

The Correlation Between Patient Empowerment and Self-Management Among Patients with Type 2 Diabetes Mellitus at Gading Rejo Community Healthcenter

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ABSTRACT

Background & Objective: Diabetes mellitus is a chronic disease that can lead to serious complications and death if not properly managed. Therefore, patients require effective self-management behaviors, which are influenced by patient empowerment. This study aimed to determine the correlation between patient empowerment and self-management among patients with type 2 diabetes mellitus at Gading Rejo Community Health Center. **Method:** This study used a quantitative method with a descriptive correlational design and a cross-sectional approach. The population consisted of all patients with type 2 diabetes mellitus registered at the health center. The sample included 54 respondents selected using purposive sampling. Data were collected using the Diabetes Empowerment Scale and the Diabetes Self-Management Questionnaire. Data analysis was performed using the Gamma test. **Result:** The results showed a significant correlation between patient empowerment and self-management, with a p-value of 0.001 and a correlation coefficient of 0.771, indicating a strong relationship. **Conclusion:** In conclusion, better patient empowerment is associated with better self-management among patients with type 2 diabetes mellitus. Therefore, it is important for healthcare

services to enhance patient empowerment through continuous education, family support, and active patient involvement in decision-making.

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Introduction

According to the World Health Organization, diabetes is a chronic disease caused by the inability of the pancreas to produce insulin or when the body is unable to use the insulin that has been produced (WHO, 2020).

Based on data from the International Diabetes Federation (IDF), around 11.1% of the global adult population (aged 20-79 years) lives with diabetes with a total of 589 million cases and it is estimated that there will be a significant increase in 2050, namely around 853 million people are expected to experience it (Idf, 2025). In addition, the five countries with the highest number of sufferers in 2025 are China (148 million sufferers), India (90 million sufferers), the United States (39 million sufferers), Indonesia (20.4 million sufferers), and Pakistan (19.7 million sufferers) (*IDF Diabetes Atlas*, 2025).

According to the 2023 Indonesian Health Survey (SKI), the prevalence of diabetes mellitus in Indonesia was 2.2% of 638,178 people diagnosed by doctors and 11.7% based on blood sugar tests from 19,159 people who underwent the examination. At the provincial level, the prevalence of diabetes mellitus in Lampung Province among residents aged >15 years as diagnosed by doctors was recorded at 1.2%, placing Lampung in 10th place out of 34 provinces in Indonesia. The three provinces with the highest prevalence of diabetes mellitus as diagnosed by doctors in residents aged >15 years in 2023 were DKI Jakarta 3.9% of 24,982, DI Yogyakarta 3.6% of 8,988, and East Kalimantan 3.1% of 8,929 people who underwent the examination (Kemenkes, 2023).

According to data from the Lampung Provincial Health Office via the Lampung One Data Portal in 2023, the highest number of diabetes mellitus sufferers was recorded in South Lampung Regency (8,493 cases out of approximately 1,071,727 people), followed by Tanggamus Regency (3,692 out of approximately 640,000 people) and West Lampung Regency (2,510 cases out of approximately 300,000 people) (Dinas Kesehatan Provinsi Lampung, 2023). Meanwhile, diabetes cases in Pringsewu Regency increased in 2022, with a total of 1,025 cases rising to 1,095 in 2023 (Badan Pusat Statistik, 2023).

Untreated diabetes mellitus can lead to serious complications, both macrovascular and microvascular, especially in patients with uncontrolled type 2 diabetes (PERKENI, 2021). These risks can be reduced through consistent self-management, including health monitoring and adopting healthy lifestyle habits (M.S et al., 2019). However, many patients still lack adherence to medication, diet, and physical activity, resulting in suboptimal management. Limited education and a patient-centered approach contribute to this, necessitating strategies such as patient empowerment to improve patient knowledge, self-efficacy, quality of life, and skills (Cosentino et al., 2020). Furthermore, PERKENI has established five pillars of diabetes management (PERKENI, 2021), and the success of self-management is also influenced

by intrinsic and extrinsic factors, necessitating appropriate interventions (Tiruneh et al., 2019)

