

The Relationship Between Family Support and Self-Efficacy on Treatment Compliance in Type 2 Diabetes Mellitus Patients at RSUD Kabupaten Tangerang

Fadila Fira Damayanti¹, Cicirosnita Jayadi Idu¹, Kristina Everentia Ngasu¹

¹Yatsi Madani University, Tangerang, Indonesia

Article Info

Keywords :

Type 2 Diabetes Mellitus, Family Support, Self-Efficacy, Treatment Compliance

Corresponding Author :

Fadila Fira Damayanti

E-mail :

fadiladamayanti25@gmail.com

ABSTRACT

Background & Objective: Type 2 Diabetes Mellitus is a chronic disease that requires long-term treatment. Treatment compliance is influenced by including family support and self-efficacy. To determine the relationship between family support and self-efficacy with treatment compliance in Type 2 Diabetes Mellitus patients. **Method:** This quantitative study with a cross-sectional design involved 270 patients with Type 2 Diabetes Mellitus who were undergoing treatment. The sampling technique was purposive sampling. Data analysis was performed using the chi-square test. **Result:** The analysis showed that the majority of Diabetes Mellitus patients had high family support 147 (54.4%), high self-efficacy 140 (51.9%), and high treatment compliance 159 (58.9%). The chi-square test results showed a p-value <0.001 ($p < 0.05$) which means they are interrelated. **Conclusion:** Family support and self-efficacy are closely related to medication adherence. The higher the family support and self-efficacy, the higher the adherence to medication. This indicates a relationship between family support and self-efficacy on medication adherence in Type 2 Diabetes Mellitus patients at Tangerang Regency Hospital.

DOI: <https://doi.org/10.56359/igj.v5i3.1131>



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

Introduction

Diabetes Mellitus (DM) is a global health problem with an incidence rate that continues to increase every year. According to the World Health Organization (WHO), approximately 14% of adults aged 18 years and over suffer from Diabetes Mellitus, a figure that has doubled from 7% in 1990. In addition, approximately 530,000 deaths due to kidney disease are caused by Diabetes, while high blood glucose levels cause approximately 11% of all deaths due to cardiovascular effects (WHO, 2024). Data from

the International Diabetes Federation (IDF) in 2025, it is estimated that approximately 1 in every 9 adults aged 20–79 years in the world lives with diabetes, with a total estimated to be 589 million adults, and this figure is projected to jump to 853 million by 2050. More than 90% of diagnosed problems are Type 2 Diabetes Mellitus, approximately 81% of diabetes sufferers live in low- and middle-income countries. This creates a gap in access to health services (International Diabetes Federation, 2021).

The prevalence of diabetes mellitus in Indonesia has increased significantly in recent years. According to the 2023 Indonesian Health Survey (SKI), 33,552 people in Jakarta were recorded as having diabetes mellitus, with 47.9% having type 2 diabetes mellitus. In Banten Province, the number of diabetes mellitus cases was recorded at 38,751 (Kemenkes, 2023). Based on data from the Banten Provincial Health Office in 2023, Tangerang City had the highest number of diabetes cases, with a total of 93,500 sufferers. Meanwhile, in Tangerang Regency, 43,633 people were recorded as having the disease (Dinas Kesehatan Provinsi Banten, 2023).

One of the main challenges in managing diabetes mellitus is low patient adherence to treatment. The WHO estimates that only approximately 50% of individuals with chronic diseases adhere to long-term treatment, including those with type 2 diabetes mellitus. Numerous studies show that adherence rates for diabetes mellitus patients range from 22% to 60% (Tiorma & Syahrizal, 2021). Compliance is defined as a patient's consistent adherence to therapy and lifestyle adjustments in line with the advice of medical professionals. Treatment adherence indicates how well a person adheres to approved medical recommendations, such as medication use, diet, and lifestyle (Ardianti Fauziah et al., 2024). Low levels of medication adherence can be caused by several factors, such as busy schedules, the assumption that the disease is incurable, boredom, forgetting to take medication, and a lack of motivation (Rismawan, 2023). This condition has serious consequences, including a decreased quality of life, increased complications, and even death (Pratiwi & Fajriansyah, 2022).

