

SELF-CONCEPT, SOCIAL SUPPORT AND DEPRESSION OF QUALITY OF LIFE OF DIABETES MELLITUS: A PATH ANALYSIS

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ABSTRACT

Keywords:

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self-concept
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Diabetes mellitus is a disease that cannot be cured but can be managed both physically and psychologically. The majority of diabetes mellitus patients are very pessimistic about the recovery of their illness. This study aimed to knowing: 1) the role of depression as a mediator variable between self-concept variables and social support for the quality of life of diabetes mellitus patients; 2) the role of self-concept of depression; 3) the role of social support against depression; 4) the role of depression in quality of life. This study was 253 patients with diabetes mellitus at hospital dr Moewardi Surakarta. Sampling in this study was purposive sampling. Data collection used the Beck Depression Inventory (BDI) questionnaire, Tennessee Self Concept Scale (TSCS), the Hersarling Diabetes Family Support Scale (HDFSS) and the World Health Organization Quality of Life (WHOQOL). Data analysis used path analysis method (path analysis) and strengthened by sobel test. The results showed that there was a correlation between self-concept, social support and depression on the quality of life of patients with diabetes mellitus which was characterized by the p-value of self-concept of 0.002, p-value of social support, depression and quality of life of 0.000. The results of path analysis show that depression is able to be a mediator between self-concept and quality of life and the mediterator between social support for quality of life. This result is reinforced by the sobel test showing p-value of >1.98 with a significance level of 5%. Depression can be a mediator between self-concept and quality of life and depression is also able to be a mediator between social support and quality of life.

BACKGROUND

Chronic disease is a condition that affects daily physical, psychological, social and spiritual functional activities that occur for a long time and requires special treatment, one of which is diabetes mellitus (DM). Diabetes mellitus is a chronic disease characterized by blood sugar levels exceeding normal limits (Misnadiarly, 2006). Based on WHO, it is estimated that the number of diabetes mellitus sufferers in Indonesia in 2030 will increase by 21.3 million. Riskesdas data states that the prevalence of diabe-

tes mellitus sufferers tends to increase in women compared to men (Riskesdas, 2013). Data on the number of type 2 diabetes mellitus patients at Dr. Moewardi Surakarta in 2015 as many as 8,345 patients, in 2016 there were 10,509 patients with diabetes. The increase in the number of people with Diabetes mellitus (DM) per year is due to the wrong lifestyle, where diabetes mellitus is a disease that cannot be cured and will accompany the sufferer's lifetime so that it affects the quality of life of people with diabetes mellitus (RS Dr Moewardi medical record, 2017).

Diabetes mellitus disease that cannot be cured can cause psychological changes in the patient's view of himself negatively, for example, the patient feels hopeless and cannot accept his condition which will affect the patient's self-concept. Patients feel stressed and disturbed which in turn can exacerbate the pain, a feeling of helplessness often occurs in individuals with chronic illnesses. In this condition, diabetes mellitus sufferers experience a decrease in their self-concept and result in depression. The self-concept consists of self-image, self-esteem, self-ideal and personal identity (Keliat, 2005). This is in accordance with research conducted by Donald, 2014 Diabetes mellitus sufferers who experience depression or rejection of their conditions will indirectly affect their quality of life. One of the factors that can improve the quality of life is the existence of social support, if social support decreases, the quality of life will decrease (Angermeyer et al, 2002).

Watkins and Portney (2000) stated that diabetes mellitus sufferers often have difficulty accepting a diagnosis of diabetes mellitus and will experience psychological problems, especially when they know that their lives are regulated by a diet of food and drugs. Usually this is at a critical stage marked by a physical, social, and psychological imbalance that continues to become a feeling of anxiety, fear, anxiety and depression experienced by the sufferer. This can be similar to research conducted by (Safitri, 2013; Yu Liu, 2012; Sebnem, 2015), showing that there is a relationship between the level of depression and the quality of life of people with diabetes mellitus.

