mellitus at the Cipondoh Health Center, Tangerang City. And the statistical test results show an OR value of 4,033 meaning that elderly people with DM have good family support, have good *self-care* 4 times compared to those with poor family support.

Multivariate Analysis

Table 7: Results of bivariate selection test Respondent characteristics (age, sex, duration of DM) *self-efficacy* and family support with *self-care* for Type 2 Diabetes (n-167)

Independent variable	P-value
Age	0.649
Gender	0.115
Education	0.073
Long suffered	0.418
<i>Self-efficacy</i>	0.016
Family support	0.004

Based on table 7, it shows that the variables of gender, education, *self-efficacy* and family support are included in the multivariate analysis, because these variables have a *p value* <0.25. while the variables of age and duration of suffering are not including multivariate analysis, because it has a *p-value* > 0.25.

Table 8. Multivariate variable of gender, education and self-efficacy

Independent Variable	Exp B	OR	P Value	95% CI	
				Lower	Upper
gender	0.556	1.744	0.161	0.801	3.798
education	0.595	1.812	0.138	0.826	3.975
Self-efficacy	0.076	1.079	0.091	0.988	1.178
Family support	1.217	3.376	0.021	1.202	9.483

Table 8 shows that the variables that must be excluded from the modeling are those with a *p -value* > 0.05, the variables that must be excluded starting from the variable with the highest *p-value*, namely gender (*p* = 0.161). And education (*p* = 0.148). The next modeling stage after removing the variable with the highest *p value* and retaining the variable with the smallest *p value* is presented in the table 9.

Table 9. Modelling without gender after Excluded from analysis

Independent Variable	B	OR	p-value	95% CI	
				Lower	Upper
Self-efficacy	0.082	1.085	0.064	0.995	1.183
Family Support	1.303	3.682	0.011	1.341	10.107

From table 9 can be explained that after removing the variables of sex and education there appears to be no change in the *odds ratio* >10% for the other variables, for that the variables of sex and education are permanently excluded. On the variables of *self-efficacy* and family support, after removing the variables of gender and education, a *p value* <0.05, namely 0.011 for the family support variable, then table 5.10 above is the final modeling. For the next stage, interaction tests were carried out for *self-efficacy* and family support variables

Based on table 10, it can be explained that: the results of the interaction test between the independent variables and the compounding variable obtained a *p value* > 0.05, meaning that there

was no interaction between the independent variables and the compounding variables. From the results of the analysis above, there is no interaction, so this modeling is statistically valid.

Table 10. Interaction test between variables

	B	S.E.	Wald	Sig	Exp B	95% CI for Exp B	
						Lower	Upper
Self-Efficacy	0.33	0.20	2.70	0.10	1.40	0.93	2.09
Family support	1.81	2.38	0.58	0.44	6.16	0.58	655.32
Gender	2.42	2.13	1.28	0.25	11.25	0.17	743.42
Education	0.47	2.18	0.04	0.82	1.60	0.22	116.22
Self-efficacy*gender	-0.02	0.09	0.06	0.80	0.97	0.81	1.17
Self-efficacy-education	-0.16	0.09	2.76	0.09	0.85	0.70	1.02
Family support-gender	-0.95	1.11	0.73	0.39	0.38	0.04	3.40
Fam support*education	0.62	1.13	0.30	0.58	1.86	0.20	17.26

Table 11. Final modelling

Independent	B	OR	P value	95% CI	
				lower	upper
Self-efficacy	0.08	1.08	0.06	0.99	1.18

Table 11 above can be explained that: From the *multivariate* analysis the variables that are related and meaningful to *self-care* are family support variables. From the results of the analysis, it was found that the *p value* for family support was 0.011 <0.05 with an *Odds Ratio* of 3,682, meaning that participants with good family support had a good chance of *self-care* 3,682 times compared to respondents with poor family support. From this modeling the variable most related to *self-care* is family support because it has a greater *odds ratio* than the *self-efficacy* variable.

DISCUSSION

The relationship between *self-efficacy* and *self-care* in the elderly with DM type II at the Cipondoh Health Center, Tangerang City.

