www.bircu-journal.com/index.php/birci
Budapest International Research and Critics Institute-Journal (BIRCI-Journal)
Humanities and Social Sciences
ISSN 2615-3076 Online)
ISSN 2615-1715 (Print)
Budapest Institute

Analysis of the Relationship between Self Efficacy and Other Factors against Adherence to Taking Medication in Patients with Diabetes Mellitus at the Secretariat of the Supreme Court of the Republic of Indonesia

Nita Sari Septiaji[1], Omega DR Tahun[2]
[1,2]*Sekolah Tinggi Ilmu Kesehatan Abdi Nusantara Jakarta, Indonesia*
nitasariseptiaji@gmail.com

Abstract

According to Indonesian data, in 2022 there will be 19.5 million Indonesians aged 20-79 who have diabetes. Indonesia is the country with the fifth largest number of diabetics in the world. Patients with diabetes mellitus require treatment, management and control of treatment in the long term. Control of treatment in people with Diabetes Mellitus often experiences several obstacles, because people with diabetes mellitus will experience many changes in their lives starting from managing their diet, exercise, controlling blood sugar, taking medication regularly and other activities that need to be carried out for the rest of their lives. This type of research is analytic quantitative with a cross-sectional study design. The sample selection technique was carried out by means of non-probability sampling, and the type of statistical test used was kai square. The population in this study were all employees suffering from diabetes mellitus who visited the RI Supreme Court Secretariat Clinic, the sample size was 37 respondents. Based on the results of statistical tests showed that the factors associated with medication adherence in diabetics, namely: self-efficacy (p value = 0.036), family support (p value = 0.018), and motivation (p value = 0.016). For people with diabetes mellitus to be more obedient in taking medication in order to control blood sugar levels, because the impact of high blood sugar levels is not only diabetes mellitus, but can be fatal to kidney damage, eyes, heart attacks, strokes and other diseases.

Keywords
self efficacy; medication compliance; diabetes mellitus

I. Introduction

Indonesia is listed as the 10th country with the highest number of diabetes mellitus (DM) sufferers. 0.6% of Indonesia's population have typical symptoms of DM within 1 month but have not been diagnosed by a doctor. Diabetes Mellitus will not be controlled if the patient does not carry out routine controls and will cause complications that can endanger the health of the body.

According to WHO (Word Health Organization) In 2014, 8.5% of adults aged 18 years and over had diabetes. In 2019, diabetes is the direct cause of 1.5 million deaths and 48% of all diabetes-related deaths occur before the age of 70. Another 460,000 kidney disease deaths are due to diabetes, and elevated blood glucose causes about 20% of cardiovascular deaths. Between 2000 and 2019, there was a 3% increase in the age standard death rate from diabetes. In lower-middle-income countries, the death rate from diabetes has increased by 13%.

According to the IDF (International Diabetes Federation) 90 million adults (20-79) are living with diabetes in the IDF's Southeast Asia Region (SEA) in 2021. This figure is

DOI: *https://doi.org/10.33258/birci.v6i3.7684*

expected to increase to 113 million in 2030 and 152 million in 2045. 46 million adults living with diabetes in the IDF SEA Region are undiagnosed - 51% of the total number of adults living with diabetes in the region. 47 million adults in the IDF Southeast Asia Region have Impaired Glucose Tolerance (IGT), which puts them at increased risk of developing type 2 diabetes. This number is projected to reach 59 million in 2030 and 77 million in 2045. 1 in 4 live births in The IDF's Southeast Asia region is affected by hyperglycemia in pregnancy.

