

Self-Efficacy Analysis on Sugar Levels in Diabetes Mellitus Patients: Literature Review

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ARTICLE INFO

Keywords:

Self Efficacy,
Blood Sugar Level,
Diabetes Mellitus.

ABSTRACT

Background: Problems that arise related to DM such as changes in the way of life such as feeling lonely and aware of death, living alone, changes in economic terms, chronic diseases, weakening physical strength so that sufferers experience decreased body functions, so the need for self-efficacy and regular checks of levels blood sugar. **Method:** The literature is sourced from the google scholar database, google scholar published from 2015 to 2019, and manually selects articles that are relevant to the research question. **Results:** The results of the study in a literature review revealed that the majority of respondents had self-efficacy in the good category with blood sugar levels in the normal category. The results showed that type 2 diabetes mellitus is the most common type of DM, which is 90-95% of all DM patients and is mostly experienced by adults over 40 years of age. This is due to insulin retention tends to increase in the elderly (40-65 years).. **Conclusion:** Self-efficacy has an important role in changing these behaviors where there must be confidence and awareness that you have the ability to take the expected actions in this case the patient's behavior in controlling blood sugar levels.

I. Introduction

One of the health problems that are often experienced by people with diabetes mellitus who do not do the recommended treatment because they feel bored, resigned and hopeless with diabetes that has been suffered for a long time. Besides that, the lack of self-confidence, persistence and perseverance to motivate oneself and act in overcoming diabetes is also one of the main problems experienced by people with diabetes. (Mohebi S, Azadbakht L, 2013 in Kusniawati, 2017).

The International Diabetes Federation (IDF), 2012 in the World Health Organization (WHO) (2018), shows that 415 million people in the world suffer from diabetes mellitus and it is estimated that in 2030 there will be an increase amounted to 642 million in the age range of 20-79 years and diabetes mellitus will be the 7th leading cause of death in 2030. Self-efficacy of diabetes mellitus patients is one of the factors causing diabetes such as lack of knowledge of diabetic patients on self-care (WHO, 2018). In Indonesia, the number of DM patients has increased, from 8.4 million people in 2000 and is estimated to be around 21.3 million people in 2020. The high morbidity rate makes Indonesia ranks fourth in the world after the United States, India and China. Ariani, 2012 in the Ministry of Health (2018), explains that in addition to knowledge factors, other factors that affect compliance include duration of illness, socioeconomic status, health beliefs, and social support. Patients with diabetes mellitus need support from all aspects including self-efficacy. Self-efficacy influences self-care behavior and in controlling blood sugar levels.

The Central Statistics Agency (2019) of East Java Province shows that the number of people with diabetes mellitus in 2016 was 1218 men 607 people, women 946 people then in 2017 data were obtained as many as 2415 people, men 1062 people, women as many as 1353 people. In 2018 it increased again to 4442 people with the number of male sufferers as many as 1836 people and 2606 women. Factors causing the high incidence of diabetes include a lack of confidence or self-confidence in the management of diabetes management. Self-efficacy affects how a person thinks, feels, motivates himself and acts (Central Bureau of Statistics East Java, 2019).

According to Henningsen and Priebie, 2001 in Soegondo, (2017), diabetes is a disease whose existence is systematically inseparable from the individual and affects all functions in the body so that active management of individuals who experience the disease is needed. Diabetes mellitus is a metabolic disorder disease characterized by an increase in blood glucose levels due to a progressive decrease in insulin secretion against the background of insulin resistance. Signs and symptoms of patients with diabetes mellitus include polyuria (frequent urination), polydipsia (frequent thirst), polyphagia (fatigue, weakness). Besides that, other symptoms of diabetes that also often appear are weight loss for no apparent reason, tingling sensation, red, swollen and sensitive gums, blurred vision, feeling like having the flu, and so on. Side effects of diabetes mellitus if not handled properly will result in impaired vision, heart disease, cataracts, kidney disease, impotence, lung disorders, impaired blood vessels, wounds that are difficult to heal so that decay/gangrene occurs, the risk of stroke and others. other. Not a few people with chronic diabetes mellitus perform leg amputations due to decay (Henningsen and Priebie, 2001 in Soegondo, 2017).

