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Self Management of Type 2 Diabetes Mellitus Patients at The Internist Polyclinic of Ngudi Waluyo General Hospital Blitar District

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Abstract

Type 2 Diabetes Mellitus is a disease that can cause many complications. Some of the problems that can arise in patients with Type 2 Diabetes Mellitus, one of the causes is low self-management behavior. This study aims to determine self-management in patients with type 2 diabetes mellitus. This research is a descriptive study. The variable in this study was self-management in type 2 diabetes mellitus patients. This research was a descriptive study. The population in this study were all type 2 diabetes mellitus patients who routinely exercised control at the Internal Medicine Polyclinic at Ngudi Waluyo Wlingi Hospital, Blitar Regency in December 2021, namely 156 people. The sample in this study based on the sample size formula was 112 people with a sampling technique, namely purposive sampling with regard to inclusion and exclusion criteria. This research was conducted from January to February 2022 at the Internal Medicine Clinic at Ngudi Waluyo Wlingi Hospital, Blitar Regency. Data collection in this study used general data instruments consisting of age, gender, routine control, level of education, and duration of DM. Specific data questionnaire using the SDMQ Questionnaire (Diabetes Self Management Questionnaire) which consists of 16 questions with several subdomains in it.The results of this study indicated that 69.6% (78 respondents) had agood category of self-management and 30.4% (34 respondents) had a sufficient category of respondents.It is hoped that the results of this study can be used as a form of input for health workers, especially nurses, in carrying out their roles as educators and counselors to improve self-management in type 2 diabetes mellitus patients to improve their quality of life and prevent complications.

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INTRODUCTION

Diabetes mellitus (DM) is a complex chronic disease that requires continuous care and is one of the biggest health problems in the world (Andriani & Maria, 2022). Diabetes mellitus can cause organ damage, have serious consequences and become a public problem that requires special attention.To achieve and maintain optimal blood glucose levels, DM patients need good self-care management (Ishwari Adhikari & Santosh, 2021).

In addition to the ever-increasing number of cases, DM also causes many acute and chronic complications.Acute complications include diabetic ketoacidosis, hyperosmolar nonketotic, and hypoglycemia, while macroangiopathy, microangiopathy, and neuropathy are chronic (Fadli, 2022). Once either of these occurs, the cost of survival increases, and the quality of life is affected.One of the causes is uncontrolled self-management, Which has an impact on the patient's quality of life (Fadli, 2022).

There are 463 million diabetes patients globally, and it is estimated that by 2045 the number will increase by 51% to 700 million (Andriani & Maria, 2022). Indonesia is the sixth country with the highest number of diabetics, with a prevalence of 8.8 to 11.1% after China, India, the United States, Brazil and Mexico(Malini et al., 2020).In Indonesia, DM is the sixth most common cause of death in all age groups.The prevalence of diabetes is dominated by the number of patients who are not detected and do not take medication, amounting to 73% of the total diabetics in Indonesia (Fithria et al., 2022).

In 2014, DM caused 4.9 million deaths and is the most important cause of kidney disease, eye complications, stroke, heart failure and amputations (Ishwari Adhikari & Santosh, 2021). The high percentage of Type 2 DM cases with modifiable risk factors such as unhealthy diet, obesity or overweight, sedentary lifestyle, and smoking.These factors can be modified through changes in behavior and environment (Ishwari Adhikari & Santosh, 2021).

Effective self-management in patients is very important to increase the attainment of goals during life (Fadli, 2022).Self-management support aims to give confidence to DM patients to take an active role in all aspects of managing their illness, health behavior, and establishing partnerships with health care providers (Captieux et al., 2018).Nonadherence to treatment inhibits the regulation of blood sugar levels, causing poor glucose control (Fadli, 2022).

Diabetes Self-Management (DSM) is an important element in the care of diabetes patients, and the patient's ability to prevent further complications so that the patient's quality of life increases (Andriani & Maria, 2022).Glycemic control is needed to reduce DM morbidity and mortality by preventing and/or delaying complications.Optimal glycemic control can only be achieved if the patient adheres to self-management behaviors such as a healthy diet, physical activity, blood glucose monitoring, taking medication, reducing risk, ability to solve diabetes problems and healthy coping.Therefore, the American Diabetes Association announced that every diabetes patient must participate in a diabetes self-management education program (DSME) (Mikhael et al., 2019).

