

**THE ASSOCIATION BETWEEN SELF MANAGEMENT AND QUALITY OF LIFE
TYPE 2 DIABETES MELLITUS PATIENT IN RSUP DR. MOHAMMAD HOESIN
PALEMBANG**

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Abstrak

Kualitas hidup merupakan persepsi seseorang tentang dirinya sendiri dalam kaitannya dengan sistem tata nilai di tempat dirinya tinggal yang dapat dipengaruhi banyak faktor, seperti tingkat kemandirian. Tingkat kemandirian berbanding lurus dengan kualitas hidup. Tingkat kemandirian yang baik dapat mengoptimalkan kualitas hidup, serta mencegah komplikasi akut dan kronis dari penyakit diabetes melitus tipe 2. Penelitian ini bertujuan untuk menganalisis hubungan tingkat kemandirian dengan kualitas hidup pasien diabetes melitus tipe 2. Penelitian ini adalah studi analitik observasional dengan rancangan cross sectional. Sampel adalah pasien diabetes melitus tipe 2 di Poliklinik Penyakit Dalam dan Instalasi Rawat Inap di RSUP Dr. Mohammad Hoesin Palembang bulan November-Desember 2018. Sampel penelitian ini berjumlah 50 kasus. Hasil penelitian ini akan disajikan dalam bentuk tabel dan narasi. Dari 50 kasus pasien DM tipe 2 didapatkan penderita laki-laki berjumlah 27 orang (54%) dan perempuan 23 orang (46%), kelompok usia di bawah 40 tahun sebanyak 3 orang (6%), kelompok usia 40-50 tahun sebanyak 12 (24%), kelompok usia 50-60 tahun sebanyak 13 orang (26%) kelompok usia di atas 60 tahun sebanyak 22 orang (44%). Hasil uji Chi-square terdapat hubungan yang bermakna antara tingkat kemandirian dengan kualitas hidup pasien diabetes melitus tipe 2 yang dinyatakan dalam p value=0.011. Hasil odd ratio pada pasien diabetes melitus tipe 2 menyatakan bahwa kemungkinan terjadi peningkatan kualitas hidup 5,271 kali lebih besar pada pasien yang bertingkat kemandirian baik. Tingkat kemandirian juga merupakan faktor yang mempengaruhi kualitas hidup (CI 95% = 1,380-20,138). Terdapat hubungan yang signifikan antara tingkat kemandirian dengan kualitas hidup pasien diabetes melitus tipe 2.

Kata Kunci: Diabetes melitus tipe 2, tingkat kemandirian, kualitas hidup

Abstract

The Association Between Self Management And Quality Of Life Type 2 Diabetes Mellitus Patient In Rsup Dr. Mohammad Hoesin Palembang. Quality of life is perception of a certain person about himself which connects with value system where the person live that can be affected by so much factor, such as self management. Self management is directly proportionate with quality of life. Good self management could optimize the quality of life, along with the prevention of chronic and acute complication of type 2 diabetes mellitus. This research intends to analyze the association between self management and quality of life type 2 diabetes mellitus patient. This research is an analytical observational with cross sectional study design. The sample is type 2 diabetes mellitus patient in Poliklinik Penyakit Dalam and Instalasi Rawat Inap di RSUP Dr. Mohammad Hoesin Palembang on November-December 2018. The amount of the sample is 50 cases. The result will be presented in form of table and narration. From 50 cases of type 2 DM patient, it is known that the amount of male patient is 27 (54%) and female patient is 23 (46%), also group age <40 years as much as 3 (6%), 40-50 years as much as 12 (24%), 50-60 years as much as 13 (26%), and >60 years as much as 22 (44%). Chi-square test result is there is a significant relationship between self management and quality of life of type 2 DM patient (p value=0.011). Odd ratio in type 2 DM patient result in the possibility of the increasing quality of life is 5.271 times greater in patient with good self management. Self management is also a factor that affect the quality of life (CI 95%=1.380-20.138). There is a significant relationship between self management and quality of life type 2 diabetes mellitus patient.