Various psychosocial factors have been shown to influence patient adherence. Family support plays a crucial role in providing emotional support, motivation, monitoring medication use, regulating diet, and accompanying patients to healthcare facilities (Khasanah et al., 2025). Furthermore, self-efficacy, an individual's belief in their ability to manage their health, is associated with adherence. Patients with high self-efficacy are better able to maintain their diet, exercise, adhere to medication, and recognize signs of hypoglycemia and hyperglycemia than those with low self-efficacy (Fahamsya et al., 2022).

Furthermore, social and cultural aspects in Banten significantly influence how patients behave regarding diabetes mellitus management. For example, family support in the Banten community is crucial, and health education contributes to improving the understanding and actions of older adults in managing diabetes. Understanding the importance of diabetes management is often minimal, resulting in low awareness and commitment to consistent therapy (Firda et al., 2023).

Research by Kartini et al (2024) and Ardianti Fauziah et al (2024) explains that both family support and self-efficacy play a crucial role in improving adherence to treatment in patients with Type 2 Diabetes Mellitus. Patients with adequate family support tend to be more disciplined in following therapy, while patients with high self-efficacy demonstrate confidence and ability to consistently manage their disease. However, further research is needed in the Banten region, particularly Tangerang Regency.

Objective

This study aims to determine the correlation between family support, self-efficacy on medication adherence in type 2 diabetes mellitus patients. This study aims to determine the proportion of type 2 diabetes mellitus patients who have family support and self-efficacy on medication adherence, and to examine the relationship between these factors with their type 2 diabetes mellitus. This study examined 270 respondents with a purposive sampling method and used an accurate questionnaire to assess family support, self-efficacy (high, medium, low), and medication adherence measured by a questionnaire. This study used the chi-square test to examine the statistically significant relationship between family support and self-efficacy related to medication adherence.

Method

This research employed a quantitative methodology with a descriptive correlational design and a cross-sectional approach. This design was used to test the correlation between the independent and dependent variables, which was the primary objective of this study. The objective was to determine the correlation between family support and self-efficacy on medication adherence in type 2 diabetes mellitus patients at Tangerang Regency Hospital. The sampling method used was purposive sampling.

Inclusion criteria

- 1) Respondents diagnosed with type 2 diabetes mellitus
- 2) Age over 20 years.
- 3) Patients undergoing outpatient treatment
- 4) Patients with family members involved in the care or treatment process.
- 5) Patients undergoing regular treatment for at least the last 6 months

Exclusion criteria

- 1) Patients with type 1 diabetes mellitus
- 2) Patients with cognitive impairment or mental disorders that could affect their ability to complete the questionnaire.
- 3) Patients who do not live in the same household or do not interact regularly with family members.

The instruments used in this study included questionnaires on family support, self-efficacy, and medication adherence. Family support questionnaire consists of 25 questions with four Likert scale answer choices. Self-efficacy questionnaire consists of 20 questions with five Likert scale answer choices. Morisky Medication Scale (MMAS-8) medication adherence questionnaire consisting of 8 questions with dichotomous scale answer choices (Yes/No). This research has obtained an ethics license from Yatsi Madani University with No. 310/LPPM-UYM/VI/2025.

Results

This research was conducted on July 28-August 8, 2025 at Tangerang Regency Hospital with 270 respondents and obtained the following results:

TABLE 1. Characteristics of Type 2 Diabetes Mellitus patients (n= 270)

Characteristics	Frequency	Percentage (%)
Age		
26-35 year	36	13,3
36-45 year	43	15,9
46-55 year	81	30,0
56-55 year	71	26,3
> 65 year	39	14,4
Gender		
Male	115	42,6
Female	155	57,4
Occupation		
Work	112	41,5
Doesn't work	158	58,5
Duration of suffering DM		
1-5 year	124	45,9
6-10 year	74	27,4
11-15 year	55	20,4
16-20 year	12	4,4
> 20 year	5	1,9
Total	270	100

Table 1 shows that the majority of patients were in the 46–55 age group (81 respondents) (30%). This finding aligns with (Marethalina, 2024) who found that almost all diabetes mellitus sufferers are between 45–59 years old (41.0%). With increasing age, metabolic function declines, making blood glucose control more difficult and potentially triggering diabetes mellitus (Della, 2023).