According to Indonesian data, in 2022 there will be 19.5 million Indonesians aged 20-79 who have diabetes in 2021. Indonesia is the country with the fifth largest number of diabetics in the world. Meanwhile, according to the Data and Information Center of the Ministry of Health (Kemenkes) based on the Ministry of Health's 2018 Basic Health Research (Riskesdas) data, the province that has the highest prevalence of diabetes mellitus in Indonesia is DKI Jakarta, which is 3.4%. The next largest prevalence of diabetes mellitus was found in East Kalimantan and DI Yogyakarta 3.1%, North Sulawesi 3%, East Java 2.6%, Bangka Belitung Islands 2.5%, Gorontalo 2.4%, Aceh 2.4%, Banten and Central Sulawesi 2.2%

Patients with Diabetes Mellitus require treatment, management and long-term control of treatment. Control of treatment in people with Diabetes Mellitus often experiences several obstacles, because people with Diabetes Mellitus will experience many changes in their lives starting from adjusting their diet, exercise, controlling blood sugar, taking medication regularly and other activities that need to be carried out for the rest of their lives. Changes in the lifestyle of people with Diabetes Mellitus are interrelated with changes in individual behavior. Changes that occur require a relatively long time so that changes in behavior are needed with the aim that people with Diabetes Mellitus can improve adherence. The key factor in achieving behavior change is self-efficacy.

Compliance is an individual's ability to follow recommended health practices and the extent to which the patient's behavior conforms to the procedures provided by health professionals. Meanwhile, adherence to taking medication is the self-adherence of the patient to the provisions of the treatment that has been prescribed by a health professional including drug dosage, time and frequency. Adherence to therapy is a positive behavior. Sufferers who feel the benefits and benefit from behavior change can be the main source of motivation for sufferers in participating in each stage of the therapy carried out.

In a survey conducted at the Primary Clinic Secretariat of the Supreme Court of the Republic of Indonesia, preliminary information was obtained that employees at this institution had low self-efficacy in terms of adherence to taking medication as much as 40.0% of respondents who had low self-efficacy. And the number of patients who have low Self-Efficacy, unhealthy lifestyles, poor sleep patterns, lack of exercise, poor eating patterns, and high stressors at work will continue to increase if education is not carried out for Diabetes Mellitus employees at the Primary Clinic. Secretariat of the Supreme Court of the Republic of Indonesia.

The general objective of this study was to determine the relationship between Self Efficacy and other factors on adherence to taking medication in people with Diabetes Mellitus among employees of the Secretariat of the Supreme Court of the Republic of Indonesia.

II. Research Method

This research is themed about the relationship between self-efficacy and other factors with adherence to taking medication in patients with diabetes mellitus at the Primary Clinic of the Supreme Court of the Republic of Indonesia. The variables that must be studied are diabetes mellitus, self-efficacy, length of suffering, family support and motivation for adherence to taking medication. This type of research is analytic quantitative with a cross-sectional study design. The sample selection technique was carried out by means of non-probability sampling, and the type of statistical test used was chi square (kai squared). The population in this study was all employees suffering from diabetes mellitus who visited the RI Supreme Court Secretariat Clinic, the sample size was 37 respondents.

III. Result and Discussion

3.1 Univariate Results

Table 1. Frequency Distribution of Respondents According to Medication Compliance, Self-Efficacy, Length of Suffering from Diabetes Mellitus, Family Support and Motivation in Patients with Diabetes Mellitus

Variable	Amount	Percentage
Medication Compliance		
Not obey	16	43,2
obey	21	56,8
Self Efficacy		
Not enough	17	45,9
Good	20	54,1
Long Suffering DM		
It's been a long time	18	48,6
New	19	51,4
Family support		
Not very supportive	14	37,8
Support	23	62,2
Motivation		
Not enough	16	43,2
Good	21	56,8

The results of the univariate analysis in the table above show that of all the respondents analyzed it was found that non-adherence of diabetics in taking medication was 43.2%, then self-efficacy was lacking as much as 45.9%, and those who had long suffered from DM were 48.6% , then those who lack support from family as much as 37.8% and those who are less motivated as much as 43.2%.

