

# The Relationship of Self-Motivation in Diabetes Mellitus Management with Blood Sugar Levels of Diabetes Mellitus Type II Clients

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## **Abstract**

The purpose of this study was to determine the relationship of self-motivation to diabetes mellitus (DM) management with blood sugar levels of DM type ii clients in Outpatient Polyclinic Installation in Dr. Doris Sylvanus Hospital Palangka Raya. The research uses descriptive correlational with cross sectional research design. The sampling technique uses purposive sampling. The respondents of this study were 40 people. Data collection using a questionnaire and recording the value of blood sugar from the results of laboratory tests in the client report status. Statistical tests use the Chi-Square test. The results of statistical analysis revealed that self-motivation on clients was in the unfavorable category of 32 people (80%), blood sugar levels were in the high category of 26 people (65%) with a p-value of 0.001 ( $p < 0.05$ ). There is a significant relationship between self-motivation to DM management with blood sugar levels of DM type II clients in the Outpatient Polyclinic Installation of Dr. Doris Sylvanus Hospital Palangka Raya.

**Keywords:** *self-motivation, blood sugar level, diabetes mellitus*

## **Introduction**

Diabetes mellitus is a group of metabolic diseases with characteristic hyperglycemia that occurs due to abnormal insulin secretion, insulin action or both.<sup>1</sup> Based on a preliminary study in the medical record section of Dr. Doris Sylvanus Hospital Palangka Raya which was conducted on January 24, 2018, obtained data on the number of patients with Type II DM in 2016 the number of DM cases was 4111 cases with an average monthly of 343 cases and increased to 4942 cases in 2017 with an average monthly to 412 cases. The increase in cases of Type II DM is accompanied by an increase in the occurrence of cases of Type II DM complications, based on the medical record of complications that often occur is hyperglycemia which is the forerunner to the growth of various other diseases to the point of death. If hyperglycemia in people with Type II diabetes can be controlled properly, then all these chronic complications

can be prevented, at least inhibited.<sup>1</sup>

The goal of diabetes mellitus management for the short term is to eliminate complaints/symptoms and maintain a sense of comfort and health, while in the long run to prevent complications, both macroangiopathy and neuropathy with the ultimate goal of reducing diabetes morbidity and mortality.

Management of diabetes mellitus with 5 main pillars, namely first, meal planning by making dietary arrangements based on the nutritional status of diabetes. Second, physical exercise so that muscle contraction when doing physical exercise will make the membrane permeability to glucose increase. Third, pharmacological therapy. Fourth, counseling. The fifth routine and independent monitoring of blood sugar with sugar control can reduce the number of complications in patients with diabetes mellitus

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DM management problems that often occur in Dr. Doris Sylvanus Hospital Palangka Raya based on the results of a survey on January 24, 2018 in people with DM is the lack of self-motivation related to carrying out the four pillars of DM. One of the factors that influence

a person’s behavior in improving and maintaining their health is motivation, including in managing DM regularly as an effort to prevent complications in diabetes mellitus patients.<sup>2</sup> One of the DM management is regular blood sugar control, which is one of the treatments for diabetes mellitus patients to support stable blood sugar and prevent complications, therefore there is a need for self-motivation in carrying out the examination and management of diabetes mellitus.<sup>3</sup>

**Materials and Method**

This type of research is quantitative in the form of descriptive correlation which is research that aims to reveal the correlative relationship between the

independent variables and the dependent variable, with the cross-sectional approach which is a study to study the dynamics of the correlation between factors and risks with effects by approaching, observing or collecting data at once in one when.

The population in this study is type II diabetes mellitus clients who seek treatment at the Internal Medicine Outpatient Clinic of Dr. Doris Sylvanus Hospital Palangka Raya. The sample used in this study with a sampling technique using purposive sampling with a total sampling of 40 respondents. This research was conducted on April 20-May 12, 2018. The time was used to collect data through a questionnaire that was filled in completely and returned to the researcher.

**Findings and Discussion**

**Table 1. Relationship between Self-Motivation and Other Confounding Variables with Blood Sugar Levels**

Variable	Blood Sugar Levels				OR (95% CI)	p-value
	Normal		High			
	f	%	f	%		
Self-motivation						
Good	7	87.5	1	12.5	Reff	0.001
Not good	7	21.9	25	78.1	25.00 (2,617-238,787)	
Age						
Early adulthood (26-35 years old)	1	50	1	50	Reff	
Late adulthood (36-45 years old)	3	75	1	25	0.33 (0.01-11.93)	0.54
Early elderly (46-55 years old)	7	38.9	11	61.1	1.57 (0.08-29.4)	0.76
Late elderly (56-65 years old)	3	35	13	81.2	4.33 (0.21 - 90.84)	0.34
Gender						