Self-efficacy encourages the process of self-control to maintain the behavior needed in managing self-care in DM patients in this case controlling blood sugar levels. Self-efficacy has an important role in changing these behaviors where there must be confidence and awareness that you have the ability to take the expected actions in this case the patient's behavior in controlling blood sugar levels. Certainty and confidence in awareness comes from oneself. So with confidence in its ability to actively control blood sugar levels routinely. (Bandura, 2001 in Gesti, 2017).

Therefore, it is hoped that the patient's confidence in the management of diabetes mellitus can be increased by actively exercising regularly, maintaining a healthy diet, being active in controlling blood sugar. Therefore, high self-confidence will experience a significant improvement in diabetes self-management. Besides that, support from all parties, especially families, can pay attention to the lifestyle of diabetic patients. The role of health workers is urgently needed where the management of diabetes mellitus can be carried out by means of the Four Pillars of DM management, namely regulating diet, physical exercise or sports, anti-diabetic drugs and counseling to improve self-efficacy in DM patients. Therefore nurses have a role to motivate DM patients in increasing efficacy. The purpose of compiling this literature is to find out "The Effect of Self-Efficacy on Blood Sugar Levels in Diabetes Mellitus Patients"

II. METHODS

The data used in this study is secondary data obtained not from direct observation, but from the results of research that has been carried out by previous researchers. Secondary data sources obtained in the form of articles or journals that are relevant to the topic are carried out using databases through Google Scholar, Google Scholar, and Pubmed Central (PMC). Literature search was performed by displaying 3 keywords based on Medical Subject Heading (MeSH) and combined with Boolean operators AND, OR and NOT. The search strategy was defined as (Self-Efficacy Against Blood Sugar Levels) AND (Diabetes Mellitus).

III. RESULTS AND DISCUSSION

Based on 6 reviewed journals, it is known that there is an effect of self-efficacy on blood sugar levels in patients with diabetes mellitus. The results of research conducted by Cici Wirdaningsih (2017), in her research journal entitled *The Relationship of Self-Efficacy With Blood Sugar Levels of Type 2 DM Patients at 7 Ulu Health Center, Palembang City in 2017* showed that self-efficacy with good categories was more than 58 respondents, namely equal to 25 people (43.1%) with normal blood sugar levels, self-efficacy in the less good category than 31 respondents, namely 5 people (16.1%) whose blood levels were normal. The results of the chi square statistical test showed that there was a significant relationship between Self-Efficacy and Blood Sugar Levels in Type II DM patients ($0.002 \leq 0.05$) so that H_0 was rejected and H_1 was accepted.

that the highest gender was female as many as 56 respondents (62.9%), the highest self-efficacy variable was in the good category as many as 58 respondents (65.2%) and the highest blood sugar level variable was in the high blood sugar level category as many as 59 respondents (66, 3%).

The results of research conducted by Yani Nurhayani (2016), in her research journal entitled *Overview of Self-Efficacy in Type II Diabetes Mellitus Patients at Arjawinangun Hospital, Cirebon Regency* showed that the self-efficacy possessed by type II diabetes mellitus patients, namely having good self-efficacy amounted to 16 people. The results of data analysis showed that the description of self-efficacy in patients with type II diabetes mellitus, namely 16 people had poor self-efficacy and 16 people had good self-efficacy.

It is known that the gender of the respondents is mostly women as many as 20 people (62.5%), the most age ranges from 51-60 years, which is 18 people (56.3%). The oldest age is 60 years and the youngest is 40 years old. The description of self-efficacy possessed by type II diabetes mellitus patients, namely 16 people (50.0%) had poor self-efficacy and 16 people (50.0%) had good self-efficacy.

