



THE RELATIONSHIP OF KNOWLEDGE AND DISEASE PERCEPTION OF MELLITUS DIABETES WITH SELF-CARING BEHAVIORS OF DIABETES MELLITUS PATIENTS: SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Diabetes Mellitus is a chronic disease that requires self-care in a long or long term so that patients can perform self-care independently to prevent complications from Diabetes Mellitus. Self-care behavior aims to assess and classify the extent to which Diabetes Mellitus sufferers perform self-care in order to improve their welfare and quality of life. This study aims to determine the relationship between knowledge and pain perception about Diabetes Mellitus with the self-care behavior of Diabetes Mellitus sufferers. This research is a literature study that summarizes some of the relevant literature collected using Google Scholar published in 2015-2020. The search results showed 46 identified journals and 7 journals that met the inclusion criteria. The results showed that there was a significant relationship between knowledge of Diabetes Mellitus and the self-care behavior of Diabetes Mellitus patients and there was a significant relationship between the perception of pain about diabetes mellitus and the self-care behavior of diabetes mellitus patients.

Keyword: nursing; knowledge; pain perception; self-care behavior; Diabetes Mellitus patients

Introduction

The American Diabetes Association (ADA) (2019), says that Diabetes is a complex chronic disease that requires ongoing medical care to reduce risks beyond glycemic control. According to the World Health Organization (WHO) (2019), the basic characteristic of Diabetes Mellitus is the occurrence of dysfunction in the destruction of β cells in the pancreas^{1,2}.

According to the World Health Organization (WHO, 2019), the number of people with diabetes continues to increase with an estimated 455 million adults worldwide in 2014. The International Diabetes Federation (IDF) Atlas (2019) states that the prevalence of Diabetes

Mellitus aged 20-79 years has increased from 4, 8% in 2010 to 6.3% in 2019; IDF estimates that the prevalence of Diabetes Mellitus in 2013 will be 6.9% and 7.1% in 2045. Based on the results, the prevalence of DM according to the 2015 Perkeni consensus in people aged ≥ 15 years was 6.9% in 2013, increasing 10, 9% in 2018. Based on the data above, it can be seen that there is an increase in the incidence of Diabetes Mellitus continuously so that efforts need to be made to minimize the incidence of Diabetes Mellitus. Before any prevention efforts are made, it is necessary to know the causes of Diabetes Mellitus. One of the causes of the high incidence of

Diabetes Mellitus according to knowledge^{3,4,5}.

Knowledge is the process of remembering objects that have been learned through the five senses⁶. Good knowledge of a disease is essential for achieving a better quality of life⁷. Good knowledge can affect the perception of the disease in people with Diabetes Mellitus. The concept of pain perception itself refers to patients' beliefs about their disease based on personal experiences with signs and symptoms, prior knowledge, cultural and social factors. In general, negative disease perceptions will be associated with negative disease behavior and management, the impact is that patients with negative disease perceptions may refuse to follow treatment and find it difficult to implement healthy lifestyle habits⁸. One theory that discusses self-care behavior is Orem's theory; Orem's theory of self-care behavior aims to help people with Diabetes Mellitus perform self-care independently⁹. There are several indicators that must be known in self-care, namely diet, physical activity, pharmacological use, examination of blood glucose levels and foot care¹⁰.

Based on research conducted by Trisnadewi et al (2018) regarding the Knowledge Description of Diabetes Mellitus (DM) Patients and Family on Management of Type 2 DM, it shows that the knowledge of DM sufferers and their families in the Tabanan II health center area is not optimal because there are still characteristics of knowledge in the category. bad; it is necessary to develop education to increase the knowledge of Diabetes Mellitus sufferers and their families. Other research on knowledge conducted by Harahap (2017) regarding the Knowledge Description of Diabetes Mellitus Patients with Diabetic Foot Exercise at RSU IPI Medan in 2015 shows that most DM sufferers have sufficient knowledge, so it is necessary to

develop to continue to improve the knowledge of Diabetes Mellitus sufferers^{11,12}.

Research conducted by Saragih et al (2016) on the Perceptions of Benefits and Barriers to Exercise in Diabetes Mellitus Patients Based on the Nolla J theory¹³. Gender in Internal Medicine Clinical Clinic in 2014 showed that the benefits of exercise were 54% in the category of negative perceptions and exercise barriers. as much as 54% in the positive perception category; it is necessary to increase the perception of Diabetes Mellitus patients. Research conducted by Eka & Tjomiadi (2019) on Perceptions of Disease in Patients with Diabetic Foot Ulcers in Banjarmasin, South Kalimantan, shows that it does not provide an in-depth explanation of each disease perception domain in the Brief Illness Perceptions Questionnaire (BIPQ) questionnaire. Research on self-care was carried out by Sari (2016) regarding the description of self-care in diabetes mellitus patients at H. Adam Malik Hospital, Medan. This needs to be improved and maintained so that the self-care of Diabetes Mellitus patients remains good^{8,14}.