Kata Kunci: Type 2 diabetes mellitus, Self Management, Quality of Life

1. Introduction

Diabetes mellitus (DM) is a chronic disease characterized by an increase in glucose levels in the blood that occur due to insulin disruption or impaired insulin secretion or both.¹The disease is divided into two parts, type 1 DM and type 2 DM. Type 1 DM is divided again into two parts, namely diabetes due to autoimmunity and idiopathic diabetes, while type 2 DM is given a range of insulin resistance with insulin deficiency to impaired insulin secretion with insulin resistance.²

Of all DM patients in the world, the prevalence of people with type 1 diabetes mellitus is only 5-10%, while the prevalence of people with type 2 DM is 90-95%.²The prevalence of this disease is predicted to increase by 69% in developing countries from 2010 to 2030.³

Self care is a method aimed at DM patients who must do in their daily lives that aims to optimize metabolic control, optimize quality of life, and prevent acute and chronic complications.⁴Some studies show that maintaining normal blood glucose can minimize complications that occur due to DM. This is likely to affect the patient's quality of life. Quality of life is individual's perception of the impact and satisfaction about the degree of health and its limitations.⁵The quality of life assessment instrument is broadly divided into 2 types, namely generic scale which is used to generally assess functional ability, disability, concerns arising from illnesses and specific scales used to measure something specifically from diseases, certain populations or special functions such as emotions. Short Form-36 is one example of a scale instrument that is more general compared to other general instruments. The use of SF-36 has been used extensively for various chronic diseases and has been developed by several studies.⁶

Self care in DM patients consists of diet or dietary arrangements, physical exercise (exercise), foot care, taking diabetes medication, and monitoring blood

sugar. Effective self care DM is important in the care of DM clients in preventing complications and preventing increased morbidity and mortality.⁷

Based on this description, this study aims to find out whether there is a relationship between the level of independence and the quality of life of patients with type 2 diabetes mellitus in RSUP Dr. Mohammad Hoesin Palembang.

2. Method

The type of this research is analytic research with cross sectional research design based on primary data, namely the results of questionnaire filling by patients with type 2 diabetes mellitus in RSUP Dr. Mohammad Hoesin Palembang. The study took place from the time the data collection of research samples to the processing of research results, namely August to November 2018.

The population in this study were patients with type 2 diabetes mellitus in RSUP Dr. Mohammad Hoesin Palembang. Determination of the number of samples for this study using the formula of the sample size of the study with unpaired categorical variables. The number of samples is at least 43 samples. In this study the number of samples collected was 50 people. The sampling technique used in this study was consecutive sampling where samples included in the inclusion criteria were taken continuously until the minimum sample target was reached. The quality of life of the study sample was measured using the SF-36 questionnaire and the level of independence was measured using the DSMQ questionnaire.

The inclusion criteria in this study were patients with type 2 diabetes mellitus in the polyclinic of RSUP Dr. Mohammad Hoesin Palembang, patients with type 2 diabetes mellitus who received insulin therapy, type 2 diabetes mellitus patients who received oral treatment, type 2 diabetes mellitus patients who received insulin therapy and oral treatment. The exclusion criteria in this study were

patients suffering from type 2 diabetes mellitus for less than 1 year.

Univariate analysis is used to describe each research variable. Bivariate analysis used is chi square data analysis, namely comparative analysis of categorical data with categorical data and analysis of odds ratios and prevalence rates.⁸

3. Results

Table 1 shows the division of sociodemography in patients with type 2 diabetes mellitus. Of the total cases, the number of patients with type 2 DM who were male were 27 respondents, while women were 23 respondents. For age distribution, there were 3 people aged under 40 years old, 40-50 years old, 12 people, 50-60 years old, 13 people, and 22 people over 60 years old.

Table 1 Sociodemography data (n=50)

Sex	n	%
Male	27	54%
Female	23	46%
Age		
<40	3	6%
40-50	12	26%
50-60	13	26%
>60	22	44%

In table 2, the results are average, mode, median, maximum value, minimum value, and standard deviation from DSMQ and SF-36 measurement data where the DSMQ average is 22.68, mode is 12, median is 24.00; the maximum value is 40, the minimum value is 10, and the standard deviation is 8,032. mean, mode, median, maximal value, minimum value, and standard deviation from SF-36 measurement data where the average value is 65.22, mode is 76, median is 76.00; the maximum value is 91, the

minimum value is 22, and the standard deviation is 21,530.

Table 2 DSMQ and SF-36 Data Analysis

	Mean	Modus	Median	max	min	Std. Dev.
Score DSMQ	22,68	12	24,00	40	10	8,032
Score SF-36	65,22	76	76,00	91	22	21,530

In table 3, data are presented about the relationship between the level of independence and the quality of life of patients with type 2 diabetes mellitus in Dr. RSUP Mohammad Hoesin Palembang. From these data, it was found that respondents had a poor level of independence with a declining quality of life of 11 people, while those with a good level of independence with a quality of life decreased by 4 people. In addition, respondents with a poor level of independence with quality of life increased by 12 people, while those with a good level of independence with quality of life increased by 23 people.

The data were analyzed statistically and obtained a value of $p = 0.011$ ($p = 0.05$), statistically there was a significant correlation between the level of independence and quality of life of patients with type 2 DM in RSUP Dr. Mohammad Hoesin Palembang. The possibility of an increase in quality of life 5.271 times greater in patients who have a good level of independence than patients who have a poor level of independence. The results of 95% CI were 1.380-20.138 with a difference of 18.758 which means that the level of poor independence is a risk factor that affects the quality of life of patients type 2 DM.