The results of research conducted by M. Ramadhani Firmansyah (2018), in his research journal entitled *The Relationship of Self-Efficacy with Blood Sugar Levels of Type 2 Diabetes Mellitus Patients at 7 Ulu Palembang Health Center in 2017* showed the results that most of the respondents had good self-efficacy of 65, 2%. Most of the respondents had high blood sugar levels of 66.3%. The results of the chi-square statistical test showed a significant relationship between self-efficacy and blood sugar levels (p value = 0.002

it is known that the highest gender is female as many as 56 respondents (62.9%), the highest self-efficacy variable in the good category is 58 respondents (65.2%) and the highest blood sugar level variable is in the high blood sugar level category as many as 59 respondents (66 ,3%).

The results of research conducted by Santi Herlina, Seven Sitorus (2018), in her research journal entitled *Determinants of Self-Efficacy in Diabetes Mellitus Patients* showed that of the eight factors, there was only one factor that had the most influence on the self-efficacy of diabetes mellitus patients, namely the experience of others. . The results of multiple logistic regression analysis show that the OR Exp (B) value of other people's experiences is 0.195 ($OR < 1$ = protective factor).

it is known that the average age of respondents with diabetes mellitus is 52.34 years with a standard deviation of 7.6 and the lowest respondent's age is 40 years and the highest age is 68 years. The average gender of respondents with DM was male as many as 58 (66.7%) respondents. The results showed that most of the respondents had good self-efficacy of 57.5%.

The results of research conducted by Mia Widha Anindita, Noor Diani, Ifa Hafifah (2019), in her research journal entitled *The Relationship between Self-Efficacy and Compliance with Physical Exercise in Patients with Type 2 Diabetes Mellitus* showed that most of the self-efficacy of type 2 DM patients was not good. , namely as many as 39 respondents (65.0%). most people with type 2 diabetes are not obedient in doing physical exercise, as many as 38 respondents (63.3%). The results of statistical tests show that there is a relationship between self-efficacy and compliance with physical exercise in type 2 DM patients, the p -value is < 0.001 which means H_0 is rejected.

It is known that the average age of the respondents is 53.62 years, with the lowest age being 42 years and the highest being 74 years. Female respondents were 42 respondents (70.0%) more than male

respondents, namely 18 respondents (30.0%). Women have LDL or bad cholesterol triglyceride levels that are higher than men and have a greater chance of increasing body mass index so that the prevalence of suffering from DM in women is higher than men. The results showed that most of the self-efficacy of patients with type 2 DM was not good, as many as 39 respondents (65.0%). Most people with type 2 DM are not obedient in doing physical exercise, as many as 38 respondents (63.3%).

The results of research conducted by Ellyana Firdaus (2019), in her research journal entitled *The Effect of Self Instructional Training on Self-Efficacy in People with Type II Diabetes Mellitus in the Work Area of the Purwodiningratan Public Health Center, Surakarta*, showed that in the treatment group the majority of respondents had very high self-efficacy. and high self-efficacy in the control group. After the treatment, the post test results in the treatment group, the majority of respondents had very high self-efficacy, while the control group had very high self-efficacy. The results of statistical tests using paired t test showed that there was an effect on self-efficacy before and after being given self-instructional training ($p=0.001$).

it is known that respondents aged 31-40 years were 4 (13%) people, while those aged 41-50 years were 8 (27%) people and for ages 51-60 years were 18 (60) people. The results showed that the self-efficacy in the treatment group before the intervention was obtained was moderate self-efficacy as many as 1 (3%) people. high self-efficacy as many as 15 (50%) people and very high self-efficacy as many as 14 (47%) people. After the intervention, 12 (40%) people got high self-efficacy and 18 (60%) very high self-efficacy people.

IV. CONCLUSION

Based on the literature review, it can be concluded that there is an effect of self-efficacy on blood sugar levels in patients with diabetes mellitus. It is expected that DM patients can comply with self-care management properly, regulate diet, physical exercise or exercise so as to prevent increased blood sugar levels. Besides that, health workers need to make health promotion efforts about type diabetes mellitus so that people with diabetes can understand and understand the importance of controlling blood sugar levels and self-efficacy.

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