International Journal of Nursing and Midwifery Science (IJNMS)

http://ijnms.net/index.php/ijnms
ORIGINAL RESEARCH

e- ISSN: 2686-2123
p- ISSN: 2686-0538

REPRESENTATIVE OF SELF CARE MANAGEMENT OF DMT2 SUFFERERS IN THE WORKING AREA OF PRIMARY HEALTH FACILITIES IN MOJOKERTO CITY

Eka Nur So'emah*, Della Puspita Anggraini, Agus Haryanto
Universitas Bina Sehat PPNI Mojokerto
Corresponding Email: ns.ekabinse@gmail.com*

ABSTRACT

Type 2 Diabetes Mellitus (DMT2) requires effective self-care management to prevent complications. Puskesmas in Mojokerto City plays a crucial role as the front line in education and support for DMT2 sufferers. This study aims to identify the level of self-care management in DMT2 patients in the work area of the First Level Health Facility (FKTP) of Mojokerto City. This descriptive study involved 372 respondents selected using the Slovin formula (5% error tolerance) from a population of 5,328 DMT2 sufferers. The instrument used is the Diabetes Self-Management Questionnaire (DSMQ). The distribution of the level of self-care management shows an almost even distribution: the Low category is 33.87% (126 people), the High category is 33.33% (124 people), and the Medium category is 32.80% (122 people). The high proportion of the low category (33.87%) indicates that good access to information has not been fully able to improve patient compliance and independent practices. This shows that there are practical obstacles or motivations in the application of medical information. Self-efficacy is a key factor; The higher the patient's self-confidence, the better the self-care management practice carried out. A more applicable educational strategy and strengthening psychological support are needed to increase the independence of DMT2 sufferers in Mojokerto City

Keywords

Diabetes Melitus Tipe 2, *Self-Care* Manajemen

INTRODUCTION

Type 2 Diabetes Mellitus (DMT2) is a global and national health problem that threatens public health and socio-economic development quite seriously. Diabetes mellitus refers to a group of metabolic diseases that are generally characterized by increased blood glucose levels, or hyperglycemia. Severe hyperglycemia causes classic symptoms such as polyuria, polydipsia, fatigue, decreased performance, and unexplained weight loss, impaired vision and susceptibility to infections, as well as ketoacidosis or non-ketoacidosis hyperosmolar syndrome with a risk of coma. Chronic hyperglycemia also causes impaired insulin secretion and/or work and is associated with long-term damage and

dysfunction of various tissues and organs (eyes, kidneys, nerves, heart, and blood vessels), as well as cancer (Harreiter & Roden, 2023). The incidence of diabetes mellitus is increasing rapidly, and the condition often results in significant metabolic disease and severe complications. Nurses have an important role in monitoring, educating, and supporting people with diabetes, as well as their families and close people (Cloete, 2022).

Worldwide, an estimated 537 million people were living with diabetes in 2021, with a projected drastic increase to 783 million by 2045 (IDF, 2025). Indonesia, with 19.47 million people with diabetes in 2021, is ranked as the fifth country with the largest number of diabetics in the world. This significant increase in diabetes cases requires a transformation of the health system, considering that the current system is not fully able to handle the increasing burden of diabetes, especially in terms of prevention and handling of complications. The 2023 Indonesian Health Survey (SKI) and Riskesdas 2018 reveal an alarming trend of increasing prevalence of diabetes in Indonesia (Kemenkes RI, 2024). Around 28.6 million Indonesians aged 20-79 years are affected by Type 2 Diabetes Mellitus (DMT2) with a prevalence of 10.6%. This increase is especially noticeable in urban areas, with unhealthy lifestyles, obesity, and other risk factors being the main drivers. This increase is caused by a combination of factors such as lifestyle changes (unbalanced diet, lack of physical activity), obesity, age, and genetic factors.

Data from the Mojokerto City Health Office in 2024 on people with diabetes mellitus are starting from the Blooto Health Center with 1,321 cases, the Mentikan Health Center with 1,280 cases, the Kedungdung Health Center with 1,162 cases, the Wates Health Center with 992 cases, the Gedongan Health Center with 436 cases and the Kranggan Health Center with 137 cases (Mojokerto, 2024).