Successful management of Diabetes Mellitus through DSM depends on the motivation for care and self-awareness in controlling symptoms and avoiding complications of diabetes (Andriani & Maria, 2022).A systematic review of 3,421 research articles proved that diabetes self-management effectively supports successful diabetes management (Andriani & Maria, 2022).A study conducted in a systematic reflection and meta-analysis of 184 articles showed that self-management significantly improves diabetes outcomes (Andriani & Maria, 2022).

Self-management is the active participation of patients in their care. According to Corbin and Straus, self-management consists of three different sets of activities, namely: (1) medical management, such as taking medication and following a full diet, (2) behavioral management, such as adopting behavior in the context of chronic illness, (3) emotional-management , for example related to the frustration, fear, and hopelessness associated with chronic illness (Van Smoorenburg et al., 2019). Diabetes self-management allows diet control.Results of research on 60 respondents showed that there was an effect of Diabetes Self-Management on the dietary behavior of DM patients (Andriani & Maria, 2022).Diet implementation is often an obstacle in diabetes services because patients feel bored having to comply with the recommended dietary program for the rest of their lives. Most patients mention difficulties in implementing the recommended dietary recommendations in their daily lives, a study of 356 type 2 DM patients showed that 41.3%

of diabetes patients experienced nutritional disorders (Andriani & Maria, 2022).

Patients are often unsure of the types of food they are allowed to eat, leading to inappropriate dietary restrictions resulting in nutritional disorders.Dietary changes that are not made can have detrimental consequences, one of which is nutritional problems or malnutrition.Malnutrition is common in adult and elderly diabetic patients.Therefore, it is necessary to screen diabetes patients to assess the incidence of malnutrition(Andriani & Maria, 2022).Based on the description above, shows that self-management is very important for people with DM.Because researchers are interested in studying more deeply about self-management in DM patients.

METHODS

This research is descriptive study. The population in this study were all type 2 diabetes mellitus patients who routinely exercised control at the Internal Medicine Polyclinic at Ngudi Waluyo Hospital Wlingi, Blitar Regency in December 2021, namely 156 people.The sample in this study based on the formula for the sample size is 112 people with a sampling technique, namely purposive sampling.The inclusion criteria in this study were (1) Patients who had been diagnosed with DM for at least 3 months, (2) Patients who received insulin therapy, (3) Aged 40-60 years, (4) Able to carry out independent activities, (5) Able to communicate well, (6) Willing to be a respondent in research.While the exclusion criteria were patients with severe complications (unstable hypertension, coronary heart disease, stroke, and risk of sepsis).

This research was conducted from January to February 2022 at the Internal Medicine Clinic at Ngudi Waluyo Wlingi Hospital, Blitar Regency. Data collection in this study used general data instruments consisting of age, gender, routine control, level of education, and duration of DM.Specific data questionnaire using the SDMQ Questionnaire (Diabetes Self Management Questionnaire) which consists of 16 questions with several subdomains in it.The questionnaire has been tested for validity and reliability with the results declared valid for each item and reliable with Cronbach's Alpha value of 0.901.The indicators from the questionnaire include (1) Glucose management, (2) Dietary control, (3) Physical activity, and (4) Healthcare use.

RESULT

Table 1: Frequency Distribution of Respondents Based on Gender, Age, Education, Routine Control, and Length of Suffering from Diabetes Mellitus Type 2 Patients in the Diseases Polyclinic in NgudiWaluyoWlingi Hospital

Variable		Frequency	Percentage
Gender	Male	49	43.8
	Female	63	56.2
Total		**112**	**100**
Age	Adult (20-60 th)	79	70.5
	Elderly (> 60 th)	33	29.5
Total		**112**	**100**
Education	Elementary Scholl	41	36.6
	Junior High School	23	20.5
	Senior High School	34	30.4
	University	14	12.5
Total		**112**	**100**
Routine Control	Yes	111	99.1
	No	1	0.9
Total		**112**	**100**
Suffering form DM (years)	1-5	6	5.4
	6-10	48	42.9
	11-15	30	26.8
	16-20	6	5.4
	>20	22	19.6
Total		**112**	**100**

Based on table 1 shows that the frequency of respondents based on gender is male respondents amounting to 43.8% (49 respondents).While the female respondents were 56.2% (3 people).The highest frequency of respondents based on the age of the respondents was adults as much as 70.5% (79 people).Meanwhile, respondents in the elderly category were 29.5% (33 people).The highest frequency of respondents based on education were respondents with elementary school education, namely 36.6% (41 respondents).While the fewest respondents were respondents with a D3/S1 education level of 12.5% (14 respondents).

