



INFLUENCE OF FOOD INTAKE ON THE EVENT DIABETES MELLITUS IN THE WORK AREA OF HEALTH CENTER

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ABSTRACT

Background: Diabetes mellitus is a metabolic disorder characterized by abnormal blood sugar levels in a person, this disease can attack several organs of the body causing various kinds of complaints. Food intake is food and drink that is consumed at a certain time when someone needs it.

Objective: This study aims to determine the relationship or influence of food intake on the incidence of Diabetes Mellitus in the work area of the Wotu Health Center, Wotu District.

Method: The research design used was cross-sectional. The population in this study amounted to 68 respondents who suffered from Diabetes Mellitus at the Wotu Public Health Center, Wotu District in 2021. The sampling technique used was consecutive sampling and obtained a sample of 40 respondents. The data collected in this study were data on food intake, blood sugar levels, age, gender, and occupation. Pearson correlation test was used when analyzing data.

Result: The results of the study of the most prevalence of normal blood sugar levels in respondents were 42.5%, where respondents with good food intake were 40%, the results of the analysis using the Pearson Correlation test showed that the p-value was 0.000 smaller than the alpha value (0.05) so that it could be stated that H_0 was rejected, which means that there is an effect of food intake on the incidence of diabetes mellitus in the working area of the Wotu Public Health Center, Wotu District.

Conclusion: This study is that there is an effect of food intake on the incidence of diabetes mellitus in the work area of the Wotu Public Health Center, Wotu District.

INTRODUCTION

Diabetes Mellitus is a degenerative disease that can be controlled with four pillars of management. Diet becomes one of the important things in the pillars of DM management because patients do not pay attention to balanced food intake. Increased blood sugar in DM patients acts as a cause of imbalance of insulin amounts, therefore diet becomes one of the preventions so that blood sugar does not increase, with the right diet can help control blood sugar (Soegondo, 2015).

The current epidemiological transition is characterized by changes in mortality and morbidity caused by infectious diseases or infectious diseases into chronic or non-communicable diseases and degenerative diseases. Degenerative disease is a disease that arises due to the deterioration of the body's cell function. Some types of degenerative diseases include coronary heart disease, diabetes mellitus, and hypertension. More than two-thirds of deaths in developing countries are caused by the aging process associated with degenerative diseases (WHO, 2017).

According to the World Health Organization (WHO, 2016), 422 million people over the age of 18 had diabetes mellitus in 2014. The number of people with diabetes increased between 1980 and 2014. The increase was four times higher than 108 million to 422 people. Based on data from the International Diabetes Federation (IDF) in

2015 the number of people with Diabetes Mellitus reached 415 million people than in 2017 reached 425 million people (International Diabetes Federation, 2015). Based on Basic Health Research (RISKESDAS) from 2013 to 2018 the prevalence of Diabetes Mellitus (DM) increased from 6.9% to 8.5% which means approximately 22.9 million people prevalence of DM.

The prevalence of diabetes diagnosed by doctors or symptoms is highest in Central Sulawesi (3.7%), North Sulawesi (3.6%), South Sulawesi (3.4%), and East Nusa Tenggara (3.3%) (Riskesdas, 2013). The incidence of diabetes mellitus in South Sulawesi still ranks second in non-communicable diseases after heart and blood vessel disease (PJPD) in 2017 which is 15.79% (Dinkes Sulsel, 2018).

According to the results of Susanti and Defra Nobel Bistara research in 2017, there is a strong relationship between diet and blood sugar levels if the diet is not good as recommended by the principle of 3J, there will be instability of blood sugar levels. Therefore, it was concluded that the importance of the role of dietary regulation in diabetics in controlling blood sugar levels so that blood sugar levels remain controlled.

Based on data from the top 10 diseases obtained from Wotu District Wotu Health Center in 2019 about diabetes mellitus came in 5th place with the number of 99

people. Then for the month of January-June 2020 from the data of the top 10 diseases, people with Diabetes Mellitus experienced a very high increase with the number of 177 people.