Based on gender distribution, the majority of respondents were women, with 155 respondents (57.4%). This finding aligns with research (Rosita, 2022), which states that women are at higher risk of developing diabetes mellitus due to hormonal factors, genetics, lifestyle, and lack of physical activity (Marethalina, 2024).

Based on occupational distribution, the majority of respondents were unemployed, with 158 respondents (58.5%). These results align with research (Fitriana & Muflihatin, 2020), which states that patients with low physical activity or those who are unemployed are at higher risk of developing diabetes mellitus due to their low metabolic rate.

Meanwhile, the duration of type 2 diabetes mellitus was 1–5 years, with 124 respondents (45.9%). These results align with research (Rosyidah, 2023), which found that most patients have had diabetes mellitus for more than one year. The longer a person suffers from diabetes, the more risk factors arise, such as declining health, serious complications, or even death (Amalia, 2022).

TABLE 2. Frequency Distribution of Family Support for Type 2 Diabetes Mellitus Patients (n= 270)

Variable	Frequency	Percentage (%)
Family Support		
Low	2	0,7%
Medium	121	44,8%
High	147	54,4%
Total	270	100,0%

Based on the data in Table 2, the results indicate that the majority of respondents reported high levels of family support. Of the 270 respondents, 147 (54.4%) fell into the high category. The high level of family support in this study may be influenced by the characteristics of the respondents, with the majority being in the pre-elderly and elderly age groups, who generally have closer family ties. According to House's 1981 theory of social support, four forms of support can influence an individual's health behavior: emotional, esteem, informational, and instrumental support.

This aligns with research by Zhang et al. (2024), which emphasized family support, reminding patients to take their medications, accompanying them to examinations, and preparing meals according to medical recommendations. Emotional support from family also plays a role in reducing stress and increasing patients' self-confidence, thus encouraging them to be more compliant with treatment.

TABLE 3. Frequency Distribution of Self-Efficacy of Type 2 Diabetes Mellitus Patients (n= 270)

Variable	Frequency	Percentage (%)
Self-Efficacy		
High	140	51,9%
Medium	106	39,3%
Low	24	8,9%
Total	270	100,0%

Based on the data in Table 3, the results indicate that the majority of respondents had high self-efficacy. Of the 270 respondents, 140 (51.9%) fell into the high category. Patients with high self-efficacy have strong confidence in their ability to manage their disease, from maintaining a healthy diet, exercising, monitoring blood sugar levels, to adhering to recommended treatment. This confidence makes patients more consistent and motivated in adopting healthy behaviors despite challenges.

These results align with research (Amalia, 2022) which states that high self-efficacy positively impacts medication adherence in diabetes mellitus patients, as strong self-efficacy makes patients more optimistic, motivated, and consistent in their therapy.

TABLE 4. Frequency Distribution of Treatment Compliance in Type 2 Diabetes Mellitus Patients (n= 270)

Variable	Frequency	Percentage (%)
Treatment Compliance		
Low	21	7,8%
Medium	90	33,3%
High	159	58,9%
Total	270	100,0%

Based on the data in Table 4, the results show that the majority of Type 2 Diabetes Mellitus patients have high medication adherence. Of the 270 respondents, 159 (58.9%) were categorized as high. High medication adherence has a significant impact on Type 2 Diabetes Mellitus patients because it maintains stable blood sugar levels and prevents complications. Patients who adhere to their medication achieve better glycemic control than those who are non-adherent.

One way to increase patient adherence is to encourage patient awareness and family support in undergoing treatment, including physical activity and taking medication. According to the Hierarchical Model for Medication Adherence theory

proposed by Bae & Unni (2022), medication adherence is placed at the highest level in the health behavior pyramid. Achieving this level is only possible if the patient has adequate health literacy, confidence in their disease, belief in the effectiveness of medication, and strong self-efficacy supported by a strong social environment.

This aligns with Handoko's (2021) research, which states that medication adherence is a patient's commitment to therapeutic treatment. This requires both the patient and their family to commit to treatment. Adherence to daily medication is a key aspect in preventing diabetes mellitus.