3.2 Bivariate Results

a. The Relationship between Self Efficacy and Medication Compliance

Table 2. Relationship Between Self Efficacy and Medication Adherence

Self-efficacy	**Medication Compliance**			***P Value***	***OR 95% CI***
	Not obey	**obey**	**Total**		
Not enough	11 (64.7)	6 (35.3)	17 (100.0)	0.036	5,5 (1.3-22.2)
Good	5 (25.0)	15 (75.0)	20 (100.0)		
Total	16 (43.2)	21 (56.8)	37 (100.0)		

Based on table 2 regarding the distribution of adherence to taking medication according to self-efficacy, it was found that out of 17 respondents whose self-efficacy was lacking, it was found that most of them were non-adherent in taking medication, namely 64.7% and then those who adhered to taking medication were 35.3% . Meanwhile, of the 20 respondents who had good self-efficacy, only 25.0% did not adhere to taking DM medication, the majority actually took medication, namely 75.0%.

The results of the statistical test "chi square test" obtained a value of p = 0.036 (p value <alpha 0.05). The decision was Ho rejected and Ha accepted, meaning that there is a significant relationship between self-efficacy and adherence to taking medication. The conclusion is that there are differences in adherence to taking medication between respondents who have less and good self-efficacy. The results of the statistical test showed the value of OR = 5.5 (rounded to 5), meaning that respondents with good self-efficacy were 3 times more likely to disobey taking medication than respondents with good self-efficacy.

3.3 Old Relationship of Suffering DM with Adherence to Taking Medication

Table 3. Relationship Between Length of Suffering from Diabetes Mellitus and Adherence to Taking Medication

Long Suffering DM	Medication Compliance			*P Value*	*OR 95% CI*
	Not obey	**obey**	**Total**		
It's been a long time	8 (44.4)	10 (55.6)	18 (100.0)	1.0	1,1 (1.1-4.0)
New	8 (42.1)	11 (57.9)	19 (100.0)		
Total	16 (43.2)	21 (56.8)	37 (100.0)		

The results of the "chi square test" statistic test obtained a value of p = 1.0 (p value > alpha 0.05). The decision was that Ho was accepted and Ha was rejected, meaning that there was no significant relationship between the length of suffering from DM and adherence to taking medication. The conclusion is that there is no difference in medication adherence between respondents who have been taking medication for a long time and those who have recently taken medication.

3.4 Family Support with Medication Adherence

Table 3. Relationship Between Family Support and Compliance with Taking Medicine

Family support	Medication Compliance			*P Value*	*OR 95% CI*
	Not obey	**obey**	**Total**		
Not support	10 (71.4)	4 (28.6)	14 (100.0)	0.018	7.0 (1.6-31.3)
Support	6 (26.1)	17 (73.9)	23 (100.0)		
Total	16 (43.2)	21 (56.8)	37 (100.0)		

The results of the statistical test "chi square test" obtained a value of p = 0.018 (p value <alpha 0.05). The decision was Ho rejected and Ha accepted, meaning that there was a significant relationship between family support and medication adherence. The conclusion is that there are differences in medication adherence between respondents who do not get family support and those who do get support from their families. The results of the statistical test showed the value of OR = 7, meaning that respondents who did not

receive support from their families had a 7 times greater chance of not adhering to taking medication compared to respondents who received support from their families.

3.5 Motivation With Medication Compliance

Table 4. Relationship Between Motivation and Adherence to Taking Medication

Motivation	Medication Compliance			*P Value*	*OR 95% CI*
	Not obey	**obey**	**Total**		
Not enough	11 (68.8)	5 (31.3)	16 (100.0)	0.016	7.04 (1.6-30.2)
Good	5 (23.8)	16 (76.2)	21 (100.0)		
Total	16 (43.2)	21 (56.8)	37 (100.0)		

The results of the statistical test "chi square test" obtained a value of p = 0.016 (p value <alpha 0.05). The decision was Ho rejected and Ha accepted, meaning that there was a significant relationship between motivation and medication adherence. The conclusion is that there are differences in medication adherence between respondents who are less motivated and well motivated. Statistical test results show the value of OR = 7.04 (rounded to 7), meaning that respondents with good motivation have a 7 times greater chance of not adhering to taking medication compared to respondents with good motivation.