Food intake is any type of food and drinks that the body consumes every day. In general, food intake is information about the amount and type of food eaten or consumed by a person or group of people at a given time (Nur Fatin, 2017).

People with DM usually tend to have uncontrolled blood sugar content (Andi Mardhiyah Idris, Nurhaedar Jafar, 2016). Blood sugar levels will increase drastically after consuming foods that contain a lot of carbohydrates and/or sugar (Sudaryanto, Setiyadi, Alis, & Frankilawati, Ayu, 2014) so that people with DM need to maintain the regulation of the amount and intake of food to control blood sugar levels so that blood sugar levels remain controlled.

Based on the theory of diabetics only have to make dietary arrangements, so that diabetes suffered does not get worse to trigger complications. This arrangement is related to regulating the amount of carbohydrate consumption so as not to overdo it. Thus, the amount of insulin in diabetics is very limited, which can help carbohydrates to metabolize and change it as a source of energy. The incidence of diabetes is triggered a lot because of foods that contain carbohydrates. There are two types of carbohydrates, namely

simplex carbohydrates (simple) and complex carbohydrates (complicated) (Yulianto, 2014).

Based on the background above and from the existing problems, researchers are interested in researching the Influence of Food Intake on the Incidence of Diabetes Mellitus in the Working Area of Wotu District Health Center Wotu.

METHODS

This type of research is quantitative research with a cross-sectional design, that is researchers make observations or measurements on dependent and independent variables that are assessed once a time (Silalahi & Atif, 2015). Using the correlation approach, which is to know the relationship of two variables (Nursalam, 2015). This study was conducted to find out the influence of food intake on the incidence of diabetes mellitus. This research was conducted in the working area of Wotu District Wotu Health Center in March-April 2021. The population in this study was all patients who experienced Diabetes Mellitus in January-February 2021 which amounted to 67 patients. The sampling technique in this study with consecutive sampling technique is based on inclusion and exclusion criteria, using the formula solving obtained the number of 40 samples. The instruments in the study used questionnaires and data in analysis using SPSS with Pearson correlation test with a significant value of ≤ 0.0

RESULTS

Table 1. Distribution of characteristic frequency of respondents based on gender, age, food intake, blood sugar levels in Wotu District Wotu Health Center in 2021

Characteristic	N	(%)
Gender		
Male	19	47,5%
Female	21	52%
Age		
40-50	18	45%
51-60	16	40%
61-70	6	15%
Food Intake		
Good	16	40%
Bad	24	60%
Blood Sugar		
Usual	17	42,5%
Not	23	57,5%

Sources: Primary Data, 2021

Table 1 shows that most of the respondents are female, which is 21 respondents (52%). Most of the respondents aged 40-50 were 18 respondents (45%). More than half of respondents had a bad food intake of 24 respondents (60%). And more than half of the respondents who had blood sugar levels were not good, namely 23 respondents (57.5%).

Table 2. Distribution of analysis of correlating test respondents based on blood sugar levels in the Incidence of Diabetes in Wotu District Wotu Health Center in 2021

		Food Intake	Blood Sugar Levels
Food Intake	Pearson correlation	1	,950**
	Sig. (2-tailed)		,000
	N	40	40
Blood Sugar Levels	Pearson correlation	,950**	1
	Sig. (2-tailed)	,000	
	N	40	40

Sources: Primary Data, 2021

In table 2 above based on scale measurements for food intake and blood sugar levels in the results of correlation Pearson statistical tests in the treatment, the group showed a value of $p = 0.000 < \alpha = 0.05$ this means H_0 rejected H_1 accepted meaning there is a significant influence between the influence of food intake with the incidence of diabetes mellitus.