A person's ability to perceive and care for themselves about illness is relatively different between individuals, because the concept of illness can vary based on age, gender, duration of illness, and social interactions. Meanwhile, lack of knowledge and self-care are factors that can increase the incidence of Diabetes Mellitus.

A person's behavior in self-care usually depends on the knowledge of the disease that is being experienced. Knowledge is obtained from several factors such as experience and intensity of learning; experience is obtained from events that have been experienced by either the sufferer himself or those closest to him. Meanwhile, for the learning intestine such as reading books, journals, newspapers, electronic

media or explanations from health workers. To minimize undesirable things, in this case self-care which is constrained due to lack of knowledge about the disease, it is the duty of health workers to inform knowledge or matters relating to self-care for Diabetes Mellitus patients; So this study aims to determine the relationship between knowledge and pain perception about Diabetes Mellitus with the self-care behavior of Diabetes Mellitus patients.

Methods

This research is a literature study that summarizes some relevant literature by searching for the results of scientific publications using Google Scholar with the keywords used, namely "knowledge and self-care behavior for Diabetes Mellitus sufferers" or "perception of pain and self-care behavior for Diabetes Mellitus sufferers" or "knowledge of Diabetes Mellitus sufferers" or "health beliefs and Diabetes Mellitus self-care behavior" or "Perceptions of Diabetes Mellitus sufferers' pain" or "Diabetes Mellitus self-care" or "factors influencing Diabetes Mellitus self-care" so that 46 journals were identified. The hypothesis in this study is that there is a relationship between knowledge and disease perception of mellitus diabetes with self-caring behaviors of diabetes mellitus patients. From the search results, a selection of literature was carried out with criteria using PICOT (Problem, Intervention/Eksposure, Comparison, Outcome, Time) standards, so that the inclusion criteria in this literature study were the population used was Diabetes Mellitus patients with an expression of analyzing knowledge, pain perception and self-care behavior, with the results discussing the relationship between knowledge, illness and self-care behavior in Diabetes Mellitus patients using the design and type of publication of experimental and non-

experimental studies, systematic reviews and qualitative research as well as quantitative research with a publication year of ≥ 2015 , and using Indonesian; So that the literature that meets the inclusion criteria is 7 journals. The results were then analyzed and concluded.

Results and Discussion

Based on the results of a literature search from several articles obtained, there were 7 articles that met the inclusion criteria. Research that identifies the perception and perception of pain about Diabetes Mellitus with the self-care behavior of Diabetes Mellitus patients.

According to research conducted by Tri et al (2020), most respondents with poor knowledge of diabetes (61.7%); The same thing happened to self-care management, indicating that most of them were in the poor category (56.7%)¹⁵. So it can be revealed that there is a relationship between knowledge of diabetes and self-care management in patients with Type 2 Diabetes Mellitus (p -value = 0.015). Another study that discusses knowledge was conducted by Hills (2017) which states that the knowledge of Type 2 Diabetes Mellitus sufferers on insulin use is in the sufficient category (72.09%); The thing that happened to the behavior of people with Diabetes Mellitus type 2 to the use of insulin was in the moderate category (72.10%). So it can be denied that there is a relationship between knowledge and behavior of people with Diabetes Mellitus type 2 in the use of insulin ($p = 0.000$)¹⁶.

The opposite results found in research conducted by Bertalina & Purnama (2016) showed that the respondents' knowledge was in the good category (66.7%); however the majority of respondents with dietary adherence were not adherent (60%). So it can be concluded that there is a significant relationship between

knowledge and dietary adherence in Diabetes Mellitus patients (p-value 0.002)¹⁷.

Research conducted by Delima et al (2020) discusses knowledge and perceptions of self-care showing that most respondents adhere to diet; then there is a relationship between knowledge and dietary adherence of Diabetes Mellitus patients (p-value 0.000)¹⁸. The same thing happened to the perception of dietary adherence, indicating that the majority of respondents were obedient in doing obedience; it can be concluded that there is a relationship between perception and dietary compliance with Diabetes Mellitus (p-value 0.002). A research that is in line with knowledge and perceptions was conducted by Purnamasari (2015), which discusses the knowledge and perceptions of prolans participants in undergoing treatment at the Puskesmas; shows that there is a significant relationship between knowledge and medication adherence to Type 2 Diabetes Mellitus sufferers (p-value = 0.002). follow the recommended treatment. The same thing happened to the perception of prolans participant adherence in undergoing treatment with p-value = 0.008; then there is a relationship between perceptions and adherence of prolans participants in following treatment. Respondents' knowledge was in the bad category (57.43%), compliance was in the disobedient category (51.5%), and the perception was in the bad category (53.5%). Perception and knowledge are interrelated because a person's knowledge can influence perception¹⁹.

