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Health Counselling on Coping With Stress And Making Peace with Diabetes Mellitus in Coastal Areas of South Kalimantan

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Abstract
One of the non-communicable diseases (NCDs), which causes the most serious threat to health in the world is diabetes mellitus. Data from the Tanah Laut District Health Office shows that the prevalence of type II DM in 2023 will increase to 5053 people. Based on these results, it is considered necessary to make an effort to prevent Diabetes Mellitus by providing counselling on how to prevent and control diabetes mellitus. The method of community service carried out is to conduct educational and participatory counselling with pre and post tests.This community service activity was carried out on Wednesday 18 December 2023 in the Takisung Health Centre work area, Tanah Laut Regency. The results obtained were that there was an increase in community knowledge about stress management and diet in patients with diabetes mellitus in the Takisung area, Tanah Laut. People who previously did not know that stress can also be one of the things that can trigger an increase in blood sugar in diabetes mellitus patients, after counselling they know many things that can cause diabetes mellitus. The community also understands how to deal with stress and prevent stress from occurring. It is hoped that health centre staff can carry out routine counselling activities in the Takisung area to control the incidence of Diabetes mellitus.

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INTRODUCTION

Changes in disease patterns in recent years have shifted from infectious diseases to non-communicable diseases or degenerative diseases. WHO (2018) shows data that in 2018 the number one cause of death in the world is non-communicable diseases, reaching 71%. Meanwhile, in Indonesia, according to the Indonesian Ministry of Health (2019), the incidence of non-communicable diseases continues to increase, reaching 69.91% (Safitri, 2022).

Non-communicable disease is a disease or medical condition that cannot be transmitted from one individual to another and usually lasts a long time, in its development non-communicable diseases will grow rapidly, especially in developing countries in low and middle class populations, this is a challenge in the world of health (Adhania, 2018). One of the non-communicable diseases (NCD), which causes the most serious threat to health in the world is diabetes mellitus, of the total deaths in the world 70% and 90-95% of half the disease burden of diabetes cases is type 2 DM which is largely preventable because it is caused by an unhealthy lifestyle (Suwinawati, 2020). According to Haskas (2017) in his research, Type 2 diabetes mellitus (DM) is one of the non-communicable diseases that has a high level of morbidity and mortality prevalence(Winta, 2018).

The *International Diabetes Federation* (IDF) states that 463 million people aged 20-79 years in the world had diabetes mellitus in 2019 with a prevalence of 9.3% in the total population of the same age. The IDF estimates the prevalence of diabetes, by gender, in 2019 to be 9% in women and 9.65% in men. The prevalence of diabetes is expected to increase as the population ages to 19.9% or 111.2 million people aged 65-79 years. This figure is predicted to continue to increase to 578 million in 2030 and 700 million in 2045. IDF states that DM sufferers aged 20-79 years, there are 10 countries with the highest number of sufferers in the world, namely: China 116.4 million people, India 77 million people, the United States 31 million people, these three countries occupy the top 3 in 2019. Indonesia is ranked 7th among 10 countries with 10.7 million people (IDF, 2019). Meanwhile, according to WHO (2018), there

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has been an increase in Diabetes Mellitus sufferers by 8.5% in the adult population, which is recorded at 422 million people suffering from Diabetes Mellitus in the world (Safitri, 2022).

Based on the results of the Basic Health Research (Riskesdas) in 2018, the prevalence of diabetes mellitus in Indonesia at the age of ≥ 15 years was 2% referring to the doctor's diagnosis, the prevalence of diabetes mellitus based on the 2018 Riskesdas results has increased compared to the 2013 Riskesdas results of 1.5% (Kemenkes, 2018). The prevalence of diabetes is estimated to increase to 19.9% as the population ages, or 111.2 million people aged 65-79 years and over. The number continues to grow, reaching 578 million in 2030 and 700 million in 2045 (Ministry of Health, 2020).

According to (Irawan, 2010), women are more at risk of diabetes because physically women have a greater chance of increasing body mass index. The results of research by (Theresia, 2012) also said that women are more obese. Men have more muscle mass and use more muscle mass than women due to more activity and burning calories by muscles more than women. Sujaya (2009) added that individuals who are obese have a 2.7 times greater risk of developing diabetes mellitus compared to individuals who are not obese. The prevalence of type 2 diabetes mellitus increases with age and changes in lifestyle that tend to be unhealthy.