DISCUSSION

Table 1 shows that most of the respondents are female, which is 21 respondents (52%) while the number of respondents who are male is 19 respondents (47.5%). So the researchers concluded that females are more at risk for diabetes mellitus compared to males. This is following Irawan (2010) in the Imelda study (2018) Females are more at risk of developing diabetes mellitus

because physically females have a greater chance of increasing body index. Monthly cycle syndrome (premenstrual syndrome), post-menopause that makes the distribution of body fat becomes easily accumulated due to hormonal processes so that women are at risk of developing diabetes mellitus. Most of the respondents aged 40-50 are 18 respondents (45%), the others are aged 51-60, namely, 16 respondents (40%) and ages 61-70, namely 6 respondents (6%), based on table 2 researchers concluded that the more age, endurance or immune system of a person is reduced so susceptible to disease.

This is following those presented by Haryati (2013) in the Imelda study (2018) The aging process that takes place after 30 years results in anatomical, physiological, and biochemical changes. The increased risk of diabetes is often with age, especially at the age of more than 45-64 years, because at that age there begins to be an increase in glucose.

Table 1 shows that more than half of respondents have a bad food intake, with 24 respondents (60%) while 16 respondents (40%) have a good food intake. According to researchers, food intake and a good diet will affect the decrease in blood sugar levels, because when we eat according to the right number of servings and types of food and still follow the dietary advice of health workers, will provide good health for our body and can result in a decrease in blood sugar to improve blood sugar levels. This is following Nur

Fatin, 2017 Food intake is information about the amount and type of food eaten or consumed by a person or group of people at a certain time. From the intake of food obtained essential nutrients needed by the body to maintain growth and good health, and According to Suiraoaka, (2012) a diet that is high in fat, salt, and sugar causes people to consume food in excess, in addition, the instant food pattern is currently very popular by some people but can result in an increase in blood sugar.

This research is supported by research Sumangkat, S, 2013 with the title Relationship of Diet with DM Incidence in Poli Interna RSUP Prof. dr. R Kandau Manado there is a relationship of diet with DM incidence with a value of $p = 0.000$. Lifestyle today with a diet high in fat, salt, and sugar, attending parties, likes to eat out / restaurants, consume canned, ready meals that can increase blood sugar levels.

The results of Tukloy's research (2014) also stated the same thing with the title of research on the relationship of diet and physical activity with DM incidence at Karel Sadsuitubun Langgur Hospital in Southeast Maluku where there is a relationship between pattern with DM incidence with $p = 0.001$.

According to Almatier (2009), the number of calories consumed in excess will increase the patient's blood sugar levels. This unbalanced diet can trigger the occurrence of overweight or obesity, central obesity,

dyslipidemia and hypertension and so on which ultimately triggers the onset of diabetes mellitus. This means that eating/dieting arrangements are important; Something that needs to be delivered to everyone at every opportunity. Not only for diabetics but also for non-diabetics.

This study is also in line with the results of Febri Yusnanda, et al. in 2017 showed there was an influence on eating habits $p = <0,001$ OR = 5,067 (95%CI 2,324-11,048). It was concluded that elderly people who have more eating habits have a risk of 5 times will suffer from diabetes mellitus compared to the elderly who have enough eating habits.

Following the results of research conducted by Cholifah, et al (2015) there is a relationship between diet and physical activity with levels of Short Blood Sugar (GDS) in patients with type II diabetes mellitus at Mayong II Jepara Health Center. Asdinar's research (2014) found that most respondents have a regular diet of 38 people (70.4%) and most respondents are not at risk of diabetes mellitus as many as 37 people (68.5%). The conclusion in this study is that there is a relationship between diet and the risk of diabetes mellitus.

CONCLUSION

Based on the results of research that there is an influence on Food Intake with the incidence of diabetes mellitus in the working

area of Wotu Health Center, Wotu District of East Luwu Regency in 2021.

RECOMMENDATIONS

1. Respondents

It is expected that respondents need to regulate their diet, namely regulating the type and intake of food, especially for people who have a family history of DM.

2. Health Workers

The results of this study are expected to be used as additional science for nurses, especially in providing counseling or explanation of good food intake, so as not to cause a rise in blood sugar levels, and can be useful for the development of Human Resources (HR) in the field of professional nursing.

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