The highest frequency of respondents based on routine control was the respondent who carried out routine control, namely 99.1% (111 respondents). While respondents who did not carry out routine control were 0.9% (1 respondent). While the frequency of respondents based on the length of time they had DM was the respondent who suffered DM for 6-10 years as much as 42.9% (48 respondents). Meanwhile, respondents with a length of treatment of 1-5 years were the least amounting to 5.4% (6 respondents).

Table 2: Frequency Distribution of Respondents Based on Self-Management of Type 2 Diabetes Mellitus Patients at the Internal Medicine Clinic at NgudiWaluyoWlingi Hospital

No	Self-Management	Frequency	Precentage (%)
1	Good	78	69.6
2	Enough	34	30.4
	Total	**112**	**100**

Table 2 shows that the highest frequency of respondents based on self-management of type II diabetes mellitus patients was respondents with a good self-management category of 69.6% (78 respondents). Meanwhile, respondents in the sufficient category were 30.4% (34 respondents).

DISCUSSION

Based on table 2, 78 respondents (69.6%) had the good category of self-management and 34 respondents (30.4%) had a sufficient category.These results are in line with regarding diabetes self-management which shows that the majority of respondents (59.5%) have a good level of self-management (Hidayah, 2019).According to Hidayah (2019) Diabetes self-management consists of five aspects, namely diet/eating patterns, physical activity/exercise, self/foot care, adherence to drug consumption, and monitoring blood sugar levels.on self-management behavior both patients are able to do Glucose management, Dietary control, Physical activity and Health-care use.

Researchers assume that patients with good self-management mean that patients are able to manage their diet, especially their intake of carbohydrates and sugar, comply with the use of insulin therapy and carry out routine physical activity according to the needs and abilities of the patient. If this is done properly then blood glucose levels can be controlled.

When viewed from the age factor in table 1, the respondents based on the age level of the respondents were mostly adults as many as 79 respondents (70.5%).One of the factors that influence self-management is age.Older diabetics have higher levels of self-management in diet, exercise, and foot care than younger individuals.Older diabetics with higher levels of education also do better in self-care than illiterate parents.Coupled with social support is also an important factor in self-management.The support given by the family to sufferers is expected to help individuals to adopt a healthy lifestyle and diet.The existence of social support can speed up the healing process, can improve health care, and can improve the self-management of diabetes mellitus patients (Hidayah, 2019).

Table 1 also shows the frequency of respondents based on the length of time they have suffered from DM. The respondent who has DM 6-10 years as many as 48 respondents (42.9%). Patients with longer DM duration tend to have better self-management. This is because patients who have had diabetes for longer may have more experience and be better able to understand the disease process and its management (Kurniawan et al., 2020). Patients with a longer duration of diabetes also tend to have developed better adaptation strategies to manage their diabetes than those with a shorter duration of diabetes (Saminan et al., 2020).

Researchers assume that although in this study the majority have an elementary school education, most have good self-management. This is because it is not only education that is a factor that influences self-management, but many factors such as the length of time suffering from DM so that this has

become a routine and awareness of respondents in carrying out treatment.

CONCLUSION

Respondents who had a good category of self-management were 78 respondents (69.6%) and respondents with sufficient category were 34 respondents (30.4%).

SUGGESTION

Advice for Nurses

The research results are expected to be used as a form of input for nurses in carrying out their roles as educators and counselors by providing education and motivation to patients. So that it can motivate patients to carry out routine controls.

Advice for Educational Institutions

This research is expected to be able to add to existing references and increase student knowledge regarding the relationship between self-management and the level of stress experienced by patients with diabetes mellitus.

Advice for Hospital

This research is expected to be able to motivate nurses in providing education to patients in accordance with the SOP of work agencies, especially nurses on duty at the Polyclinic by providing services from the time the patient arrives until the patient returns from the Polyclinic.

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AUTHOR CONTRIBUTIONS

In this research the first author as a correspondence who responsible for the research process to publication by writing article that have been adjusted to jurnal guidelines. The second author assisted in the data collection. The third and foourth author assisted in the research process and data analysis, and the last author assested in the transslation.

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