People with diabetes mellitus still experience depression due to several things, including because the physical condition of diabetes mellitus sufferers is not ready for a diabetes mellitus diagnosis, does not want to lose their limbs due to wounds that eat away at their bodies, they are not confident because most people who meet them will actually stay away after seeing their condition and smell the smell generated by the wound. This makes the self-esteem of diabetes mellitus sufferers low. So that a positive self-concept and social support will reduce the negative impact that results from stressors.

In connection with the foregoing, the researchers propose a problem formulation "is there a relationship between depression, self-concept, social support on the quality of life of people with diabetes?". The purpose of this study was to determine: 1) depression can be a mediator variable between self-concept and social support for the quality of life of people with diabetes; 2) the relationship between self-concept and depression; 3) the relationship between

social support and depression; 4) the relationship between depression and quality of life.

METHODS

This research is a quantitative research with correlational analytic type and uses a cross sectional approach, which is to collect data on research variables conducted at one time (Dharma, 2013).

The total population was 8775 and the sample was 253 diabetes mellitus sufferers in the inpatient room of Dr Moewardi Surakarta. The sampling technique was purposive sampling. The inclusion criteria are respondents with type 2 diabetes mellitus or diabetes mellitus caused by an unhealthy lifestyle and exclusion criteria, namely Respondents with diabetes mellitus type 1 or diabetes mellitus caused by heredity or heredity and Respondents with diabetes mellitus type 3 which is often called gestational DM which is often attack in pregnant women.

Research instrumen using Beck Depression Inventory (BDI) is an instrument for measuring the degree of depression, the Tennessee self concept scale (TSCS) for measuring self-concept, the Hersarling diabetes family support scale (HDFSS) for measuring social support and the Word Health Organization Quality Of Life (WHOQOL) for measuring quality life of people with diabetes mellitus.

The data analysis method used is the path analysis method (path analysis) with amos. Path analysis is used to analyze the pattern of relationships between variables in order to determine the direct or indirect effect of a set of independent (exogenous) variables on the dependent variable (endogenous). This path analysis technique will be used in testing the amount of contribution shown by the path coefficient on each path diagram of the causal relationship between variables self concept, support social, depression and quality of life.

In this study also used the online Sobel test, where this test was conducted to determine whether the mediating variable was significantly able to become a mediator between variables.

Ethical clearance approval letter was obtained from the research ethics committee at Dr. Moewardi Surakarta, Indonesia, number 672/VII/HREC/ 2018 on August 30, 2018.

RESULTS

To determine the accuracy of the model with research data, a goodness-of-fit test was conducted. The test result index is compared with the critical

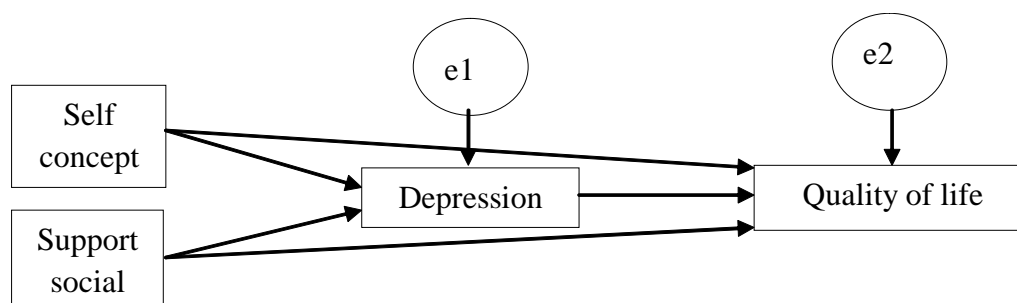


Figure 1. Path Analysis Model

value to determine whether or not the model is good, which is summarized in the following table.

Based on the results of the feasibility test of the model presented in the table above, it shows that the overall test criteria are in good category or meet the required assessment criteria.

Based on the regression output on the coefficients table, it is known that the significant values of the three variables, namely $X1 = 0.0001$, $X2 = 0.0001$, and $Y1 = 0.0001$ are smaller than 0.05. These results conclude that the regression model between the variables $X1$, $X2$ and $Y1$ has a significant effect on $Y2$.