The prevalence of DM in Indonesia continues to show an increase, and the long-term complications it causes have a negative impact on the quality of life of sufferers. This chronic disease requires the active involvement of the patient in its management, known as Self Care Management (Cho & Kim, 2021). Self Care Management covers various aspects such as a healthy diet, regular physical activity, blood glucose monitoring, medication adherence, and foot care (Oni, 2020). Self Care Management is an individual's effort or ability to carry out self-care activities to maintain, improve, and maintain health and well-being. This concept is often very relevant in the context of treating chronic diseases such as Diabetes Mellitus (Iovino et al., 2024). The purpose of Self Care Management is to Control the symptoms and physical/psychological conditions experienced, Prevent complications or severity of the disease, Follow a treatment program (e.g. medication adherence), Make the right decisions regarding their health care, Change the lifestyle adapted to the disease suffered. In short, Self Care Management is the process of empowering patients so that they can participate actively and independently in managing their own illness and health in a sustainable manner (Hessler et al., 2019).

The city of Mojokerto is the focus of this research because it is an area that is active in implementing health service transformation, including strengthening Primary Health Facilities (in this study, the FKTP is meant to be a health center in the Mojokerto city area). FKTP plays a vital role as an education center for Self Care support for DMT2 sufferers. Research in this area is important to evaluate the effectiveness of health programs at the primary level and how it affects the clinical and psychosocial outcomes of DMT2 patients. The purpose of this study is to represent the level of *self-care* management in DMT2 patients in the work area of the Primary Health Facility (FKTP) of Mojokerto City.

METHOD

This study applies a quantitative approach with a descriptive design to identify and represent variables in the

population over a certain period of time (Deckert & Wilson, 2023). The study was carried out for two months, from August to September 2025, with the collection of self-care management data carried out cross-sectionally. The target population includes all registered DMT2 patients who are regularly treated in all First Level Health Facilities (FKTP) of Mojokerto City, with a total of 5,328 people. Sample selection was carried out through a non-probability sampling technique with a purposive sampling approach. Minimum sample size is set using the Slovin formula with an error tolerance rate of 5% (Nuzulia, 2018), So that the number of respondents was 372 people. Self-care management variables were measured using the Diabetes Self-Management Questionnaire (DSMQ) instrument which reviewed the main dimensions of self-care. The data collection procedure is carried out in a structured manner through filling out questionnaires at each FKTP. The collected data was then analyzed descriptively to describe the characteristics of respondents and the level of self-care management through a frequency distribution table. This research has received official permission from the Mojokerto City Health Office (Letter Number: 200.1.3/1979/417.604.3/ 2025). The ethical aspect of research is strictly maintained by providing informed consent to all respondents and ensuring data confidentiality through the principle of anonymity.

RESULTS

1. General Data Table Characteristics of Respondents

Table 1 General Characteristics Respondents in the Study *Self Care* Management of DMT2 Patients

No	Kategori	Jumlah (n)	Prosentase (%)
1	**Jenis Kelamin**		
	Laki-laki (Lk)	187	50.27%
	Perempuan (Pr)	185	49.73%
2	**Pendidikan Terakhir**		
	SD	7	1.88%
	SMP	20	5.38%
	SMA	185	49.73%
	Sarjana	160	43.01%
3	**Lama Menderita**		
	<5 Tahun	186	50.00%
	>5 Tahun	186	50.00%
4	**Konsumsi Obat DM**		
	Obat Oral	187	50.27%
	Injeksi Insulin	185	49.73%
5	**Aktivitas Sehari-hari**		
	Bekerja	187	50.27%
	Tidak Bekerja	185	49.73%
6	**Penyakit Penyerta**		
	Ada	186	50.00%
	Tidak Ada	186	50.00%
7	**Kebiasaan Diet DM**		
	Diet DM	187	50.27%
	Tidak Diet DM	185	49.73%
8	**Akses Informasi DM**		
	Puskesmas	131	35.21%
	Media Sosial	88	23.66%
	Tenaga Kesehatan Lainnya	14	3.76%
	Lainnya (Kombinasi, Liflet/Brosur, Rumah Sakit, Tenaga Kesehatan, dsb.)	139	37.37%
	Total	**372**	**100.00%**

Source: Primary Data

Based on the data in Table 1, a total of 372 respondents were recorded with characteristics that were quite varied but balanced. From the gender aspect, the proportion between males (50.27%) and females (49.73%) showed an almost equal distribution. The majority of respondents were secondary and tertiary education graduates, dominated by high school (49.73%) and bachelor's (43.01%) graduates, while basic education levels (elementary and junior high school) accounted for less than 8% of the population. Clinical characteristics such as the length of time suffering from the disease and the presence of comorbidities show a very even distribution (50% each). In terms of health management, the use of oral medications slightly outperformed insulin injections by a slim margin of 0.54%. Regarding access to information, combined sources such as brochures and medical personnel were the main referrals (37.37%), followed by Puskesmas (35.21%) and social media (23.66%).

