

FACTOR ANALYSIS OF DIABETES MELLITUS MANAGEMENT IN RURAL AREA AND URBAN AREA

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Abstract

Introduction. Fluctuations in blood sugar levels greatly affect the health status of diabetes mellitus sufferers. Blood sugar stability that is difficult to achieve causes significant health problems. One of the things that diabetes mellitus sufferers must pay attention to is the pattern of maintaining health through diabetes mellitus management itself. Aims: This study aims to determine the factors that influence diabetes mellitus management patterns. Methode: This type of research is descriptive with a cross sectional approach. The population in this study were diabetes mellitus sufferers. The number of samples in this study were 60 respondents. Data collection was carried out using a questionnaire to measure motivation, perception, and spirituality. Statistical analysis using linear Chi-Square analysis. The inclusion criteria in this study were pre-diabetes mellitus sufferers who lived in rural areas and urban areas of society. the exclusion criterion is not willing to be a respondent The results of this study show that there is a relationship between motivation, perception, adaptation and spiritual factors in the management of diabetes mellitus results of data analysis p value <0.05, so it can be concluded that self-perception, self-motivation, coping skills, and spirituality affect the management of diabetes mellitus.

Keywords: *Diabetes mellitus management, motivation, perception, coping and spirituality*

Introduction

Fluctuations in blood sugar levels greatly affect the health status of diabetes mellitus sufferers. Blood sugar stability that is difficult to achieve causes significant health problems. Diabetes mellitus patients with complications cardiovascular disease required to run two types of self-management at once which include smoking cessation, stress control blood, check cholesterol, control blood sugar levels, physical activity, and follow the diabetes mellitus diet and diet heart So it is important to identify the self-management behavior of diabetes mellitus patients with complications cardiovascular disease and improve health status with good self-management in controlling blood sugar (Kurniawan et al., 2020). The International Diabetes Federation (IDF) predicts that the number of Diabetes Mellitus will increase by 88 million people and is predicted to continue to increase to 115 million people in 2030 and in 2045 it will increase to 153 million people. Diabetes Mellitus is a non-communicable chronic disease with the second largest incidence rate of 20.57% or around 7 million cases. Indonesia is in fifth place with the number of diabetes sufferers at 19.47 million, this means the prevalence of diabetes in Indonesia is 10.6% (IDF, 2019). Other research shows the importance of blood sugar control as much as 80.2% who do not monitor blood sugar independent at home can not be said that has poor blood sugar monitoring. Matter this is because the respondent still has awareness and effort in control his blood sugar by visiting and check into health services (Rahmadanti et al., 2020) One of the things that must be considered by diabetes mellitus sufferers is the pattern of health maintenance through diabetes mellitus management itself. Management of diabetes mellitus in community settings must be carried out independently. Many things can affect the pattern of diabetes mellitus management in society, including self-perception, motivation, self-coping, and self-spiritual power. These four factors greatly contribute in forming self-routine patterns in diabetes mellitus patients. These four factors can also differ depending on the demographics of the community area. The demographics of a region have a major contribution in shaping a thought and the characteristics of its people. People who live in urban areas will certainly have different patterns of thinking than people who live in rural areas. These differences in thought patterns have an impact on diabetes mellitus self-management patterns, so it is necessary to carry out scientific studies on these differences. This study aims to determine the factors that influence diabetes mellitus management patterns between rural communities and urban communities.

Methods

This research type of quantitative research with a cross sectional approach. The population in this study is the urban community with pre-diabetes mellitus. The number of samples in this study were 60 respondents. Sample were divided into 2 parts, namely 30 respondents using rural area and 30 samples using urban area communities. This research used a consecutive sampling technique Respondents were divided into 2 parts, namely 30 respondents using rural area communities and 30 samples using urban area communities. The inclusion criteria in this study were pre-diabetes mellitus sufferers who lived in rural areas and urban areas of society. the exclusion criterion is not willing to be a respondent this research used a consecutive sampling technique Data collection was carried out using an observation sheet measuring GDA checks and a questionnaire to measure perception, motivation, coping and spirituality. Statistical analysis using Chi-Square. The results of this study indicate that there is a relationship between perception, motivation, coping and spirituality with the management of Diabetes Mellitus. This research This research uses research ethical clereance number 268/KEPK/UDS/VII/2022.

Results

Based on the results of the research in table 1.1, it was found that the majority of respondents were > 60 years old at 56.7%. Respondents were female as much as 48.3%, and 51.7% male. The education of the majority of respondents was high school by 33.3% and the majority as housewives by 26.7%. Length of illness of most respondents <1 year.