Diabetes mellitus management strategies are essential for improving individuals' ability to manage their disease independently through patient empowerment, which includes increasing self-efficacy and self-esteem, health control, knowledge, behavioral change, and social support. Patients play an active role in decision-making, families act as support providers, and nurses act as educators and facilitators (Fajriyah et al., 2019; Orozco-Beltrán et al., 2022). These efforts can be achieved through structured education, family involvement, decision-making independence, and the use of health technology such as medication reminder apps and blood sugar monitoring (Powers, Margaret A, 2020; Stacey et al., 2024). They also require support from the health system, including community health centers (Puskesmas) and government policies (Fauzi, 2022). One implementation is the Chronic Disease Management Program (Prolanis) by BPJS Kesehatan, which includes education, physical activity, health monitoring, and regular check-ups to improve patient knowledge, skills, and active involvement in disease control (BPJS, 2021).

Based on a pre-survey at the Gading Rejo Community Health Center through interviews with 10 respondents and a history of examinations over the past 6 months, only 3 respondents had good self-management and self-empowerment, while 7 others were still lacking. Although some patients regularly check their health and participate in Prolanis, they still experience difficulties in managing their diet, monitoring their blood sugar, and maintaining motivation for physical activity, which is also reflected in clinical conditions such as high blood pressure and glucose levels. The assessment was based on therapy compliance, blood sugar monitoring, diet, physical activity, knowledge, and Prolanis participation. This shows that the success of the program depends not only on health services, but also on the patient's ability in empowerment and self-management, so researchers are interested in examining "the correlation between patient empowerment and self-management among patients with type 2 diabetes mellitus at the Gading Rejo Community Health Center."

Objective

This study aims to determine the relationship between patient empowerment and self-management among patients with type 2 diabetes mellitus at Gading Rejo Community Health Center.

Method

This study used a quantitative method with a descriptive correlational design and a cross-sectional approach (Adiputra et al., 2021), conducted at the Gading Rejo Community Health Center on December 12 and 19, 2025, with a population of 117 type 2 DM patients and a sample of 54 respondents selected through purposive sampling based on inclusion and exclusion criteria. The independent variable was patient empowerment and the dependent variable was self-management, with data collection using the Diabetes Empowerment Scale-Long Form (DES-LF) and the Diabetes Self-Management Questionnaire (DSMQ) questionnaires that are valid and reliable (Agustina, 2023; Zulfa, 2017). Data analysis was performed univariately and bivariately using the Gamma test with a significance level of $p \leq 0.05$, through data processing stages such as editing, coding, entry, scoring, and tabulation using SPSS,

while still adhering to research ethics principles such as informed consent, confidentiality, justice, beneficence, and non-maleficence.

Results

Univariate Analysis

TABLE 1. Respondent Characteristics

Characteristics	Total	Percentage (%)
Age		
41-45 Years	1	1,9
46-50 Years	13	24,1
51-55 years	18	33,3
56-60 years	22	40,7
Total	54	100
Gender		
Male	8	14,8
Female	46	85,2
Total	54	100
Education		
Elementary School	26	48,1
Junior High School	23	42,6
High School	5	9,3
Total	54	100
Occupation		
Housewife	37	68,5
Merchant	7	13,0
Seamstress	2	3,7
Farmer	8	14,8
Total	54	100
Duration of Illness		
1-5 years	8	14,8
6-10 years	20	37,0
>10 years	26	48,1
Total	54	100

Based on Table 1, the characteristics of respondents in type 2 diabetes mellitus patients at the Gading Rejo Community Health Center show that the majority of respondents are in the 56-60 years age group, as many as 22 people (40.7%), female as many as 46 people (85.2%), have a final education level of Elementary School (SD) as many as 26 people (48.1%), and most work as Housewives (IRT) as many as 37 people (68.5%), based on the length of time suffering from type 2 diabetes mellitus for more than 10 years as many as 26 people (48.1%).