2. Specific data Self-Care Identification of Management of DMT2 Sufferers

Table 2 Characteristics of *DMT2 Management* Self Care

No	Kategori *Self Care* Manajemen	Jumlah (n)	Persentase (%)
1	DSM Tinggi	124	33.33%
2	DSM Sedang	122	32.80%
3	DSM Rendah	126	33.87%
	Total	**372**	**100.00%**

Source: Primary Data

In table 2, the results of data collection on 372 respondents were obtained, the distribution of diabetes *self-care* management levels (DSM) showed a very even division among the three categories. Respondents with Low DSM levels are the majority group with 126 people, representing 33.87% of the total. The next group was respondents with a High DSM level, which amounted to 124 people or 33.33%. Finally, the Medium DSM level has almost the same number of respondents as the other two categories, namely 122 people or 32.80%.

DISCUSSION

Representative of Self Care Management of Patients with Type 2 Diabetes Mellitus (DMT2) in the Working Area of Primary Health Facilities in Mojokerto City

Based on the results of data collection of 372 respondents, the distribution of diabetes *self-care* management (DSM) levels showed a very even division among the three categories. Respondents with Low DSM levels are the majority group with 126 people, representing 33.87% of the total. The next group was respondents with a High DSM level, which amounted to 124 people or 33.33%. Finally, the Medium DSM level has almost the same number of respondents as the other two categories, namely 122 people or 32.80%. This data indicates that respondents' ability to manage diabetes *self-care* is distributed almost proportionally across all levels, with no single category dominating significantly. With almost a third of respondents being at the Low DSM level, this is a top priority for interventions. This group is most likely to have a higher risk of diabetes complications due to a lack of adherence to diet, exercise, glucose monitoring, and medication. Promotive and preventive efforts should be focused on increasing their awareness and skills. The DSM Medium also requires special attention. While not yet in the highest risk category, they have the potential to drop to the Low category if not supported. Programs for this group should focus on strengthening motivation and addressing specific barriers that prevent them from reaching High DSM levels.

DMT2 is a complex chronic disease and requires ongoing medical care. The essence of successful management of DMT2 lies in the patient's own ability, known as Self-Care Management. In the context of nursing, Self-Care Manageme is often closely associated with Dorothea E. Orem's Self-Care Deficit Theory. This theory states that every individual has a need to take self-care actions to maintain life, health, and well-being. In DMT2 patients, the disease causes a "deficit" in their self-care abilities, so nursing interventions should be directed to help them regain or improve those self-care abilities (Hartweg & Metcalfe, 2022). Self-Care Management is not just adherence to taking medications, but a total change in lifestyle behavior that is continuous (sustainable). Self-Care Management success in DMT2 patients is measured by controlled blood glucose levels (such as HbA1c) and the prevention of lethal long-term complications (Tanaka, 2022).

Some of the dominant factors about a patient's confidence in his or her ability to successfully perform recommended *self-care* behaviors (e.g., being confident of refusing sugary foods or exercise routines) are *self-efficacy*. The higher *the self-efficacy*,

the better the practice of Self-Care Management (Ismonah, 2008). The second factor is education/knowledge and the patient's understanding of the disease (diet, medication, complications) is basic. Lack of knowledge often results in errors in Self-Care Management practices (e.g., incorrect dosage of medications or foot care techniques). The third factor is motivation which is a strong internal drive to achieve health goals (blood sugar control and prevention of complications). Low motivation makes patients tend to ignore diet and physical activity. The presence of comorbidities (e.g. hypertension, kidney failure, or diabetic wounds) can limit the patient's physical and mental ability to perform Self-Care Management optimally. Some studies suggest that patients with very long duration of DMT2 may experience *burnout* or have more severe complications, which can decrease motivation for self-care management (Yao et al., 2020).

Although the level of Diabetes *Self-Care* Management (DSM) is distributed almost evenly among the Low, Medium, and High categories, this indicates significant behavioral challenges even though most respondents have relatively high levels of Final Education (predominantly high school and Bachelor's). The high Low DSM score indicates that adequate knowledge does not always translate into action, highlighting problems with compliance, motivation, or practical barriers. In addition, although access to DM information through Puskesmas and various other sources is quite high, this has not been able to prevent the high proportion of Medium and Low DSM, indicating the need to improve the quality of information delivery and application. The strongest correlation is seen in hands-on practice: the nearly 50:50 split in DM Dietary Habits (Diet vs. Non-Diet) and DM Medication Consumption (Oral vs. Insulin Injection) is likely to be the main factor underlying the DSM division, where the Low DSM group tends to be those who are non-compliant with diet and medication.