Table 1.1 the characteristics of the respondents as follows:

Kategori	Frekuensi (f)	Persentase (%)
Age		
Middle age (41-60 years)	26	43,3
elderly(>60 years)	34	56,7
Total	60	100,00
Gender		
Male	29	48,3
Female	31	51,7
Total	60	100,00
Education		
no school	8	13,3
elementary school	15	25,0
Junior high school	11	18,3
Senior High School	20	33,3
College	6	10,0
Total	60	100,00
Job		
Private employee	11	1,3
Housewife	16	26,7
Government employees	5	8,3
Retired	5	8,3
farmer	9	15

	Not work	14	23,3
	Total	60	100,00
long been sick	<1 years	35	58,3
	1-5 years	14	23,3
	>5 years	11	18,4
	Total	60	100,00

The following is the outcome data from the management of diabetes mellitus:

Table 1.2 Management of Diabetes Mellitus

Indicator	Classification	Rural Cluster		Urban Cluster	
		Σ	%	Σ	%
Diet	accord	11	37	17	57
	not accord	19	63	13	43
	Total	30	100	30	100
exercise	accord	14	47	21	70
	not accord	16	53	9	30
	Total	30	100	30	100
Rest/sleep	accord	9	30	18	60
	not accord	21	70	12	40
	Total	30	100	30	100
Stress Management	accord	12	40	18	60
	not accord	18	60	12	40
	Total	30	100	30	100
GDA check	< 200 mg/dl	19	63	7	23
	> 200 mg/ dl	11	37	23	77
	Total	30	100	30	100

Based on the results of research on diabetes mellitus management, it was found that the majority of respondents had a history of an appropriate diet in urban areas, 17 (57%) and a history of inappropriate diet in rural communities, 19 (63%). 21 respondents (70%) had appropriate exercise history in urban areas and 16 (53%) data obtained from unsuitable diet history in rural communities. 18 respondents (60%) had appropriate Rest/sleep in urban areas and 21 (70%) data obtained from unsuitable Rest/sleep in rural communities. 18 respondents (60%) had appropriate Stress Management in urban areas and 18 (60%) data obtained from unsuitable Stress Management in rural communities. for the results of blood sugar levels obtained data <200 mg/dl in most rural areas of 19 (63%) and results >200 mg/dl in urban areas most of 23 (70%).

Table 1.3 Factors Influencing the Management of Diabetes Mellitus and the Difference Between Rural and urban area

No	Sub variable	Hasil
1	Self perception	p-value = 0,01
2	Self motivation	p-value = 0,02
3	Coping skill	p-value = 0,01
4	spirituality	p-value = 0,03

Based on the results of data analysis, p value <0.05, so it can be concluded that self-perception, self-motivation, coping skills, and spirituality affect the management of diabetes mellitus

Discussions

Based on the results above diet importance of maintaining a diet related to self-management of diabetes is by recognizing our body's calorie needs, choosing a healthy food menu, arranging a meal schedule, and setting a diet pattern. The diet will show results that have different scores, where the highest total score is for the individual in managing the schedule or meal planning. So it can recognize schedule setting patterns or meal planning better than other indicators. Many respondents know the interval between eating large meals and snacks, because most respondents are more careful in managing their diet to maintain sugar levels, especially in reducing snacks or snacks(Citra & Gulo, 2023). Respondents reported that this is because the number of food stalls or shops that sell food according to the diabetes diet is difficult to find, especially those who live in urban areas where it is increasingly difficult to regulate their diet because of the ease of online food ordering applications, so this is different from rural areas where they still tend to cook their own food. for the needs of one family and also because health workers do not carry out regular home visits for Diabetes Mellitus patients who cannot go to the hospital.

Based on the results above, Stress is the body's non-specific response to any disturbed needs, a universal phenomenon that occurs in everyday life and cannot be avoided, everyone experiences it, stress has a total impact on individuals, namely physical, psychological, intellectual, social and spiritual , stress can threaten physiological balance. High levels of stress can trigger a person's blood sugar levels to increase, so that the higher the level of stress experienced by Diabetes patients, the worse their Diabetes Mellitus disease will be. Stress and Diabetes Mellitus have a very close relationship, especially in urban residents. The pressures of life and unhealthy lifestyles are very influential, coupled with increasingly rapid advances in technology and various diseases that are being suffered, causing a decline in a person's condition, thus triggering stress (Putra Ritonga & Ningsih, 2021). If stress management is given to diabetes sufferers, blood sugar levels will decrease further(Citra & Gulo, 2023). Respondents reported that this was because stressors or lifestyle pressures were higher in urban areas than rural areas. Apart from that, the need for or access to health care services was easier to reach in rural areas so that people in urban areas had an easier time accessing health services. In rural areas, there tends to be a shortage of health workers to carry out regular home visits for Diabetes Mellitus patients who cannot go to the hospital.

