

Concept Analysis of *Self-Care* for Diabetic Melitus Patients

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ABSTRACT

Diabetes mellitus is a significant public health problem, with a predicted increase in the number of patients in Indonesia reaching 28.6 million by 2045. Diabetes self-care is important to prevent complications and improve patients' quality of life. This analysis aims to clarify the concept of diabetes self-care and its activities in patients with diabetes mellitus. The methods used include literature searches in various databases to define diabetes self-care and analyses of attributes, case examples, and consequences of self-care practices. Results showed that diabetes self-care involves a healthy diet, physical activity, blood sugar monitoring, and medication adherence. Implications for practice emphasize the importance of self-care management education for diabetes patients to improve glycemic control and prevent complications, as well as the need for support from health professionals and families in the process of managing this disease.

KEYWORDS: Diabetes Self-Care, Diabetes Management, Patient Education

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I. INTRODUCTION

Non-communicable diseases, particularly diabetes mellitus, have become a significant public health challenge worldwide, including in Indonesia. Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia, caused by abnormalities in insulin secretion, insulin action, or both (Smeltzer et al., 2014). According to data from the World Health Organization (WHO), the number of people with diabetes mellitus, especially type 2, is expected to increase drastically in the coming years. WHO predicts that the number of people with diabetes in Indonesia will increase from 8.4 million in 2000 to around 21.3 million in 2030, and the International Diabetes Federation (IDF) estimates that this number will reach 28.6 million by 2045 (Cho, 2017).

Basic Health Research (RISKESDAS) data in 2018 showed that the prevalence of diabetes mellitus in Indonesia reached 10.6%, or around 19.5 million people, with an increase in the prevalence of obesity which is a major risk factor for diabetes. The prevalence of obesity increased from 14.8% in 2013 to 21.8% in 2018. In addition, data shows that complications of diabetes mellitus, such as neuropathy, retinopathy, and cardiovascular disease, are increasingly common, which adds to the burden on the health system (Ministry of Health Research and Development, 2019).

Diabetes mellitus is a chronic disease that requires ongoing medical care and self-management education to prevent acute complications and reduce the risk of chronic complications (American Diabetes Association (ADA) et al., 2017). Previous research shows that knowledge about diabetes management among patients is still relatively low, with only 66.75% of patients having sufficient knowledge about diabetes self-management (Yuni et al., 2020). In addition, adherence to physical activity and diabetes management behaviors is also low, indicating the need for more effective interventions in education and support for diabetes patients.

With the increasing number of people with diabetes and its impact on quality of life and health costs, it is important for all parties, including the community and government, to play an active role in the prevention and management of diabetes mellitus. Effective management requires collaboration between patients, health professionals, and families and an approach that focuses on educating and empowering patients in diabetes self-care.

II. METHODS

The method of writing this research uses concept analysis proposed by Walker & Avant (2019). This method consists of 8 (eight) stages of the concept analysis approach, namely

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first selecting concepts, setting goals, third identifying the use of concepts, fourth determining attributes, fifth compiling model cases, sixth making examples of borderline, related, and conflicting cases, seventh presenting antecedents and consequences and eighth defining empirical references.

III. RESULTS

From the eight stages of the concept analysis approach used, the process works (Walker & Avant, 2019), namely:

A. *Concept Selection*

The concept selection from the background above is diabetes self-care. This selection is based on the fact that there is no explanation of diabetes self-care in patients with diabetes mellitus who are hospitalized.

B. *Determine the Purpose of the Analysis*

The purpose of the analysis is to clarify or clarify the concept of diabetes self-care and diabetes self-care activities in patients with diabetes mellitus.

C. *Identify the Use of the Concept*

Using this concept, a database search was conducted which included Science Direct, PubMed, IJCMPh, and Sage journals. The keyword used in the data search is diabetes self-care. The following is the definition of diabetes self-care based on various sources and disciplines:

Table 1. Diabetes Self-Care Concept

Source/ Year	Discipline	Definition of Diabetes Self-Care
Shrivastava, SR, Shrivastava, PS & Jagadeesh, R (2013)	Medicine	Diabetes self-care is defined as the evolutionary process of developing knowledge or awareness by learning to survive with the complex nature of diabetes in a social context, as most of the daily diabetes care is handled by the patient and/or family, there is an important need for reliable and valid measures for diabetes self-management.
Ahmad, F., & Joshi, S. H. (2023)	Medicine	Self-care practices are a set of behavioral practices used by individuals with diabetes to manage and control their disease.
Gurmu & Dechasa (2023)	Nursing	Diabetes self-care is patient-centered diabetes self-care where the involvement of individuals to take an active role in self-care.
Strandberg et al. (2023)	Nursing	Self-care is patient-centered care, Self-care includes the