The Relationship Between Family Support and Treatment Compliance in Type 2 Diabetes Mellitus Patients

In this study, researchers used the chi-square test to determine the relationship between the Family Support variable and medication adherence in type 2 diabetes mellitus patients. The results of the test are as follows:

TABLE 5. The Relationship Between Family Support and Treatment Compliance in Type 2 Diabetes Mellitus Patients

Family Support	Treatment Compliance Tinggi		P Value	Odd Ratio (OR) 95% CI
	n	%		
Low	51	72,4	<0,001	3,910 (2,342 – 6,527)
High	108	73,5		

Based on table 5 above, it is found that the majority of Type 2 Diabetes Mellitus patients at Tangerang Regency Hospital experienced high family support with high medication adherence of 108 respondents (73.5%) compared to low family support with high adherence of 51 respondents (72.4%). The results of the Chi-Square test above obtained a P-Value <0.001, so it can be said that there is a significant relationship between family support and medication adherence in Type 2 Diabetes Mellitus patients at Tangerang Regency Hospital. The results of the analysis also obtained an OR value of 3.910, meaning that respondents with high family support have a chance of about 3.9 times greater to be compliant than respondents with low family support.

The Relationship between Self-Efficacy and Treatment Compliance in Type 2 Diabetes Mellitus Patients

In this study, researchers used the chi-square test to determine the relationship between the variables of Self-Efficacy and medication adherence in patients with type 2 diabetes mellitus. The results of the test are as follows:

TABLE 6. The Relationship between Self-Efficacy and Treatment Compliance in Type 2 Diabetes Mellitus Patients

Self-Efficacy	Treatment Compliance High		P Value	Odd Ratio (OR) 95% CI
	n	%		
High	105	76,1	<0,001	0,218 (0,129 – 0,367)
Low	54	40,9		

Based on table 6 above, it is found that the majority of Type 2 Diabetes Mellitus patients at Tangerang Regency Hospital experienced high self-efficacy with high

medication adherence of 105 respondents (76.1%) compared to low self-efficacy with high adherence of 54 respondents (40.9%). The results of the Chi-Square test above obtained a P-Value <0.001 , so it can be said that there is a significant relationship between self-efficacy and medication adherence in Type 2 Diabetes Mellitus patients at Tangerang Regency Hospital. The results of the analysis also obtained an OR value of 0.218, meaning that respondents with high self-efficacy have a chance of approximately 0.218 greater to adhere to medication than patients with low self-efficacy.

Discussion

The Relationship Between Family Support and Treatment Compliance in Type 2 Diabetes Mellitus Patients

The results of the bivariate analysis in Table 5 indicate a relationship between family support and medication adherence. Patients with high levels of family support are more motivated, receive supervision, and receive emotional and instrumental support, thus increasing their chances of adherence. Meanwhile, patients with low family support tend to be less compliant with medication due to minimal motivation, lack of supervision of medication consumption and routine check-ups, and feelings of facing the disease alone. The chi-square test yielded a P-Value <0.001 , indicating a statistically significant relationship between family support and medication adherence in patients with type 2 diabetes mellitus. Fast food is typically high in calories, saturated fat, and sodium, while lacking in fiber and essential micronutrients. Excessive fast food consumption negatively impacts nutritional status and can also cause reproductive problems, including dysmenorrhea. This is in line with findings (Prawesty, 2024), which indicate that diabetes mellitus patients who do not undergo regular check-ups are at risk of uncontrolled blood sugar levels, increased chronic complications, and decreased treatment effectiveness. This condition also reflects low patient compliance with medical recommendations, which can ultimately worsen the patient's quality of life.

The Relationship between Self-Efficacy and Treatment Compliance in Type 2 Diabetes Mellitus Patients

Table 6 of the bivariate analysis results shows that 105 respondents (76.1%) experienced high self-efficacy with high medication adherence, compared to 54 respondents (40.9%) who experienced low self-efficacy with high adherence. This is in line with research (Djaelan, 2022) on self-efficacy related to medication adherence in patients with Type 2 Diabetes Mellitus. Self-efficacy plays a crucial role in medication adherence. Patients with high self-efficacy tend to be confident in their ability to manage their disease, thus being more motivated and consistent in undergoing therapy. This results in better adherence, both in taking medication and in maintaining a diet. Conversely, patients with low self-efficacy are more likely to feel discouraged, bored, or give up on following medication regimens, thus tending to be non-compliant and at risk of complications from their disease.