Risk factors for type 2 diabetes mellitus include age, physical activity, smoke exposure, body mass index (BMI), blood pressure, stress, lifestyle, family history, HDL cholesterol, triglycerides, pregnancy DM, history of glucose abnormalities and other abnormalities. Research conducted by Trisnawati (2012) states that family history, physical activity, age, stress, blood pressure and cholesterol values are associated with the occurrence of type 2 DM, and people who have a body weight with an obese level are at risk of 7.14 times developing type two DM disease when compared to people who are at an ideal or normal weight. (Lestari, 2021).

According to Basic Health Research (RISKESDAS) data (2018), the prevalence of DM is the second largest cause of death in Indonesia at 2.0%, while in South Kalimantan it is 2.6% (Ministry of Health, 2019). The number of cases of Diabetes Mellitus in South Kalimantan Province has also increased, namely in 2021 there were 14,282 cases, while in 2022 there were 15,930 cases. Data from the Tanah Laut Regency Health Office in 2021 the prevalence of type II DM for new patients was 3271 people, while in 2023 it increased to 5053 people. DM is mostly suffered by people over 40 years old, and 1.8% of DM patients are women, if you look at the 2018 RISKESDAS data, most DM sufferers are in the elderly (RISKESDAS, 2018). Based on these results, it is considered necessary to make an effort to prevent Diabetes Mellitus by providing counselling on how to prevent and control diabetes mellitus.

METHODE

The method of community service carried out is to conduct educational and participatory counselling with pre and post tests.Health education provided in the form of health counselling related to stress management and types of food and drinks that can be consumed or avoided by people with diabetes. Some of the information provided also includes understanding and signs of Diabetes Mellitus symptoms, as well as prevention by reducing stress. Before receiving the education provided, the community filled out a pre-test questionnaire in the form of 10 questions related to knowledge about Diabetes Mellitus and its prevention. After the pre-test was conducted, the counselling was carried out using the lecture method with the help of audio visuals, interspersed with interactive discussion and question and answer sessions between presenters and counselling participants. All question and answer activities and discussions went well. The counselling participants were very enthusiastic about the counselling activities that had been carried out. After being given education, the community was asked to fill out a post-test questionnaire to evaluate the success of the counselling provided.

This community service activity was carried out on Wednesday 18 December 2023. The implementation of activities was carried out in the work area of PUskesma Takisung, Tanah Laut Regency. In its implementation, this activity also collaborated with the Takisung Health Centre. So there were several health centre officers and doctors who participated in this activity. The target of the activity is given to community groups who have a history of Diabetes Mellitus disease.

RESULT AND DISCUSSION

The extension participants who attended this community service activity totalled 105 people with different genders. This can be explained in the table below:

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Table 1 Characteristics of extension participants by gender and education

No	Characteristics of Participants	Number	Percentage
1	Gender		
	Male	73	70 %
	Female	32	30 %
Total		105	100%
2	Education		
	Sd	15	14,3%
	Junior	25	23,8%
	High School	40	38,1%
	D1/D3/S1 or equivalent	25	23,8%
Total		105	100%

In table 3.1 above, it can be seen that the counseling participants were dominated by female gender at 70%, so it is expected that the success in managing diabetes mellitus in people with DM at home is greater. Women who are often responsible for cooking at home clearly play an important role in the implementation of a diabetic diet that requires attention and management of menus that are low in sugar and high in fibre. Orem (2001) also said that gender contributes to self-care ability. Men have more health deviations such as lack of weight management and smoking habits than women.

The characteristics of the participants were also seen in terms of education. 38.1% of participants were high school graduates, 23.8% were D3 (Diploma) and S1 (Bachelor) graduates, and 23.8% were junior high school graduates. The number of participants who are mostly high school graduates shows that the education of the participants of this extension has a sufficient basis in receiving new information, so it is expected to be able to support the success of the extension implementation process.

The level of education clearly affects a person's ability and knowledge in establishing healthy living behaviour, especially preventing diabetes mellitus. In general, the higher a person's education, the better their knowledge. Rasily (2016) said that the level of education also determines whether or not it is easy for someone to understand the knowledge they get. Puspita (2016) also explained that the higher a person's level of education, the higher a person's ability to maintain their lifestyle to stay healthy and free from disease. A high level of education makes it easier for individuals to accept and apply knowledge.



Figure 1. Briefing by lecturers and health centre officials



Figure 2. The lecturers who organised the activity and the students involved.