Source/ Year	Discipline	Definition of Diabetes Self-Care
		process of maintaining health, monitoring changes in signs and symptoms, and managing those changes when they occur. involves learning health-promoting behaviors, such as adopting a diet, engaging in regular physical activity, and adhering to medication regimens, which can contribute to maintaining health and managing the disease.
Kushwaha (2016)	Medicine and Public Health	Diabetes self-care is the process by which patients perform self-care with repeated reinforcement of health education so that they can improve blood sugar control.
Getie et al. (2020)	Medicine and Health Science	Self-care is an individual's adherence to the rules of diabetes self-management, which is essential for maintaining glycemic control that includes all meals, maintaining physical activity, daily monitoring of blood glucose levels, adherence to medication therapy and foot care.
Eva et al. (2018)	Pharmacy	Self-care is a diabetes self-care behavior that refers to practices undertaken by individuals with or at risk of diabetes mellitus to effectively manage their own disease.
Letta et al. (2022)	Nursing	Self-care is performing activities that individuals do to maintain life, health, and well-being, in health promotion, disease prevention, delaying complications, and enabling patients to deal with the complex nature of diabetes with or without the help of a healthcare provider which includes a healthy diet, regular physical activity, self-monitoring of blood

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Source/ Year	Discipline	Definition of Diabetes Self-Care
		sugar (SMBG), taking medication as prescribed, foot care, smoking cessation, and ideal weight control.

Source : Shrivastava et al. (2013); Ahmad & Joshi (2023); Gurmu & Dechasa (2023); Strandberg et al. (2023); Kushwaha et al. (2016); Getie et al. (2020); Eva et al. (2018); & Letta et al. (2022)

D. Determining Attributes

The attributes that often appear and can be attributes of the concept of diabetes self-care are self-care, individual, patient, diabetes, process, managing, diet, physical activity, medication, blood sugar monitoring, foot care.

Operational Definition:

Diabetes self-care is a system or process of self-care by individuals suffering from diabetes mellitus to manage and maintain their blood sugar control and prevent complications using a healthy diet, regular physical activity, self-monitoring of blood sugar (SMBG), taking medication as prescribed, foot care, smoking cessation, and ideal weight control..

E. Define the Case Model

A 45-year-old woman comes to the health service Centre (health Centre) every Saturday to participate in gymnastics together, the patient has a history of DM for 7 years ago, has been hospitalized with complaints of leg wounds. Currently, the patient actively participates in activities held by the health Centre. When hospitalized in the past, the patient often learned how to carry out a self-care process about diabetes mellitus in order to manage and be able to maintain glycemic control which includes dietary patterns, maintaining physical activity, daily monitoring of blood glucose levels, adherence to medication therapy and foot care. The patient said that since she has been actively participating in the prolanis programmed at the health Centre, her blood sugar has been well controlled.

F. Define Additional Cases Model (Construct Additional Cases)

1. Borderline cases

A 55-year-old man came to the hospital polyclinic for post-hospitalization treatment. The patient was hospitalized because of a wound on his right leg and is now getting better. The patient came to the polyclinic for treatment because the medicine given after being discharged from the hospital had run out. The patient said that he is in the process of learning by himself how to prevent his illness from recurring. The patient often asks the nurse about how to prevent and manage diabetes mellitus and how to care for her foot wounds.

2. Contrary cases

A woman, 58 years old was admitted to the hospital with complaints of pain in her right foot due to a wound on the big toe. With a history of DM for 5 years ago, the body feels

weak, the feet often tingle and there is gangrene in the foot. Clinical data showed BP of 140/90 mmHg, a temperature of 38°C. Laboratory examination results: GDP 220 mg/dl, GD 2 hours PP 490 mg/dl, HbA1c 11%, HDL 35 mg/dl, LDL 210 mg/dl, Total cholesterol 285 mg/dl. The patient likes to eat sweets, rarely goes to health services and rarely exercises.