Based on the results above, self-perception is one of the factors that can influence the management of diabetes mellitus. This is supported by Firmansyah's research (2021) that diabetics with a positive perception of pain consider the consequences of diabetes not to cause serious disruption in the lives of people with diabetes. This relates to people with diabetes who have been able to accept their disease. Meanwhile, the majority of people with diabetes who have negative perceptions tend to have negative perceptions of consequences. Based on the description above, diabetics who have a negative perception of pain consider the consequences of diabetes as a serious disorder. This is related to complications or signs and symptoms that people with diabetes have. Perception of illness is also influenced by the gender of people with diabetes which results in women having a more unstable emotional condition than men with diabetes. Length of time suffering from diabetes can also affect complications in people with diabetes, so that complications arising from diabetes cause negative perceptions of illness. Self-motivation in diabetes mellitus clients greatly influences the management of diabetes mellitus. This is supported Rahmadanti's research (2020) which shows that high motivation is influenced by their behavior. One of the motivational forms of type 2 diabetes mellitus patients is in carrying out self-management of diabetes mellitus related to the importance of foot care so that foot problems do not occur(Kurniawan et al., 2020).

According to Rahmadanti (2023) This shows that high motivation is shown by Behavior Motivation of type 2 diabetes mellitus patients encourages them to do self-management diabetes mellitus. Motivation and self-management of type 2 diabetes mellitus patients in Sungai Besar The village is nice. However, only 2.0% of respondents dried between their toes after washing and cleaning them them on aspects of foot care. These results can be used as a reference for health workers to carry out outreach health education regarding the importance of foot care to avoid foot problems. Diabetic patients are are expected to have great motivation in carrying out self-management. Positive relationship with having a high value of spiritual well-being. A person will get better if his relationship with the four spiritual components, the better his ability to adapt and continue to function normally in the face of Type 2 diabetes mellitus. These four aspects refer to the spiritual well-being that a person has in establishing a good relationship with all spiritual aspects, namely oneself, others, the environment and God. This will have a good impact on someone with chronic illness, one of which is Type 2 diabetes mellitus so that good spirituality will make a person feel calm and have a comfortable place to reduce anxiety and be able to explore negative feelings, and increase hope in dealing with various problems, so as to create the purpose and meaning of life which in the end can develop the ability to use their potential to continue to function as they should (Pertwi, 2020).

Motivation also influences a person's ability to form Good self-management, where there is a strong will from within (motivation). is an important strategy in forming good self-management. This research found that the majority of respondents, 51.4%, ignored health checks and forgot in consuming drugs given by health workers, this happens because the client's low self-motivation so that self-management of diabetes mellitus patients cannot work properly, this will

have an impact on the successful management of diabetes mellitus patients(Cumayunaro, 2019).

Where coping mechanisms that are carried out well include self-control, distance, positive reappraisal, accepting responsibility, confrontation and planning problem solving. This is evidenced by the number of sufferers who do well by adhering to taking medication and controlling blood sugar more than those who do poorly. The form of individual coping in managing emotions is divided into positive and negative coping. The acceptance by the informant was expressed in an attitude of surrender to the Most Willing and willing to undergo a new routine in his life. In addition to acceptance, the similar emotional aspects carried out by the informants were returning to religion by praying to get closer to God. In this case, religious or belief factors underlie the informants coping by returning to religion. Mixed coping is coping that focuses on solving the main problem accompanied by a response in the emotional aspect. In this study, all informants with a disease duration of more than one year used a mixed coping strategy. The problem-focused coping strategy that is carried out is to carry out treatment accompanied by emotion-focused coping in the form of surrender and prayer as a form of acceptance and return to religion (Larasati et al., 2017)

Conclusions

The results of this study indicate that there is a relationship between perception, motivation, coping and spirituality with the management of Diabetes Mellitus. That diabetics who have a negative perception of pain consider the consequences of diabetes as a serious disorder. This is related to complications or signs of symptoms that people with diabetes have. Perception of illness is also influenced by the gender of people with diabetes which results in women having a more unstable emotional condition than men with diabetes. Length of time suffering from diabetes can also affect complications in people with diabetes, so that complications arising from diabetes cause negative perceptions of illness. One of the forms of encouragement motivation possessed by type 2 diabetes mellitus patients is in carrying out self-management of diabetes mellitus. Good spiritual will make a person feel calm and have a comfortable place to reduce anxiety and be able to explore negative feelings, as well as increase hope in dealing with various problems, so as to create purpose and meaning in life which in the end can develop the ability to use the potential they have to remain works as it should

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