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# SOCIALIZATION OF THE CONCEPT OF DIABETES MELLITUS TO INCREASE ELDERLY KNOWLEDGE ABOUT DIABETES MELLITUS

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## ABSTRACT

Diabetes Mellitus (DM) is one of the degenerative diseases known as lifelong disease because it is known as a disease that cannot be cured during the sufferer's life span and this disease is often found in the elderly. In the management of DM, there are 6 things that must be considered, including education, eating patterns, regular physical activity, medication, insulin use, and monitoring daily blood sugar levels. The purpose of this community service activity is to increase the knowledge of the elderly about the basic concepts of DM. The method of community service activities carried out in the form of providing health education about the basic concepts of DM and its handling by means of lectures and questions and answers. The stages of the activity start from measuring people's knowledge about DM, as pre-test data, then the basic concepts of DM are given material and its handling by means of lectures and the next session is a question and answer session about material that is not yet clear, and the last stage is to re-measure residents' knowledge about the concept of DM as post-test data. The result of this service is an increase in knowledge after being given Health Education. The conclusion of this community service activity is that the socialization of the concept of DM has a positive impact on the knowledge of the elderly about DM itself. Similar activities must be carried out in order to improve the quality of life of people with DM. and the last stage is to re-measure residents' knowledge about the concept of DM as post-test data. The result of this service is an increase in knowledge after being given Health Education. The conclusion of this community service activity is that the socialization of the concept of DM has a positive impact on the knowledge of the elderly about DM itself. Similar activities must be carried out in order to improve the quality of life of people with DM.

Keywords : Diabetes Mellitus; Elderly ; Health Education

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## INTRODUCTION

The development of technology and information that is so rapid today has an influence on changes in people's behavior in life. This change in behavior is the main cause of the high morbidity rate caused by Non-Communicable Diseases (NCD), such as the increasing number of serious Diabetes Mellitus (DM) cases in developed and developing countries. Diabetes mellitus is a metabolic disease caused by insulin resistance and pancreatic beta cell dysfunction. DM disease is caused by changes in people's lifestyles and lack of awareness to make early detection of DM disease, lack of physical activity, and wrong eating patterns (Negara, 2019).

Diabetes mellitus is characterized by metabolic disorders caused by one of the body's organ functions not being able to produce enough

insulin or not being able to use the insulin produced effectively, resulting in an increase in blood sugar levels or also called hyperglycemia (Kemenkes RI, 2013). Based on data from the International Diabetes Federation (IDF), the global prevalence of DM in 2021 is 10.5% (537 million adults) aged 20-79 years or 1 in 10 people living with diabetes worldwide. Diabetes sufferers in 2030 are estimated to reach 11.3% (643 million people), rising to 12.2% (783 million) in 2045 (Ogurtsova et al., 2022). IDF stated that Indonesia is currently in 7th position with DM in the world (Negara, 2019).

Based on the results of the Basic Health Research of the Ministry of Health of the Republic of Indonesia (Riskesdas) in 2018, the prevalence of non-communicable diseases has increased, one of which is Diabetes Mellitus, which is 8.5% from 6.9% in 2013 based on blood tests in residents aged

15 years and The prevalence of diabetes mellitus based on a doctor's diagnosis showed that patients were dominated by people who did not/have never attended school by 13.7% and 9.90% occurred in farmers/farm workers and about 25% of diabetics who knew that they had diabetes (Ministry of Health) RI, 2018). DM data in West Nusa Tenggara is 1.2% (19,247 people) of the total number of DM sufferers in Indonesia (Riskesdas, 2018). Data on DM patients in West Lombok are 8. 635 people in 2020 and West Lombok district became the 4th highest district for DM cases in NTB (NTB Provincial Health Office, 2021). Based on data from the West Lombok Health Office in 2019, there were 3 health centers that had the most diabetes mellitus sufferers, including the Gunungsari Health Center with 737 patients(Negara, 2020).

The majority of DM cases are found in the elderly, although currently DM cases do not only attack the elderly but also adolescents and children, almost 50 percent of DM patients are over 65 years old (Suprapti, 2020). In Russian research (2021). also stated that DM disease is often found in the elderly because the elderly are not able to produce insulin in sufficient quantities according to their needs(Ali, 2022).

The six pillars in the management of DM are: education, diet regulation, regular physical activity, medication, insulin use, and monitoring daily blood sugar levels for people with diabetes. Regular physical activity is needed to maintain hormone function in the body, where hormone function in the body will increase if you do exercise regularly (Pane, 2015 in Soemardiawan, 2021). Looking at the management of the 6 pillars, one of the efforts that can be done to reduce morbidity in people with DM is to provide education about the prevention and treatment of DM itself. Based on the above, it became the basis for the team to do health education services to increase the knowledge of the elderly about DM (Afida, 2022).