Conclusion

Based on the results of a study conducted by researchers with 270 respondents at Tangerang Regency Hospital, it shows a relationship between family support and self-efficacy on medication adherence in patients with type 2 diabetes mellitus. The

success of Type 2 Diabetes Mellitus management is not only determined by medical therapy, but is also greatly influenced by psychosocial factors such as family support and patient self-efficacy. Healthcare workers are expected to implement interventions that emphasize increasing patient self-efficacy, such as health education, counseling, and ongoing support. Further research is recommended to examine other factors that may influence medication adherence to obtain a broader picture.

References

- Amalia. (2022). Hubungan Self Efficacy Dengan Kepatuhan Minum Obat Pada Penderita Diabetes Melitus Tipe II. *University Research Colloquium*, 74–82.
- Ardianti Fauziah Et Al. (2024). The Relationship Of Self-Efficacy With Medication Adherence In Diabetes Mellitus *Pants Journal For Quality In Public Health*. 8(1), 14–21.
- Bae & Unni. (2022). Exploring A New Theoretical Model To Explain The Behavior Of Medication Adherence. *Pharmacy*, 10(2), 43. <https://pubmed.ncbi.nlm.nih.gov/35448702/>
- Della. (2023). Faktor-Faktor Yang Berhubungan Dengan Kepatuhan Pengobatan Pasien Diabetes Melitus Tipe 2. *Jurnal Keperawatan Klinis Dan Komunitas (Clinical And Community Nursing Journal)*, 7(2), 124. <https://doi.org/10.22146/jkkk.83090>
- Dewi. (2024). Hubungan Dukungan Keluarga Dengan Tingkat Kepatuhan Pasien Dalam Pengobatan Diabetes Melitus Di Poli Klinik Penyakit Dalam Rumah Sakit Dik Pusdikkes Jakarta Timur. *Jurnal Kesehatan Masyarakat Perkotaan*, 4(1), 22–35. <https://doi.org/10.37012/jkmp.v4i1.2234>
- Dinas Kesehatan Provinsi Banten. (2023). Profil Kesehatan Provinsi Banten Tahun 2023. https://dinkes.bantenprov.go.id/storage/dinkes/files/1109/profil_kesehatan/profil_kesehatan_banten_tahun_2023.pdf
- Djaelan. (2022). Self Efficacy Berhubungan Dengan Kepatuhan Minum Obat Dan Pola Diet Pada Penderita Diabetes Mellitus Tipe 2. *Profesional Health Journal*, 03(2), 149–160. <https://www.ojsstikesbanyuwangi.com/index.php/Phj>
- Fahamsya, A., Anggraini, M. T., & Faizin, C. (2022). Efikasi Diri Dan Dukungan Keluarga Mendorong Kepatuhan Minum Obat Pasien Diabetes Melitus Tipe 2. *Biomedika*, 14(1), 63–73. <https://doi.org/10.23917/biomedika.v14i1.17040>
- Firda, A., Maqfiroch, A., Kurniawan, A., & Masfiah, S. (2023). Pengembangan Program Pengelolaan Diabetes Mellitus Berbasis Komunitas Wilayah Perdesaan. *Jurusan Kesehatan. Jurnal Ilmiah Kesehatan Masyarakat*, 189–203.
- Fitriana & Muflihin. (2020). Hubungan Aktifitas Fisik Dengan Terkendalinya Kadar Gula Darah Pada Pasien Dm Tipe Ii Di Irna Rsud Abdul Wahab Sjahranie Samarinda. *Borneo Student Research*, 1(3), 1659–1665. <https://journals.umkt.ac.id/index.php/bsr/article/view/1022>
- Handoko. (2021). Gambaran Tingkat Kepatuhan Minum Obat Pada Penderita Diabetes Mellitus Tipe Ii. *Mayapada Nursing Journal*, 1(1), 9–14. <https://dspace.umkt.ac.id/handle/463.2017/2018>
- International Diabetes Federation. (2021). About Diabetes. <https://idf.org/about-diabetes/what-is-diabetes/>
- Kartini, Y., Tohri, T., & Warna, M. P. (2024). Health Dynamics The Relationship Between Family Support And Medication Adherence In Type 2 Diabetes Patients At Cililin Hospital , Bandung , Indonesia *Health Dynamics*. 1(10), 454–459.