DISCUSSION

Respondent Characteristics

Based on the table above, it is explained that the majority of respondents are women, this is because women are at risk of developing diabetes mellitus. Patients with diabetes who are more than 65 years old are 30.8%. This is because humans experience a physiological decline over the age of 40, one of which is a decrease in the function of the pancreas to produce insulin (Merck, 2008). The majority of the work distribution is not working, which is 28.1% because people who do not work will be more at risk of diabetes mellitus due to low activity, so that blood sugar levels increase, obesity and end with diabetes mellitus.

The majority of high school education is 27.9%, a high level of education can be the basis for the success of preventing or treating a disease. However, it is different from developments in the current era where the level of higher education will increase the level of one's work, so that the higher the level of education a person will make busy in terms of work and neglect their health. The majority of the marital status is married as much as 85%, where the marital status greatly affects the health and welfare level of a person. Support from a spouse can be in the form of support in terms of health behavior, providing in-

formation and being able to provide motivation when their partner is sick.

According to table 1, the majority of respondents did not experience complications, as much as 67.6%. Diabetes mellitus complications can appear acutely or chronically a few months or years after being exposed to diabetes mellitus. Complications of diabetes mellitus can attack all organs of the body, and conversely diabetes mellitus complications will never appear when DM treatment is done well or diabetes mellitus management is carried out well.

The distribution of long suffering from diabetes mellitus, the majority of respondents suffered for 1-5 years, as much as 54.9%, this is because this will affect a person's psychology when diagnosed with diabetes mellitus. The majority of families who care for patients are wives, namely as much as 39.5% because life partners are very influential in improving the health status of diabetes mellitus sufferers.

Self-Concept, Depression, Social Support and Quality of Life

The value of the relationship between self-concept and depression shows a significance of $0.002 < 0.05$, it can be concluded that the variable self-concept towards depression is significantly negatively correlated with a value of -0.173, which means that the better a person's self concept, the lower the level of depression. The value of social support related to depression shows that the significance is $0.000 < 0.05$, it can be concluded that the social support variable for depression is significantly negatively correlated with a score of -0.465, which means that the better social support, the lower the level of depression. Depression scores related to quality of life indicate that there is a negative relationship between depression and quality of life with a score of -0.387 which means that the lower the level of depression, the better the quality of life of the respondent.

It is known that the direct effect of self-concept on quality of life is 0.154, while the indirect effect of self-concept through depression on quality of

Table 1. Respondent Characteristics

Variabel	f	%
Gender:		
Women	140	55.3
Man	113	44.7
Age:		
17 - 25 years	4	1.6
26 - 35 years	27	10.7
36 - 45 years	28	11.1
46 - 55 years	71	28.1
56- 65 years	45	17.8
> 65 years	78	30.8
Profession:		
Does not work	71	28.1
The farmer	54	21.3
Wiraswasta	43	17.0
Swasta	42	16.6
PNS	33	13.0
Retired	10	4.0
Education:		
Not completed in primary school	58	22.9
Primary school	45	17.8
Junior high school	32	12.6
Upper secondary school	69	27.3
D3	23	9.1
S1	26	10.3
Marital status:		
Widow	22	8.7
Widower	16	6.3
Married	215	85.0
Complication Diabetes Mellitus:		
No complications	171	67.6
Anemia	14	5.5
Ca Mamae	6	2.4
Kidney	23	9.1
Hypertension	3	1.2
Heart	29	11.5
Kidney failure	7	2.8
Long suffering from Diabetes Mellitus:		
1- 5 years	139	54.9
5 - 10 years	54	21.3
11-15 years	21	8,3
16 - 20 years	18	7,1
> 20 years	21	8,3
Caring Family:		
Child	63	24,9
Wife	100	39,5