G. Determine Antecedence and Consequences

Table 2. Antecedence and Consequences

Antecedence	Atributes	Consequences
<ul style="list-style-type: none"> ● Adequate knowledge ● Support from support system ● Adequate transitional care 	<ul style="list-style-type: none"> ● Process ● Self-care ● Diabetes patient ● Managing ● Diet ● Physical activity ● Medication ● Blood glucose monitoring ● Foot care 	<ul style="list-style-type: none"> ● Self-care improved ● Quality of life improved ● Prevent complications ● Blood glucose controlled

H. Define Empirical Referents

Empirical referents are a quantifiable approach to detailing the components and occurrences of a concept, acting as a tool that measures the processes associated with the concept and its outcomes. Empirical referents are also expressed in terms of real-world facts of a concept (Walker & Avant, 2019). Empirical referents are closely related to defining attributes and are linked to the theoretical basis of the concept. Empirical referents of self-care are patients being assisted in developing personalized diabetes prevention and management strategies. Self-care plays an important role in health promotion, disease prevention, delaying complications, and enabling patients to deal with the complex nature of diabetes with or without the help of a healthcare provider. This includes a healthy diet, regular physical activity, self-monitoring of blood sugar (SMBG), taking medication as prescribed, foot care, smoking cessation, and ideal weight control.

Several studies have mentioned that these systems have similar attributes to the concept of self-care such as process attributes, management of which is operationalized as individuals performing these behaviors in the face of mitigating circumstances. The core of this theory means that people can exert influence over what they do. Through reflective thinking, generative use of knowledge and skills to perform certain behaviors, and other self-influence tools, a person will decide how to behave.

IV. DISCUSSION

The discussion in this concept analysis of self-care for diabetes mellitus patients highlights the importance of understanding and implementing self-care practices in

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diabetes management. Diabetes mellitus is a chronic disease that requires ongoing attention and effective management to prevent serious complications. Data shows that many diabetes patients have limited knowledge of self-management, which contributes to the high rate of complications (Diani & Lestari (2019); Ahmad & Joshi (2023)).

One of the key findings of this analysis is that knowledge and education about diabetes self-care is essential to improve patients' quality of life. Research shows that patients who are well-educated about diabetes tend to be more compliant with medication and more active in making healthy lifestyle changes, such as maintaining a diet and exercise routine (Kushwaha et al. (2016); Letta et al. (2022)). Conversely, lack of knowledge may lead to inappropriate behaviors, such as neglecting blood sugar monitoring and not adhering to treatment regimens, which may worsen their health condition (Gurmu & Dechasa, 2023).

Support from healthcare professionals and family is also an important factor in successful diabetes self-care. Patients who receive emotional and practical support from their surroundings are more likely to engage in positive self-care behaviors (Eva et al., 2018). Therefore, interventions involving education and social support should be an integral part of diabetes management programs.

In addition, the results of the analysis show that diabetes self-care does not only focus on physical management but also includes psychological and social aspects. Patients need to feel empowered to make decisions regarding their health, which can be achieved through ongoing education and adequate support (Shrivastava et al., 2013).

The implication of these findings is the need to develop more structured education programs and ongoing support for diabetic patients. Health workers should play an active role in providing the necessary information and resources to improve patient's ability to perform self-care. By doing so, diabetes management can be done more effectively, which in turn will improve patients' quality of life and reduce the burden of complications associated with the disease (McGowan (2011); Walker & Avant (2019)).

Overall, this discussion emphasizes that diabetes self-care is a complex and multifaceted process that requires collaboration between patients, healthcare professionals, and families. Through a holistic and integrated approach, it is hoped that diabetes patients can better manage their condition and prevent complications that may threaten their health in the future.

CONCLUSIONS

Diabetes mellitus is an increasingly urgent public health problem, with a growing prevalence in Indonesia and worldwide. The disease not only poses serious health impacts but also contributes to a significant economic burden. Diabetes self-care is key in the management of this disease, as it allows patients to take an active role in maintaining their

health through dietary management, physical activity, blood sugar monitoring, and medication adherence.

Analysis of the diabetes self-care concept shows that adequate knowledge and education are essential to improve self-care behavior among patients. Support from health professionals and family also plays an important role in the success of self-care practices. Although many patients have basic knowledge about diabetes, the implementation of self-care practices is often low, which can lead to serious complications.

Therefore, more effective interventions in education and support for diabetes patients are needed. A structured education program and ongoing support from healthcare professionals can help patients better manage their diabetes, improve their quality of life, and prevent complications. With a holistic and collaborative approach, it is expected that diabetes management can be done more effectively, providing long-term benefits for patients and the health system as a whole

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