3.6 Discussion

a. The Relationship between Self Efficacy and Medication Compliance

The results of this study are in line with research conducted by Anti, Amalia and Beni (2023) that self-efficacy is significantly related to adherence to taking medication in patients with diabetes mellitus.His research used a simple linear regression test and showed that there was a relationship between self-efficacy and medication adherence in type II DM sufferers at the Kedungwuni I Health Center. In his analysis, it was explained that every increase of one unit of self-efficacy would increase the level of adherence by 3.7 units. Bandura in Anti, et al (2023) also explains that self-efficacy is a consideration of a person's opinion regarding his own ability to organize and carry out a series of activity actions needed to achieve the intended goal. Armed with any skills or expertise possessed by individuals will relate to their beliefs about what can be done. If you think positively about something, positive things will happen and vice versa.

b. Old Relationship of Taking Medication with Adherence to Taking Medication

The results of this study are not in line with research conducted by Hannan (2019) which confirmed that the length of time taking medication is significantly related to adherence to taking medication in patients with diabetes mellitus. Furthermore, in a study by Oktaviani et al (2018) it has also been proven that there is a significant relationship between the length of taking medication and adherence to taking medication. In his research, he argued that patients who had suffered from diabetes mellitus for too long tended to be bored / indifferent to the regularity of taking medication, because they had been undergoing the treatment process for too long, they tended to be disobedient.

Although the results of this study have not succeeded in confirming a positive relationship between length of suffering with DM and adherence to taking medication, researchers try to argue that there may not be a positive relationship because it is suspected that there is information that can be conveyed by respondents. The researcher's concern is that respondents have the potential not to remember well what they have experienced,

especially their memory of their duration of diabetes mellitus. In the interview, the researcher found information that there were respondents who forgot when they first had diabetes mellitus. Memory (forgetting) factors may contribute to this condition and as a result the data may not be appropriate.

c. Relationship between family support and medication adherence

The results of this study are in line with research conducted by Deskasari (2020) that family support is significantly related to adherence to taking medication in patients with diabetes mellitus. Furthermore, in the research of Puput, et al (2023), it is also the case, that there is a significant relationship between family support and medication adherence (p value = 0.043). In the analysis, it was explained that respondents who received support from their families had the potential to be obedient in undergoing treatment, families who reminded and motivated the patient would make the patient remember and want to take the medicine according to the doctor's recommendations.

According to researchers, the role of the family (parents, siblings, brothers, sisters and children) is important in controlling the attitudes and behavior of patients with DM. Families who care about the patient's recovery and health will usually always remind and provide support so that each treatment therapy is carried out according to medical recommendations. Families can motivate and play a role as drug control (PMO) for patients who are undergoing treatment.

d. The Relationship between Motivation and Medication Adherence

The results of this study are in line with research conducted by Almira (2019) that motivation has a significant relationship with adherence to taking medication in patients with diabetes mellitus. In his research, it was explained that patients who had good self-motivation or were personally motivated to maintain blood sugar levels tended to comply with all the provisions of diabetes mellitus treatment explained by medical staff. Any patient who is aware and wants to be physically fit and healthy will be willing and able to take medication regularly. Furthermore, in Mamesah's research (2019) also suggested that there was a significant relationship between motivation and adherence to taking medication.

IV. Conclusion

Based on the results of the research and discussion in the previous chapter, several conclusions can be drawn as follows:

1. The results of this study indicate that of all the respondents studied, it was found that out of the 37 respondents studied, it was found that there were 43.2% of respondents who did not adhere to taking medication, and those who adhered to taking medication were only 56.8%.
2. There is a relationship between self-efficacy and adherence to taking medication in people with diabetes mellitus at the Primary Clinic of the Supreme Court (p value=0.036; OR=5.5).
3. There is no relationship between duration of taking medication and adherence to taking medication in patients with diabetes mellitus at the Primary Clinic of the Supreme Court (p value=1.0; OR=1.1).
4. There is a relationship between family support and adherence to taking medication in people with diabetes mellitus at the Supreme Court Primary Clinic (p value=0.018; OR=7.0).