Figure 3 Implementation of Health Counselling Activities

Before the counselling was conducted, a pre-test was given to all counselling participants to see the extent of community knowledge about diabetes mellitus diet, and how family independence in managing stress and diabetes mellitus diet at home. Pre-test results can be seen through the diagram below.

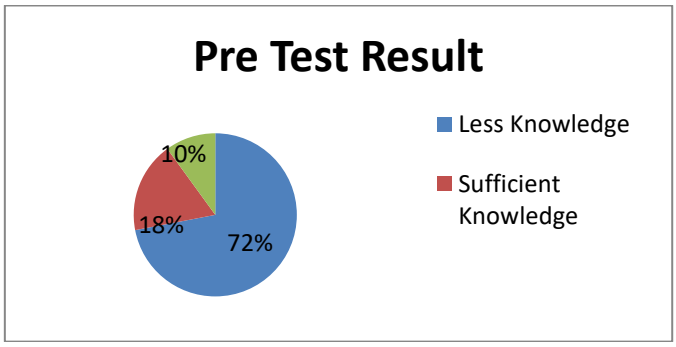


Figure 4 Pre Test Results of Family Knowledge about stress management and Diabetes Mellitus Diet

In Figure 4 above, it can be seen that before being given counselling, the knowledge of community groups in the Takisung area of Tanah Laut mostly had less knowledge about stress management and diabetes mellitus diet, which was around 72%. While 18% had sufficient knowledge and only 10% had good knowledge. The community group said they only knew that the diabetic diet is only limiting the consumption of sugar and sweets. Some participants seemed to know that eating warm white rice or sweet snacks can also increase blood sugar, but they said they did not know about other foods or other problems such as stress and sleep disorders that should be avoided. Lack of knowledge about diabetes mellitus diet can make it difficult for a family to manage the type of diet that is suitable for family members with DM.

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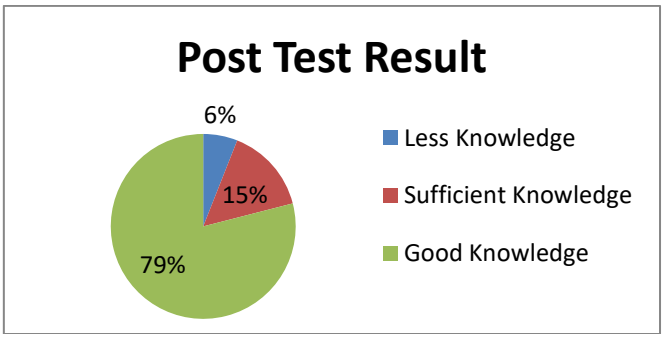


Figure 5 Post Test Results of family knowledge about stress management and Diabetes Mellitus Diet

Figure 5 above shows data indicating an increase. The post-test results reveal that 79% of families who had previously received counseling demonstrated good knowledge about stress management and proper diabetes mellitus dietary practices. These families stated that they understood the importance of maintaining the appropriate types and patterns of food that can be consumed by individuals with diabetes mellitus. The leaflet provided during the previous counseling session was still kept at home as a guide for managing the diabetes mellitus diet. These findings indicate that the counseling provided to the community groups previously had an impact on their knowledge about diabetes mellitus diets. It is hoped that the increase in knowledge will enable families to better manage stress and adhere to the recommended diabetes mellitus diet, as well as maintain these dietary patterns more effectively. Mubarak (2007) stated that one of the predisposing factors for behavior is knowledge; if behavior is based on knowledge, awareness, and positive attitudes, it will persist over time.

The community expressed their willingness to start implementing the taught diet and reducing excessive stress at home. They also stated that they understood the importance of developing habits to control stress, which can benefit individuals with diabetes as well as provide various other benefits, such as improving quality of life and protecting heart health. This is supported by Beigi et al. (2014) in their study, which stated that educational programs are effective in increasing knowledge, enhancing self-management, and controlling lifestyle habits that are detrimental to patients.

CONCLUSION

The results showed an increase in community knowledge about stress management and diet for individuals with diabetes mellitus in the Takisung area, Tanah Laut. Previously, the community was unaware that stress could be a contributing factor to elevated blood sugar levels in diabetes mellitus patients. Following the counseling sessions, they gained a better understanding of the various factors that can cause diabetes mellitus. They also learned strategies for managing and preventing stress. It is hoped that health center staff will routinely conduct counseling activities in the Takisung area to help control the incidence of diabetes mellitus.

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