CONCLUSIONS

This study concluded that the level of *Self Care Management* was distributed almost evenly in the low, medium, and high categories. The high rate of low *Self Care Management* shows that extensive access to information has not been effective in changing real behavior, especially in the aspects of dietary and medication adherence that are still proportionally divided. As a suggestion, health workers need to move from just providing theoretical information to interventions that focus on increasing *self-efficacy* and motivation through psychological assistance to overcome patient *burnout*. In addition, educational programs should be personalized according to the practical barriers of each group, especially for the low and medium categories, to prevent the risk of long-term complications through more consistent lifestyle changes.

REFERENCES

Cho, M.-K., & Kim, M. Y. (2021). Self-Management Nursing Intervention for Controlling Glucose among Diabetes: A Systematic Review and Meta-Analysis. *International Journal of Environmental Research and Public Health*, *18*(23). https://doi.org/10.3390/ijerph182312750

Cloete, L. (2022). Diabetes mellitus: an overview of the types, symptoms, complications and management. *Nursing Standard (Royal College of Nursing (Great Britain) : 1987)*, *37*(1), 61–66. https://doi.org/10.7748/ns.2021.e11709

Deckert, J., & Wilson, M. (2023). Descriptive Research Methods.

Research Methods in the Dance Sciences, *July*, 153–165. https://doi.org/10.5744/florida/9780813069548.003.0011

Harreiter, J., & Roden, M. (2023). [Diabetes mellitus: definition, classification, diagnosis, screening and prevention (Update 2023)]. *Wiener klinische Wochenschrift*, *135*(Suppl 1), 7–17. https://doi.org/10.1007/s00508-022-02122-y

Hartweg, D. L., & Metcalfe, S. A. (2022). Orem's Self-Care Deficit Nursing Theory: Relevance and Need for Refinement. *Nursing Science Quarterly*, *35*(1), 70–76. https://doi.org/10.1177/08943184211051369

Hessler, D. M., Fisher, L., Bowyer, V., Dickinson, L. M., Jortberg, B. T., Kwan, B., Fernald, D. H., Simpson, M., & Dickinson, W. P. (2019). Self-management support for chronic disease in primary care: frequency of patient self-management problems and patient reported priorities, and alignment with ultimate behavior goal selection. *BMC Family Practice*, *20*(1), 120. https://doi.org/10.1186/s12875-019-1012-x

IDF. (2025). *Komplikasi Diabetes | Federasi Diabetes Internasional*. International Diabetes Federation. https://idf.org/about-diabetes/diabetes-complications/

Iovino, P., Uchmanowicz, I., & Vellone, E. (2024). Self-care: An effective strategy to manage chronic diseases. In *Advances in clinical and experimental medicine : official organ Wroclaw Medical University* (Vol. 33, Issue 8, pp. 767–771). https://doi.org/10.17219/acem/191102

Ismonah. (2008). Analisis Faktor-Faktor yang Berhubungan dengan Self Care Management Pasien Diabetes Melitus dalam Konteks Asihan Keperawatan di RS Panti Wilasa Citarum Semarang. *Library Indonesia University*, 102. http://www.lib.ui.ac.id/file?file=digital/2016-10/20438131-Ismonah.pdf

Kemenkes RI. (2024). Penderita Diabetes Tinggi, Menkes: Pencegahan di Puskesmas Harus Dioptimalkan. In *Kemenskes* (p. 1). 06 Januari. https://sehatnegeriku.kemkes.go.id/baca/umum/20240106/4144587/penderita-diabetes-tinggi-menkes-pencegahan-di-puskesmas-harus-dioptimalkan/

Mojokerto, D. K. (2024). *Profil Kesehatan Kota Mojokerto 2024*. https://satikomo.mojokertokota.go.id/publikasi

Nuzulia, A. (2018). Metodologi Penelitian. *Angewandte Chemie International Edition, 6(11), 951–952.*, *c*, 5–24. http://eprints.umsida.ac.id/1540/1/METODOLOGI PENELITIAN print.pdf

Oni, D. (2020). Foot Self-Care Experiences Among Patients With Diabetes: A Systematic Review of Qualitative Studies. *Wound Management & Prevention*, *66*(4), 16–25. https://doi.org/10.25270/wmp.2020.4.1625

Tanaka, M. (2022). Orem's nursing self-care deficit theory: A theoretical analysis focusing on its philosophical and sociological foundation. *Nursing Forum*, *57*(3), 480–485. https://doi.org/10.1111/nuf.12696

Yao, J., Wang, H., Yin, J., Shao, D., Guo, X., Sun, Q., & Yin, X. (2020). Factors associated with the utilization of community-based diabetes management care: A cross-sectional study in Shandong Province, China. *BMC Health Services Research*, *20*(1), 407. https://doi.org/10.1186/s12913-020-05292-5