5. There is a relationship between motivation and adherence to taking medication in people with diabetes mellitus at the Supreme Court Primary Clinic (p value=0.016; OR=7.04).

References

Almira, Naila, dkk. Faktor-faktor yang berhubungan dengan perilaku kepatuhan minum obat anti diabetes pada penderita diabetes melitus tipe 2 di Puskesmas Teluk Dalam. Homeostasis 2.1 (2019): 9-12.

Anti, Amalia Ardi, and Benny Arief Sulistyanto. "Hubungan Self Efficacy Dengan Kepatuhan Minum Obat Pada Penderita Diabetes Melitus Tipe II." Prosiding University Research Colloquium. 2023.

Deskasari, Ningrum. 2022. Kepatuhan Minum Obat pada Penderita Diabetes Melitus Tipe II. Higea (Spesial 4), 2020. http://journal.unnes.ac.id/ sju/index.php/higeia.

Diabetes [Internet]. WHO. 2021 [cited 2021 Jun 21]. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes.

Fajar Zakaria Resenja. Hubungan Motivasi Terhadap Kepatuhan Minum Obat Pada Penderita Diabetes Melitus Tipe II di RS Anwar Medika. Other thesis. 2022. Universitas Anwar Medika

Fatimah P. Hubungan antara dukungan keluarga dengan kepatuhan penatalaksanaan dm pada pasien DM di RSUD DR. Pirngadi Medan. Universitas Sumatera Utara; 2018

Hannan M. Analisis faktor yang memengaruhi kepatuhan minum obat pada pasien DM Di Puskesmas Bluto Sumenep. Wiraraja Med. 2019;53

Kementerian Kesehatan RI. Tetap Produktif, Cegah, dan Atasi DM. Infodatin. 2020;1–8.

K. M. Winahyu, R. Anggita, and G. Widakdo, "Characteristics of Patients, Self-Efcacy and Quality of Life among Patients with Type 2 Diabetes Mellitus," Jurnal Keperawatan Padjadjaran, 2019

Mamesah FP., Runtuwene M, Katuuk M. Hubungan Motivasi Intrinsik Dengan Kepatuhan Diet Pasien Diabetes Melitus Tipe Ii Di Puskesmas Ranotana Weru. J Keperawatan. 2019;7(1):1–7.

Ningrum DK. Kepatuhan Minum Obat pada Penderita Diabetes Melitus Tipe II. HIGEIA (Journal Public Heal Res Dev. 2020;4(Special 3):492–505.

Notoatmodjo S. 2014. Modifikasi teori Lawrence Green. Jakarta: Rineka Cipta.

Oktaviani, B., Widagdo, L., & Widjanarko, B., (2018). Faktor yang Berhubungan dengan Kepatuhan Penderita Diabetes Mellitus dalam Menjalani Pengobatan di Puskesmas Pudakpayung Kota Semarang. Jurnal Kesehatan Masyarakat, 6(5): 713-720.

Riskesdas., 2018. Hasil Utama Riskesdas 2018.Jakarta: Badan Penelitian dan Pengembangan Kesehatan Kemenkes RI.

Shaffa, Shabrina. Analisis Faktor Yang Berpengaruh Terhadap Kepatuhan Minum Obat Pada Pasien DM Tipe 2 di Wilayah Kerja Puskesmas Tanjung Bintang Kabupaten Lampung Selatan Dengan Health Belief Model. 2023.

Yulianti T, Anggraini L. Faktor - faktor yang memengaruhi kepatuhan pengobatan pada pasien DM Rawat Jalan di RSUD Sukoharjo. J Farm Indones. 2020;17(2):116.

WHO., (2016). Global Report on Diabetes.Geneva: World Health Organization

Wiliams R, Colagiuri S, Almutairi R, Montoya PA, Basit A, Beran D, et al. IDF

Diabetes Atlas [Internet]. 9th ed. Federation International Diabetes. International Diabetes Federation; 2019. Available from: file:///C:/Users/User/Downloads/global idf atlas.pdf