**Cont .... Table 1. Relationship between Self-Motivation and Other Confounding Variables with**

	Male	6	31.6	13	68.4	Reff	
	Female	8	38.1	13	61.9	0.75 (0.203 - 2.77)	0.92
Education							
	College	4	40	6	60	Reff	
	High school	8	38.1	13	61.9	1.08 (0.23-5.06)	0.91
	Middle School	2	25	6	75	2 (0.26-15.3)	0.505
	Elementary school	0	0	1	100	0	1
Profession							
	Civil servant/army/police	3	50	3	50	Reff	
	Farmers/laborers/trader	0	0	2	100	0	0.99
	Other	5	0	10	66.7	2 (0.29-13.73)	0.48
	Not Working/housewife	6	35.3	11	64.7	1.83 (0.27-12.06)	0.52
Marital status							
	Married	14	36.8	24	63.2	Reff	
	Not married/widowed	0	0	2	100	0.63 (0.49-0.80)	0.53
DM suffered							
	0-10 years	14	35.9	25	64.1	Reff	
	> 10 years	1	0	1	100	0.64 (0.50 - 0.81)	1

Chi-square correlation test results obtained p-value of 0.001 ( $p < 0.005$ ). The results showed that only 8 people (20%) were good in self-motivation and had blood sugar levels in the normal range of 7 people (87.5%) while respondents in the good self-motivation category with high blood sugar levels were 1 person (12.5%). While the remaining 32 people (80%) with poor self-motivation category, where most of the blood sugar levels in the high category are as many as 25 people (78.1%) and as many as 7 respondents (21.9%) with self-motivation not good to have a value of blood sugar

levels within normal limits. The results of the analysis of the motivational questionnaire items found that the highest score on statement number 6 is the statement "I am happy if my blood sugar is in the normal range" with a score of 138 with 19 answer choices answered "agree" and 21 respondents answered "strongly agree". This means that the majority of respondents actually feel happy and want their sugar levels within the normal range. While the analysis of motivation questionnaire items with the lowest score on statement number 2 is the

statement “I am challenged to undergo treatment” with a score of 99. It shows that most respondents feel less challenged in undergoing treatment so that is one of the factors that can affect client motivation.

Odds Ratio (OR) value is 25.00, that is  $OR > 1$ , this shows that a person with DM with low self-motivation has a 25.00-fold risk of having uncontrolled blood sugar levels, the lowest has a risk of 2,617 times and the greatest risk is 238,787 times that of having an uncontrolled blood sugar level compared to someone with good self-motivation. The results of this study indicate the less motivation of clients in managing DM the more uncontrolled or high blood sugar levels. From the results of the study the researchers concluded that the self-motivation of Type II DM clients in the Outpatient Clinic of the Internal Medicine Polyclinic of Dr. Doris Sylvanus Hospital Palangka Raya is in the unfavorable category. This is influenced by several factors such as age, gender, level of education, occupation, marital status, and length of time with DM.

The results showed that the majority of respondents were early elderly, aged between 46-55 years. As a person ages, changes in function and composition in the body can affect one’s ability to carry out activities including one’s motivation. The results showed that the majority of respondents who came to control the disease in poly disease in the female sex. Gender also influences a person’s motivation and behavior. This is because women tend to be more obedient to the rules than men.<sup>6</sup>

Most of the respondents studied had a high school education level. The level of education is an indicator that someone has taken formal education in certain fields.<sup>2</sup> The higher the level of education a person will usually have more knowledge including about health and the presence of this knowledge will affect someone to have awareness in maintaining their health.<sup>7</sup>

People who work tend to have less time to visit health facilities so that there will be less time available and opportunities for treatment. Whereas in this study the results were obtained that the majority of respondents were housewives/not working which means that respondents had plenty of time to visit health facilities including managing DM.<sup>8</sup>

The marital status of most respondents is married and has a spouse. This is one of the factors that can affect a person’s motivation, including respondents in managing DM, because respondents get support from their husband

or wife.<sup>9</sup> The length of time with DM is also one of the factors that influence a person’s willingness to manage DM. The longer a person with DM, the better the coping and self-efficacy of a person and the more experienced in managing the disease.<sup>2</sup>

This study is in accordance with previous research conducted by Yesi Ariani (2011) about the Relationship between Motivation and Self-Efficacy of Type II DM Patients in the Context of Nursing Care at H. Adam Malik Hospital Medan, stated that with the results of 45 respondents had poor motivation in conducting self-efficacy.<sup>2</sup> Motivation the majority of patients lack self-care so it is advisable for nurses and physicians to increase patient motivation in the context of DM by increasing patient autonomy intrinsically.<sup>2</sup>

Social environment, family, and health workers influence in increasing motivation and changes in patient behavior. Someone who has the support of the family, and surrounding and support from health workers who are not pressing, controlling tight or authoritarian will increase motivation in checking blood sugar levels.<sup>3</sup>

## Conclusion

There is a significant relationship between self-motivation and blood sugar levels of DM Type II clients in the Outpatient Polyclinic Installation of Dr. Doris Sylvanus Hospital Palangka Raya

**Ethical Clearance:** This research has gone ethical feasibility testing by the Ethical Research Commission of the Polytechnic of Health, Ministry of Health, Palangka Raya. **Source Funding:** This study was done by self - funding from the authors.

## Conflict of Interest

The authors declare that there are no conflicting interests.

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