Based on the results, there is a relationship between *self-efficacy* and *self-care* in DM patients in the working area of the Cipondoh Health Center, Tangerang City. From the analysis carried out, the OR value was 2,474, so that elderly people with Diabetes Mellitus had *self-efficacy* sure that they had good *self-care* 2 times compared to *self-efficacy* who were less sure. *Self-efficacy* is a form of health behavior that is formed within a person who is influenced by two main factors, namely stimulus factors from outside the person's self and factors from within the person concerned (Rias 2016). A person's behavior is very important because of *self-efficacy* in changing behavior. *Self-efficacy* is very closely related to adherence, including *diet adherence* to DM. The better a person's *self-efficacy*, the better his health behavior (Yaqin, A., Niken, S., & Dharmana 2017).

Relationship between family support and *self-care* in the elderly with DM type II at the Cipondoh Health Center, Tangerang City.

Based on the results, there is a relationship between family support and *self-care* in diabetes mellitus patients in the working area of the Cipondoh Health Center, Tangerang City. And the statistical test results show an OR value of 4,033 which means that elderly people with Diabetes Mellitus have good family support, have good *self-care* 4 times compared to those with poor family support. From the above it is very significant with the theory developed by Weinger (2007), namely Family Support has a very positive effect on adherence to Diabetes Mellitus in carrying out *self-care* and its treatment. (Ramadhani et al. 2016). Having this family support can really help people who have chronic illnesses to adapt to the stress experienced due to the process of their self-medication regimen. This is also in line with research Istiyani (2018), namely the results of the correlation between family support and *self-carriage (diet)* in people with type II Diabetes Mellitus is 0.950 with a significance of 0.000 (smaller than 0.05) (Istiyani 2018). So that in line with the criteria, it can be interpreted that from H1 it is accepted which can be concluded that family support has a significant relationship to *self-care behavior* of people with diabetes mellitus type II.

Factors that contribute to *self care*

Multivariate analysis that has been carried out using *multiple logistic regression means* that the variable most frequently and closely related to *self-care* is family support. Based on the correlation value, the strongest correlation with *self-care* of type II Diabetes Mellitus clients is family support with an OR value of 3,421 because the greater the OR value, the more closely the variable is related to the dependent variable. The above is very much in line with the research that has been conducted by (Tabasi, H. K., Madarshahian, F., Nikoo, M. K. 2014). The study was conducted by means of a *randomized control trial* which was conducted on 91 participants with an intervention group of 45 participants and a control group of 46 patients. The results showed an increase in adherence of Type II Diabetes Mellitus patients to the therapy given ($r=0.67$, $p<0.001$). [20].

CONCLUSION

The results of the study showed that the characteristics of type II DM clients at the Cipondoh Health Center, Tangerang City, were the average pre-elderly age, the mean data obtained was 58.64 and the median value was 59, the mean age of the youngest patient was 47 years and the oldest was 72 years, female sex, higher education, long suffering from Diabetes Mellitus is 1-4 years.

There is a significant relationship between *self-efficacy* and *self-care* for the elderly and Type II DM at Cipondoh Health Center, Tangerang City. There is an OR value of 2,474, meaning that elderly people with DM self-efficacy are sure that they have good *self-care* 2 times compared to those with *self-efficacy* who are less sure. There is also a significant relationship between family support and *self-care* for the elderly and Type II DM at the Cipondoh Health Center, Tangerang City. There is an OR value of 4,033 meaning that elderly people with DM have good family support and have good *self care* 4 times compared to those with poor family support. There is a very close relationship, namely family support for elderly *self-care* with Type II DM in the working area of the Cipondoh Community Health Center, Tangerang City, which has an OR value of 3,421.

Suggestion for service health City Health Center Cipondoh Tangerang ie need perfected return program education which already there is with more structured and held follow timetable Posbindu PTM activities. Education about *self efficacy* and Support family could involve family, because of the importance of family support for self-care abilities of DM clients. As well as service health in Home Sick Optimizing gift service health by providing education related to family support, *self-efficacy* and *self care* on elderly patient with DM Type 2

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