- Kemenkes, R. (2023). Survei Kesehatan Indonesia (Ski). Kota Kediri Dalam Angka, 1–68. <https://www.Badankebijakan.Kemkes.Go.Id/Ski-2023-Dalam-Angka/>
- Khasanah, N., Aspihan, M., & Luthfa, I. (2025). Hubungan Dukungan Keluarga Dengan Perawatan Diri Pada Lansia Diabetes Melitus Tipe 2 Di Puskesmas Kedungmundu Universitas Islam Sultan Agung Semarang , Indonesia. April. *Vitalitas Medis: Jurnal Kesehatan dan Kedokteran*, 2(2), 65–75. <https://doi.org/10.62383/vimed.v2i2.1388>
- Kusuma. (2023). Hubungan Self Efficacy Pasien Diabetes Mellitus Terhadap Kepatuhan Minum Obat Dibangsai Gladiol. 241–248.
- Lin, Z. (2024). Middle-Aged And Older Adults In Aids Village: A Mixed Methods Study On Talking About Death And Well-Being Promotion Based On Social Support Theory. *Frontiers In Psychology*, 15(March). <https://doi.org/10.3389/fpsyg.2024.1363047>
- Marethalina. (2024). Hubungan Dukungan Keluarga Dengan Kepatuhan Minum Obat Pada Penderita Diabetes Melitus Di Upt Puskesmas Marina Permai Tahun 2024. *Jurnal Surya Medika*, 2(1), 25–33.
- Pratiwi1, K Fajriansyah1, R. A. (2022). Gambaran Tingkat Kepatuhan Minum Obat Pasien Diabetes Melitus Tipe 2 Di Puskesmas Pertiwi Kota Makassar. *Wal'afiat Hospital Journal*, 3(2), 156–164. <https://doi.org/10.33096/Whj.V3i2.88>
- Prawesty. (2024). Hubungan Dukungan Keluarga Dengan Kepatuhan Melakukan Kontrol Rutin Pada Penderita Diabetes Mellitus Di Puskesmas Kalibagor Banyumas. *Protein : Jurnal Ilmu Keperawatan Dan Kebidanan.*, 2(2), 98–107. <https://doi.org/10.61132/Protein.V2i2.246>
- Rismawan. (2023). Hubungan Kepatuhan Minum Obat Terhadap Kadar Gula Darah Sewaktu Pada Penderita Diabetes Mellitus Tipe 2. *Jurnal Riset Media Keperawatan*, 6(1), 23–30. <https://doi.org/10.51851/jrmk.v6i1.373>
- Rosita, R., Kusumaningtiar, D. A., Irfandi, A., & Ayu, I. M. (2022). Hubungan Antara Jenis Kelamin, Umur, Dan Aktivitas Fisik Dengan Diabetes Melitus Tipe 2 Pada Lansia Di Puskesmas Balaraja Kabupaten Tangerang. *Jurnal Kesehatan Masyarakat*, 10(3), 364–371. <https://doi.org/10.14710/jkm.v10i3.33186>
- Rosyidah. (2023). Analisis Hubungan Antara Lama Menderita Diabetes Melitus Dan Status Pembiayaan Dengan Kepatuhan Minum Obat Pasien Rawat Jalan Di Puskesmas Kota Ngawi. *Ijf (Indonesia Jurnal Farmasi)*, 8(1), 7–15. <https://doi.org/10.26751/Ijf.V8i1.2038>
- Tiurma, R. J., & Syahrizal. (2021). Obesitas Sentral Dengan Kejadian Hiperglikemia Pada Pegawai Satuan Kerja Perangkat Daerah. *Higeia Journal Of Public Health Research And Development*, 5(3), 227–238.
- WHO. (2024). Diabetes. <https://www.Who.Int/News-Room/Fact-Sheets/Detail/Diabetes>