TABLE 2. Patient Empowerment Distribution for Diabetes Mellitus Patients at Gading Rejo Community Health Center

Patient Empowerment	Total	Percentage (%)
High	28	51,9%
Moderate	15	27,8%
Low	11	20,4%
Total	54	100.0

Based on table 2, respondents with high levels of empowerment were 28 respondents (51.9%). The number of respondents with low levels of empowerment was 15 respondents (27.8%) and the number of respondents with low levels of empowerment was 11 respondents (20.4%).

TABLE 3. Self-Management Program Distribution to Diabetes Mellitus Patients at Gading Rejo Community Health Center

<i>Self Management</i>	Total	Percentage (%)
Good	31	57,4%
Fair	15	27,8%
Poor	8	14,8%
Total	54	100.0

Based on the table 3, it was found that out of 54 respondents who had self-malnalgement, there were 31 respondents (57.4%). The number of respondents with self-malnalgement was 15 respondents (27.8%) and the number of respondents who had self-malnalgement was 8 respondents (14.8%).

Bivariate Analysis

TABLE 4. The Correlation Between Patient Empowerment and Self-Management among Patients With Type 2 Diabetes Mellitus at Gading Rejo Community Health Center

Patient Empowerment	Self Management						Total	Correlation coefficient (r)	P-value
	Good		Fair		Poor				
	N	%	N	%	N	%	N	%	
High	21	75,0	7	25,0	0	0,0	28	100.0	0,771
Moderate	10	66,7	5	33,3	0	0,0	15	100.0	
Low	0	0,0	3	27,3	8	72,7	11	100.0	
Total	31	57,4	15	27,8	8	14,8	54	100.0	0,001

Based on table 4, respondents with a good level of patient empowerment mostly have good self-management (75.0%) and none are lacking, while at a sufficient level of empowerment the majority also have good self-management (66.7%) and none are lacking; conversely, at a low level of empowerment there are no respondents with good self-management, and most are in the lacking category (72.7%). The results of the Gamma test show a p-value of 0.001 (<0.05) with a correlation coefficient of 0.771, which means there is a strong positive relationship between patient empowerment and self-management, so it can be concluded that the better the patient empowerment, the higher the self-management in type 2 diabetes mellitus patients at the Gading Rejo Community Health Center.

Discussion

Patient empowerment in type 2 diabetes mellitus patients

Based on the research results, the majority of respondents had a high level of patient empowerment (51.9%), followed by those in the moderate (27.8%) and low (20.4%) categories, indicating that the majority of patients were able to manage their diabetes mellitus independently. These results align with research (Rofifah, 2025), which also found a predominance of high levels of empowerment, although there were still patients with low levels, reflecting limited knowledge, self-confidence, and dependence on healthcare professionals or family.

Patient empowerment is a condition where patients have control over their health through knowledge, commitment, and active involvement in decision-making, which contributes to changes in attitudes and behaviors, as well as improved motivation and quality of life (François et al., 2024). This process is influenced by patient education and experience and is related to self-efficacy (Bandura, 1997; Stewart & Krivan, 2021), making it an important component in chronic disease management because it increases patient adaptability and engagement in care (François et al., 2024; Smeltzer et al., 2020).

Self-Management in Type 2 Diabetes Mellitus Patients

Based on the research results, the majority of respondents demonstrated good self-management (57.4%), followed by those in the adequate (27.8%) and poor (14.8%) categories. This included dietary management, medication adherence, physical activity, and health monitoring. Although medication adherence was quite good, weaknesses remained in diet, blood sugar monitoring, and physical activity, making lifestyle changes a major challenge. These results align with those of the (American Diabetes Association, 2024; Smeltzer et al., 2020), which state that self-management is influenced by knowledge, motivation, and self-confidence.

Furthermore, diabetes self-management education and support (DSMES) plays a crucial role in improving patient skills through structured education and support (Powers, Margaret A, 2020), and is influenced by patient motivation and adherence (Masi, 2020). Implementing the five pillars of diabetes management according to PERKENI (National Diabetes Association of Indonesia) – education, medical nutrition therapy, physical activity, pharmacological therapy, and blood glucose monitoring – is the foundation for successful self-management, which depends on patient consistency in implementing it (PERKENI, 2021).