## METHOD

### Time and place

This community service activity was carried out on Thursday, December 24, 2021 in Pemajatan Village, Peat District and was attended by 15 residents.

### Implementation Procedure

The method of community service is carried out in the form of providing health education about the basic concepts of DM and its handling by means of lectures and questions and answers. The stages of the activity start from measuring people's knowledge about DM, as pre-test data, then the basic concept material of DM and its handling is given by means of

lectures and the next session is a question and answer session about material that is not yet clear, and the last stage is to re-measure residents' knowledge about the concept of DM as a post test data.

## RESULTS AND DISCUSSION

### RESULTS

The results of community service activities carried out in Pemajatan Village, Peat District can be seen in the following table.

Table 1. Distribution of the characteristics of community service participants based on age, gender, education and knowledge of residents in Pemajatan Village, Peat District.

	Age	Frequency	%
1	<50 years	5	33.3
2	50 years	10	66.7
	<b>Total</b>	<b>15</b>	<b>100</b>
	Gender	Frequency	%
1	Man	4	26.7
2	Woman	11	73.3
	<b>Total</b>	<b>15</b>	<b>100</b>
	Education	Frequency	%
1	SD	10	66.7
2	JUNIOR HIGH	2	13.3
3	SCHOOL SENIOR HIGH SCHOOL	3	20.0
	<b>Total</b>	<b>15</b>	<b>100</b>

Based on the table above, it can be seen that the majority of community service participants are in the age group above 50 years, 10 people (66.7%), the majority are women, 11 people (73.3%), most of elementary school education is 10 people (66.7%).

Table 2. Distribution of the characteristics of community service participants based on community knowledge before and after Health Education in Pemajatan Village, Peat District.

	Knowledge	Pre test	F	%
1	Not enough		5	33.3
2	Enough		10	66.7
3	Well			
	<b>Total</b>		<b>15</b>	<b>100</b>
	Gender	Post test	F	%
1	Not enough		4	26.7
2	Enough		11	73.3
3	Well			
	<b>Total</b>		<b>15</b>	<b>100</b>

Based on the table above, it can be seen that there was an increase in knowledge before and after Health Education activities were carried out. Data before being given health education showed that community service participants were in the category of less knowledge as many as 10 people (66.7%) and became 8 people (53.4%) after the activity was carried out.



Figure 1. Implementation of pre test

The implementation of the pre-test was intended to determine the extent of residents' knowledge regarding DM disease, residents were asked to fill out a knowledge questionnaire that had been prepared. The process of filling out this questionnaire was accompanied by a service team to facilitate the process of carrying out the pre-test.



After the implementation of Health Education, it was continued with the implementation of the post test, to see the residents' understanding of the material that had been given. In this post-test activity, residents were asked to fill in the knowledge questionnaire that had been prepared accompanied by the community service team. From the post test results, it can be seen that there is an increase in knowledge from before and after being given Health Education.



## DISCUSSION

Based on the results of this community service activity, it was found that the majority of residents were aged over 50 years, namely 10 people, mostly women as many as 11 people, most of elementary school education as many as 10 people, and there was an increase in knowledge before and after Health Education activities.

Based on previous research, it was found that the age of DM majority patients was above. With age, the ability to adapt to all conditions will decrease, this is in accordance with the physiological aging process (Ratnawati, 2019). In addition to age, gender also increases the risk of DM. Women are more at risk of being diagnosed with DM than men, these results are in accordance with Mildawati's research (2019) which states that women are more susceptible to DM than men due to hormonal status. The hormone estrogen affects the process of absorption of iodine in the intestine,

Knowledge will increase with the provision of Health Education, this is in line with Gandini's research (2017) which states that health education can increase the knowledge and behavior of type 2 DM patients. . This statement was also reinforced by Ernawati (2021) who stated that adolescent knowledge increased after being given health education.

The partner's response to community service activities is very good, it can be seen in table 3 below.

Table 3. Partners' Responses on Community Service Activities in Pemajatan Village, Peat District.

Activity	Response
Delivery of basic DM concepts with lectures	Partners can understand and understand the material presented by the team, the language used when delivering the material is easy to understand
Activity	Response
Partner's response during the question and answer session	Partners use the question and answer opportunity to ask questions that are not clear regarding the material, and partners are very satisfied with the answers given by the team

## CONCLUSION

The goals that have been targeted in this service activity have been achieved after this activity has been carried out. This community service activity has a very positive impact in increasing the knowledge of citizens about the basic concepts of DM, this can be seen from the increase in

knowledge after Health Education is carried out. We realize that there are still shortcomings in the implementation of this activity, including not carrying out monitoring and re-evaluation after this activity is carried out, it is hoped that similar activities must continue to be carried out to improve the quality of life of DM sufferers.

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