life is 0.066. The total value of the effect of self-concept on quality of life is 0.220. Based on the results of the above calculations, it is known that the value of the direct effect is 0.154 and the indirect effect is 0.066, which means that the value of the direct effect is greater than the value of the indirect effect. These results indicate that self-concept has a direct influence on quality of life without going through depression. Depression is a strong mediator variable between social support variables on the quality of life of people with diabetes. It is known that the direct effect of social support on quality of life is 0.501, while the indirect effect of social support through depression on quality of life is 0.180. The total value of the effect of social support on quality of life is 0.681. Based on the results of the above calculations, it is known that the value of the direct effect is 0.501 and the indirect effect is 0.180, which means that the value of the direct effect is greater than the value of the indirect effect. These results indicate that social support has a direct influence on quality of life without going through depression.

This sobel test is conducted to determine whether the mediating variable is significantly capable of being a mediator between variables. Based on the sobel test value, the intensive regression coefficient value for self-concept is -0.088 in column A, the regression coefficient value for depression on quality of life is -0.583 in column B, the standard error value between self-concept to depression is 0.028 and the standard error of depression to quality of life is 0.067.

From these calculations, the sobel test value is 2.95595583, which means that the value is > 1.98 with a significance level of 5%, thus proving that the depression variable is able to mediate the relationship between self-concept and quality of life. The sobel test value shows that the intensive regression coefficient value for social support is -0.282 in column A, the regression coefficient value for depression on quality of life is -0.583 in column B, the standard error value between social support to depression is 0.033 and the standard error of depression to quality of life is 0.067. From these calculations, the sobel test value is 6.09696798, which means that the value is > 1.98 with a significance level of 5%, thus proving that the depression variable is able to mediate the relationship between social support and quality of life.

Depression is the result of stressors in the form of chronic illnesses experienced by a person such as diabetes mellitus, stroke, etc. which will change psychological mechanisms in the form of a person's self-concept, where diabetes patients who experience a decrease in self-concept will become depressed and be able to reduce their quality of life. Conversely, if a good self-concept will minimize depression and improve quality of life. This is in accordance with research conducted by Sebnem (2015), Chung (2003) and Liu (2012) who said that anxiety, depression and the treatment process have an effect on quality of life.

Individuals diagnosed with DM, both type I, type II and type III, must live a certain lifestyle that

Table 2. Research Result

Variabel	f	%
Self concept:		
Less	81	32.0
Enough	123	48.6
Good	49	19.4
Social support:		
Light	53	20.9
Enough	129	51.0
High	71	28.1
Depression:		
Normal	53	20.9
Mild depression	52	20.6
Moderate depression	60	23.7
Severe depression	94	37.2
Quality of life:		
Low	38	15.0
Enough	139	54.9
High	76	30.0

Table 3. Assessment of The Goodness of Fit Research Model

Goodness of Fit indexs	Cut off Value	Result	Model Evaluation
Chi-Square (df = 4 dan a = 5%) = 9,49	<9,49	0.839	Good
Probability	>0,05	0.360	Good
CMIN/DF	<2,00	0.839	Good
TLI	>0,95	1.000	Good
CFI	>0,95	1.000	Good
RMSEA	>0,08	0.0001	Good
IFI	≥0,90	1.000	Good
RFI	≥0,90	0.984	Good
NFI	≥0,90	0.997	Good

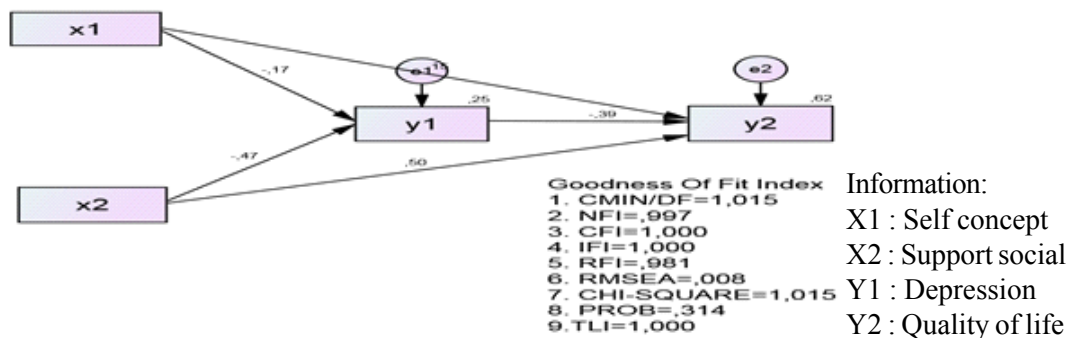
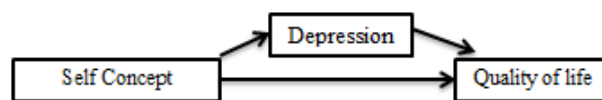