The Correlation Between Patient Empowerment and Self-Management in Type 2 Diabetes Mellitus Patients

The results showed that most respondents with good patient empowerment had good self-management (75.0%), and no respondents with poor self-management were found in this group. In the moderately empowered patient group, the majority also had good self-management (66.7%), while in the low empowered patient group, the majority had poor self-management (72.7%). The statistical test results showed a $p\text{-value} = 0.001$ (<0.05), which means there is a significant relationship between patient empowerment and self-management in patients with type 2 diabetes mellitus. This finding confirms that the higher the level of patient empowerment, the better the patient's ability to manage their disease. However, the questionnaire results also showed that although medication adherence and motivation were good, other aspects such as diet management, physical activity, blood sugar monitoring, and stress management were still not optimal.

Conceptually, patient empowerment is a patient's ability to understand their health condition, develop self-confidence, and make independent decisions regarding treatment. In this study, patient empowerment was shown to be a crucial factor in shaping self-management behavior. Patients with high levels of empowerment tend to be more active, confident, and consistent in carrying out treatments, such as medication adherence, dietary management, physical activity, and routine health checks (American Diabetes Association, 2024; Powers, Margaret A, 2020). This is in

line with research by Hollekim-strand et al., (2025), which states that patient empowerment improves patients' ability to understand their disease, set treatment goals, and overcome psychological and social challenges. Furthermore, this concept is also related to the Health Promotion Model (HPM) theory, which explains that health behavior is influenced by individual cognitive and perceptual factors, where patient empowerment can increase patients' perceptions of benefits and self-control (Pender, 2015).

However, the results of this study also indicate that patient empowerment does not always directly translate into optimal self-management behavior. This is evident in the presence of respondents with high empowerment but still in the adequate self-management category. This condition indicates that self-management is influenced not only by cognitive and psychological factors, but also by other factors such as behavioral consistency, psychological readiness, stress management skills, and support from healthcare professionals and family. This finding is supported by research by (Clara et al., 2021; Stewart & Krivan, 2021), which stated that while self-efficacy plays a crucial role, successful self-management is also significantly influenced by external and environmental factors. Furthermore, this study provides a new perspective compared to previous studies that emphasized knowledge, by highlighting patient empowerment as a psychological factor strongly related to self-management, particularly in primary healthcare settings such as the Gading Rejo Community Health Center.

The strength of this study lies in its focus, which not only examines knowledge but also examines patient empowerment as a psychological factor that plays a role in chronic disease management. Furthermore, this study was conducted at the primary healthcare level, making the results more relevant to real-world conditions in the community, particularly among patients with diverse educational backgrounds. The use of valid and reliable instruments such as the DES-LF and the DSMQ also added value in increasing data accuracy. However, this study also has several limitations, such as the cross-sectional design, which cannot directly explain cause-and-effect relationships, and the limited sample size, which may not fully represent the broader population. Furthermore, the use of questionnaires as a measurement tool has the potential to introduce subjective bias in respondents.

Overall, this study shows that patient empowerment is a crucial factor in improving self-management in patients with type 2 diabetes mellitus. However, its implementation in daily behavior is still influenced by various other factors, both internal and external. Therefore, a more comprehensive approach is needed, not only through education but also by considering psychological aspects, social support, and the sustainability of interventions to enable patients to maintain optimal self-management behaviors.

Conclusion

Based on the results of the study, the majority of type 2 diabetes mellitus patients had high patient empowerment (51.9%) and good self-management (57.4%), with a significant, strong, and positive relationship ($p=0.001$; $r=0.771$), so that the higher the patient empowerment, the better the self-management. Future researchers are advised to expand the scope of respondents and locations, and examine other factors such as family support, stress, therapy adherence, and the role of health workers, as well as

using longitudinal or intervention designs to obtain a more in-depth picture of the relationship.

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