Relationship Between Knowledge and Self-Efficacy of Type 2 Diabetes Mellitus Patients

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Abstract

Background: Diabetes Mellitus (DM) poses a significant threat to global health. According to the International Diabetes Federation (IDF) in the 10th edition of the Diabetes Atlas, DM has become one of the most rapidly escalating global health emergencies. In 2021, 537 million people in the world were living with DM. This number is projected to reach 643 million by 2030, and 783 million by 2045. Indonesia is in the top 10 countries with the most DM patients, reaching 10 million people. Self-efficacy in DM patients, shows the results that there are still many patients who have low efficacy.

Objective: This study aims to investigate the relationship between knowledge and self-efficacy in patients with Type 2 Diabetes Mellitus.

Methods: This quantitative research utilized a cross-sectional design involving 165 patients diagnosed with Type 2 Diabetes Mellitus undergoing outpatient treatment. A purposive sampling technique was applied, and data were analyzed using bivariate analysis to assess the relationship between knowledge and self-efficacy. The sample in this study amounted to 165 people with *purposive sampling* technique . The analysis method used was bivariate analysis to see the relationship between the independent variable and the dependent variable. Data were analyzed using SPSS software.

Results: The results showed that a significant relationship with a positive direction, namely, the higher the value of knowledge the higher the value of self-efficacy, and the strength of the moderate correlation between knowledge and self-efficacy. With moderate correlation strength. The coefficient of determination is 0.228, which means that the knowledge variable affects self-efficacy by 22.8% for patients with type 2 diabetes mellitus.

Conclusion: There is a significant relationship, positive direction and moderate correlation strength between knowledge and self-efficacy in patients with Type 2 Diabetes Mellitus. In this regard, nursing can provide a preventive effort on cognitive aspects such as providing education on the importance of self-efficacy.

Keywords: Relationship, Knowledge, Self-efficacy, Type 2 DM

Introduction

DM is one of the threats to human health, the International Diabetes Federation (IDF) in its 10th edition Atlas confirmed that DM is one of the fastest growing global health emergencies (1). This indicates that DM is not only an individual health problem, but also an increasing global public health burden (4). Type 2 DM is described by the American Diabetes Association as the most common type of diabetes. Effective DM self-management practices have been shown to play an important role in improving blood

sugar control (5). Self-management is considered a key component for healthcare providers, with many studies supporting the need for diabetes self-management skills to be taught to all patients to enable them to take charge of their own care (6).

One important factor in achieving behavioral goals is self-efficacy, which is defined as an individual's beliefs about personal ability to perform certain behaviors necessary to achieve their goals (7). High self-efficacy can increase motivation and perseverance, so that individuals are better able to face challenges and overcome obstacles in their journey (8). Another self-efficacy formation process related to self-efficacy is the selection process. The selection process allows sufferers to choose and create an environment that supports their behavior in achieving desired goals and expectations. Support from family and relationships as well as professionals can shape self-efficacy to be stronger, because a positive and supportive environment provides confidence and additional motivation for individuals to continue to try and achieve success (9). Seeing the above phenomenon and the results of preliminary studies conducted by researchers, researchers are interested in conducting research to see the relationship between knowledge and self-efficacy in Type 2 DM patients.

OBJECTIVE

This study aims to determine the relationship between knowledge and self-efficacy in Type 2 DM patients.

METHODS

This study used a Cross Sectional design. This study focuses on specific samples that meet predetermined inclusion and exclusion criteria. The sampling process was carried out at the internal medicine clinic. This study involved a total sample of 165 respondents. The research sample was patients with a medical diagnosis of Type 2 Diabetes Mellitus. The data collection process used a validated and reliable questionnaire as a measurement instrument. The data analysis process used SPSS 23. Researchers used the bivariate analysis method to see the relationship of each variable being studied. The research was conducted for one month, namely June 2024. The statistical analysis used in this study consists of bivariate analysis to see the relationship between two variables.

RESULT

Table 1 Relationship between Knowledge and Self-Efficacy in Type 2 Diabetes Mellitus Patients
(n = 165)

Variables	Self-efficacy		
	r	*r²*	*p-value*
Knowledge	0.478	0.228	0.001

Table 1 presents data on the relationship between knowledge variables and self-efficacy. This study involved 165 patients. The coefficient of determination is 0.228, which means that the knowledge variable affects self-efficacy by 22.8% for patients with type 2 diabetes mellitus.

DISCUSSION

This study demonstrates a significant positive correlation between knowledge and self-efficacy in patients with Type 2 Diabetes Mellitus, indicating that enhanced knowledge is associated with increased confidence in diabetes self-management. These findings align with previous research indicating the

critical role of patient education in improving diabetes self-efficacy and underscore the necessity of comprehensive and ongoing education programs for effective diabetes management. The strength of the relationship (correlation coefficient) is r = 0.478, which means that the relationship between knowledge and self-efficacy is moderate (r = 0.40-0.599). Positive value, meaning that it is in the same direction, namely the higher the value of knowledge, the higher the value of self-efficacy or vice versa. The results of this study are in line with research (10) where there is a significant relationship between knowledge and self-efficacy, where knowledge affects self-efficacy.

Inadequate knowledge may hinder patients' ability to understand the importance of good diabetes management, which in turn may affect their confidence in their ability to manage their own condition. Patients who have limited knowledge may feel less confident in making appropriate decisions regarding diet, physical activity, blood sugar monitoring, and medication. To improve patients' self-efficacy, there needs to be a focus on increasing their knowledge about diabetes through comprehensive and sustainable education programs. Knowledge possessed by humans is the result of efforts made by humans in searching for the truth or the problem at hand. The activities or efforts made by humans to find the truth or the problems faced are basically the nature of humans themselves or better known as desire. In a narrower sense, knowledge is something that can be owned by humans (11).

Respondents' knowledge tends to be lacking. Therefore, there is a need to improve respondents' understanding of diabetes. This is because inadequate knowledge can have a negative impact on their ability to prevent and effectively manage diabetes, which in turn can affect their quality of life. A comprehensive health education program, which includes basic information about the causes and complications of diabetes is urgently needed to improve this situation and help respondents develop healthy habits and take appropriate preventive measures.

CONCLUSIONS

The study concludes that there is a significant relationship between knowledge and self-efficacy, with knowledge substantially influencing self-efficacy in managing Type 2 Diabetes Mellitus. Health professionals play a crucial role in designing and implementing patient education strategies to enhance self-efficacy, which can lead to improved patient outcomes in diabetes management

CONFLICT OF INTEREST

The authors declare no potential conflict of interest in connection with the research, authorship and/or publication of this article.

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