Figure 2. Analysis Model

Table 4. Regression Weights (Group Number 1 - Default Model)

	Estimate	S.E.	C.R.	P	Label
y1 <--- x1	-0.088	0.028	-3.119	0.002	
y1 <--- x2	-0.282	0.033	-8.508	0.0001	
y2 <--- x1	0.120	0.031	3.923	0.0001	
y2 <--- x2	0.458	0.040	11.428	0.0001	
y2 <--- y1	-0.583	0.067	-8.694	0.0001	



A	-0.088	Sobel test statistic:	2.95595583
B	-0.583	One-tailed probability:	0.00155851
SE _A	0.028	Two-tailed probability:	0.00311702
SE _B	0.067		

Figure 3. The Results of The Self-Concept Sobel Test Through Depression on Quality of Life

is different from the previous one. They must adopt new habits recommended by health workers to maintain their quality of life so that blood sugar levels do not rise above the normal threshold. This lifestyle includes taking medication regularly, controlling blood sugar levels regularly, maintaining the food consumed (strict diet) and exercising regularly. This is thought

to cause the patient's self-concept to change. Self-concept is also likely to be suffered by adult type II diabetics, especially patients of productive age. Patients who have experienced complications, such as blindness, kidney disease, gangrene, heart disease and stroke, may feel that they are no longer useful and they will depend on a companion who helps their dis-

ease healing process so they need support from those around them. Social support, especially family, can be in the form of warmth and management of DM management such as family in controlling the diabetes mellitus diet, exercising, monitoring glucose and carrying out daily activities so as to increase enthusiasm, comfort, motivation and a sense of family belonging so that it can increase success in treating diabetes mellitus patients and can minimize depression so as to improve the quality of life of patients with diabetes mellitus. Therefore social support has a direct effect on the quality of life of people with diabetes mellitus. The results above are reinforced by research conducted by (David, 2000; Noviani, 2013; Takehiro, 2015; Swardana, 2015) which states that social support affects the quality of life. In the above social support affects the quality of life. In the above conditions, it really needs support from those closest to them, where diabetes sufferers who get social support will feel that they are cared for, loved, and appreciated so that it can be a strength for individuals who can help psychologically and physically so that it can reduce the occurrence of depression in individuals and creates a positive self-concept. This support makes the individual who receives it feel understood and accepted, thus bringing new strengths that are useful to fortify themselves from stressful situations so as to minimize depression and improve quality of life.

CONCLUSION

Based on the above discussion, it can be concluded that there is a relationship between self-concept, social support and depression on the quality of life of people with diabetes mellitus. Depression is able to be a strong mediator between self-concept on the quality of life of diabetes mellitus sufferers as well as depression being able to be a mediator between social support variables on the quality of life of diabetes mellitus sufferers.

The results of the study still have many shortcomings that need to be corrected for further research. The limitations of this study are In this study using standard instruments that are applied abroad, but this instrument is used to retrieve data in Indonesia so that the researcher tests the construct validity and the results do not meet the requirements because the respondent's recognition is used. Data collection needs to be done more than 1 day, considering the number of instruments as many as 112 items and various patient conditions are different.