The data were also analyzed numerically based on the results of the interviews and it was found that the level of independence was directly proportional to the quality of life of patients with type 2 diabetes mellitus based on data taken at RSUP Dr. Mohammad Hoesin Palembang.

4. Discussion

Tingkat Kemandirian	Tingkat Kualitas Hidup		OR	CI 95%	p value
	Menurun	Meningkat			
Buruk	11	12	5,271	1,380-20,138	0,011
Baik	4	23			

From the data obtained, the level of independence is significantly associated ($p < 0.05$) with quality of life in patients with type 2 diabetes mellitus which indicates that the level of independence affects quality of life in patients with type 2 diabetes mellitus due to things included in self care such as pharmacological therapy, diet regulation, blood sugar monitoring, physical exercise, and foot care help to reduce the number of acute and chronic complications and directly optimize quality of life.

The results of the analysis showed a significant relationship between the level of independence and the quality of life of patients with type 2 diabetes mellitus in RSUP Dr. Mohammad Hoesin Palembang. The possibility of an increase in quality of life 5.271 times greater in patients who have a good level of independence than patients who have a poor level of independence. In the results of the analysis it was also found that the level of independence of patients with type 2 DM is a risk factor for the quality of life of patients with type 2 DM.

The results of this study are in accordance with the research conducted by Schmitt et al. In 2013 conducted on 216 patients with type 1 and type 2 diabetes

mellitus who were tested using the DSMQ questionnaire, namely the level of independence can affect the quality of life of patients with diabetes mellitus expressed by the cronbach's alpha correlation value of 0.46 ± 0.12 .⁹ Another study also conducted by Efrosini Zioga and Maria Lavdaniti in 2016 stated that good self care can improve the quality of life of patients with diabetes mellitus who stated the value of $p = 0.032$ with a total sample of 108 people.⁷

The limitations in this study are in the data collection stage, where the total number of questions for the interview is too much so it takes a long time to interview 1 respondent.

5. Conclusion

Conclusion of the results of the study regarding the relationship of the level of independence with the quality of life of patients with type 2 diabetes mellitus in RSUP Dr. Mohammad Hoesin Palembang in December 2018 is that type 2 DM patients who have a good level of independence have a possibility of 5,271 times greater to have a better quality of life than those who have a poor level of independence. Based on the results of data analysis, the level of independence is a risk factor that affects the quality of life of patients with type 2 diabetes mellitus.

Bibliography

1. Kerner, W. and Brückel, J. Definition, classification and diagnosis of diabetes mellitus, *Experimental and Clinical Endocrinology & Diabetes*. JA Barth Verlag in Georg Thieme Verlag KG, 2014;122(07):384–386.
2. Association, A. D. Diagnosis and classification of diabetes mellitus, *Diabetes care*. Am Diabetes Assoc, 2014;37(1):S81–S90.
3. Alfian, S. D. et al. Medication

- Adherence Contributes to an Improved Quality of Life in Type 2 Diabetes Mellitus Patients: A Cross-Sectional Study, Diabetes Therapy. Springer Healthcare, 2016;7(4):755–764. doi: 10.1007/s13300-016-0203-x.*
4. Shareh, H., Soltani, E. and Ghasemi, A. Prediction of quality of life of non-insulin-dependent diabetic patients based on perceived social support. *Zahedan Journal of Research in Medical Sciences*, 2012;14(2):82-85.
 5. WHO. *Introducing the WHOQOL Instruments*[internet]. 2004 [diakses 4 Agustus 2018]. Tersediapada: <http://dept.washington.edu/yqol/docs/whoqolinfopdf>.
 6. Tinartayu, S. and Riyanto, B. U. *D.SF-36 sebagai Instrumen Penilai Kualitas Hidup Penderita Tuberkulosis (TB) Paru'*, *Mutiara Medika*, 2015;15(1):7–14.
 7. Bai YL, Chiou CP, Chang YY. *Self-Care Behaviour and Related Factor in Older People with Type 2 Diabetes. JCN. 2009; 18(23): 3308-15.PIMD:19930088.*
 8. Dahlan, S. M. *Besar Sampel dan Cara Pengambilan Sampel dalam Penelitian Kedokteran dan Kesehatan Edisi 3. Salemba Medika, Jakarta,2010.p.70-75.*
 9. Schmitt, Andreas, Annika Gahr, Norbert Hermanns. *The Diabetes Self-Management Questionnaire (DSMQ): development and evaluation of an instrument to assess diabetes self-care activities associated with glycaemic control. 2011; 40(4): 146-158.*