Another study that discusses perceptions conducted by Purwanti & Nurhayati (2017), discusses the factors that affect compliance with type 2 DM patients in performing foot care; shows that most of them have good knowledge (58.4%) but the level of adherence in foot care is still low. In the Heath Belief Model (HBM) theory, of

the 4 domains studied, the average is in the good category, but the level of adherence in foot care is still low. This study shows that there is a significant relationship between knowledge and compliance of Diabetes Mellitus patients in performing foot care, indicated by a p-value of 0.013²⁰.

Research conducted by Hardiyanti et al (2018) discusses factors related to diabetes Mellitus type II control behavior. One of the factors related to the control behavior of Diabetes Mellitus type II, namely perception; Most of the respondents had good perceptions (65.5%) and the behavior of controlling Diabetes Mellitus, most of the respondents were able to control Diabetes Mellitus (58.6%). So it can be concluded that there is a relationship between perception and control behavior of Diabetes Mellitus (p-value 0.000)²¹.

Self-care behavior can support Diabetes Mellitus sufferers to be able to maintain their ability optimally to achieve better welfare and quality of life (Purwoastuti and Walyani, 2015)⁹. There are several factors that can influence self-care behavior in people with Diabetes Mellitus such as knowledge, self-efficacy, self-care agents, social support, socioeconomic (financial)²⁷. In a study conducted by Tri et al (2020), one of the causes of poor self-care management was due to disorganization and lack of compliance with respondents in self-care, and poor knowledge of diabetes was caused by respondents' ignorance of the symptoms of Diabetes Mellitus and the importance of physical activity. (exercise) in regulating blood glucose levels. In diabetes knowledge, the better the knowledge of Diabetes Mellitus patients, the better the behavior. So it is hoped that knowledge and behavior can improve compliance with Diabetes Mellitus patients in self-care independently²⁸.

The behavior of Diabetes Mellitus patients can describe how Diabetes Mellitus

patients in managing the disease that is being suffered, either controlling blood glucose levels, exercise or physical activity, the use of pharmacological therapy and diet management. Diet management is one of the things that must be considered; Respondents' lack of compliance in diet control because they are less enthusiastic about participating in counseling about the Diabetes Mellitus diet, and respondents ignore the recommendations for diet control because they have developed complications of Diabetes Mellitus itself²⁹. One of the factors related to dietary adherence is knowledge³⁰. Knowledge is one that needs to be maximized, such as the respondent's knowledge of dietary adherence, then being taught and continuing to review dietary compliance behavior.

Knowledge is important when someone perceives something. Knowledge is the result of a person's perception of something, where if the knowledge is lacking then the perception can have a negative impact and vice versa, if the knowledge is good then the perception can be good or positive too. Purnamasari (2015) states that the better a person's knowledge, the better the compliance with Diabetes Mellitus sufferers. Diabetes Mellitus sufferers adherence can increase if knowledge and perception are in good categories.

Perception of pain according to Sunaryo (2015), is the final process of observing an object which begins with the sensing process. Perception is one of the factors that influence good self-care for Diabetes Mellitus sufferers. Self-care means doing foot care, physical activity, undergoing medication, as well as diet, controlling blood glucose levels. Purwanti & Nurhayati (2017) stated that many factors caused respondents to be less obedient in performing foot care; one of which is low knowledge of foot care and lack of family

support; and according to Hardiyanti et al (2018) poor control of Diabetes Mellitus can cause undesirable things such as complications of Diabetes Mellitus. Complications of Diabetes Mellitus can be prevented by proper management of Diabetes Mellitus^{32,33}.

Based on the results of research that discusses knowledge about Diabetes Mellitus with Diabetes Mellitus patient self-care behavior carried out by Tri et al (2020), Hills (2017), Bertalina & Purnama (2016), Delima et al (2020), Purnamasari (2015), Purwanti & Nurhayati (2017) show that there is a relationship between knowledge of Diabetes Mellitus and self-care behavior. And research that discusses the perception of pain about Diabetes Mellitus with the self-care behavior of Diabetes Mellitus patients conducted by Delima et al (2020), Purnamasari (2015), Purwanti & Nurhayati (2017), Hardiyanti et al (2018) shows that there is a relationship between the perception of pain. with self-care behavior. Of the 7 journals discussed, there is still poor knowledge, poor perception patterns of illness, and there are still people with Diabetes Mellitus who are not obedient to self-care.

Conclusion

Self-care behavior has a close relationship with knowledge and perception of pain; however, there are still many Diabetes Mellitus sufferers with poor self-care behavior or less obedience so that it affects knowledge and perception of pain and results in many Diabetes Mellitus sufferers who are less able to carry out Diabetes Mellitus treatment independently.

Based on the results of the literature study that has been done, it can be concluded that knowledge about Diabetes Mellitus is related to self-care behavior and pain perception about Diabetes Mellitus is related to self-care behavior.

The Conclusion should answer the objectives of the study or hypothesis. Provide a clear scientific justification for your study, and indicate possible recommendation for midwifery practice and future practice. Conclusions are stated as paragraphs. Numbering or itemize is not permitted in this chapter.

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