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REFERENCES

- Angermeyer, M, Holzinger, A, Maschinger, H, & Scengler. 2002. Depression and quality of life: Result of a follow-up study. *International Journal of Social Psychiatry*
- Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan RI. 2013. Riset Kesehatan Dasar 2013 (RISKESDAS 2013). Jakarta: Depkes RI
- Carper, M, Traeger, L, Gonzalez, J, Wexler, D, Psaros, C, & Safren, S. 2014. The differential associations of depression and diabetes distress with quality of life domains in type 2 diabetes. *Journal of Behavioral Medicine (J BEHAV MED)*, Jun2014; 37(3): 501-510. (10p)
- Donald, Mc, S. 2014. Research: Educational and Psychological Issues The psychosocial impact associated with diabetes-related amputation. *Diabetic Medicine* 2014 Diabetes UK, *Diabet.Med.* 31, 1424-1430. Tahun 2014
- Keliat, B, A. 2005. Proses kesehatan jiwa. Edisi 1. Jakarta : EGC.
- Misnadiarly. 2006. Ulcer, Ulkus diabetik, infeksi diabetes mellitus, ed 1. Jakarta: pustaka populer.
- Portney L.G. & Watkins, M.P. 2000. *Foundations of Clinical Research-Applications to Practice.* (2nd edition). New Jersey USA: Prentice-Hall Inc.
- Rekam medis Rumah Sakit Dr. Moewardi Surakarta. 2017
- Renwick, R., & Brown, I. . *The Centre for Health Promotion's Conceptual Approach to Quality of Life: Being, Belonging, and Becoming.* Dalam R. Renwick, I. Brown, & M. Nagler (Eds.), *Quality of Life in Health Promotion and Rehabilitation: Conceptual Approaches, Issues, and Applications.* California: SAGE Publication.
- Sarafino, E, P. 2006. *Health psychology: biopsychosocial Interactions.* 5th. New York: John Wiley & Sons, Inc.
- Saraswati, R. 2007. Hubungan Antara Konsep Diri Dengan Tingkat Depresi Penderita Diabetes Mellitus Di Rumah Sakit Umum Ungaran. Skripsi Fakultas Kedokteran Program Studi Ilmu Keperawatan Universitas

Diponegoro.

- Sebnem, C, Elem , K, & ?pek A. 2014. Investigation of sleep quality, quality of life, anxiety and depression in patients with diabetes mellitus. *Int J Diabetes Dev Ctries* (January-March 2015) 35(1):39-46 DOI 10.1007/s13410-014-0206-y
- Shu, C, C. 2003. Contributions Of Patient Haracteristics And Organizational Factors To Patient Outcomes Of Diabetes Care In Hualien, Taiwan. Dissertation Presented to the Faculty of the Graduate School of the University of Texas at Austin in Partial Fulfillment of the Requirements for the Degree of Doctoral of Philosophy
- Shu, F, V. 2013. The efficacy of a self-management programme for people with diabetes, after a special training programme for healthcare workers in Taiwan: a quasi-experimental design. *JCN - Journal of Clinical Nursing*
- Stuart, G, W & Sundeen. 2006. *Principles and Practice of Psychiatric Nursing*. St. Louis: Mosby.
- Safitri, I, N. 2013. Kepatuhan Penderita Diabettes Mellitus Tipe II Ditinjau Dari Locus of Control, Vol.01, No.02, Agustus 2013.
- Tan K, C, Chan G, C, Eric H, Maria A, Norliza M, J, Oun B, H, Sheerine M, T, Wong S, J, & Liew S, M. Depression, anxiety and stress among patients with diabetes in primary care: A cross-sectional study. *Malaysian Family Physician* 2015; Volume 10, Number 2
- Yang, J. 2009. Predictors of depression in Chinese community-dwelling people with type 2 diabetes. *Journal of Clinical Nursing*, 18, 1295-1304 1295 doi: 10.1111/j.1365-2702.2008.02703
- Yu L. 2012. Factor rs related to quality of life for patients with type 2 diabetes with or without depressive symptoms - results from a community-based study in China. *Journal of Clinical Nursing*, 22, 80-88, doi: 10.1111/jocn.12010.