



# Description of the Event of Diabetes Mellitus Type II in South Tapanuli Hospital 2019

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**Abstract.** Mellitus's diabetes (DM) are one of disease which dangerously which kerap at conceive of *silent killer* besides heart disease, one that constitutes one of health problem which outgrow. To the effect this research adalahh to know diabetes instance picture melitus type II in South Tapanuli Hospital. This observational design utilize Descriptive research design, to analyse diabetes instance Picture mellitus II in South Tapanuli Hospital. Sample that is analyzed as much 40 person, of 129 sample taking tricks by data collecting utilizes kuensioner and menggunkan's data processings computers. Pattern eats is various information that meberikan picture hits kind and foodstuff amount that is eaten everyday by one person and constitutes individualities for a kelompok terentu's society. Sesorang's physical activity so ascendant to its health. Insufficiently stirred or living relax constitute resesiko pencetus's factor mellitus's diabetes. Stress constitutes thing already be part of man life and get at nature by whoever. For millitustipe's diabetes patient II. Expected gets to look after agaar's blood sugar rate makes a abode in keadan normal, reduce body weight for obesitas's patient looks after to pattern maakan, stress, doing activity sportinging to reduce its happening jeopardy mellitus's diabetes.

**Keywords:** Pattern Eats · Aktivitsa is Physical and Stress

## 1 Introduction

The World Health Organization (WHO) warns that the prevalence of people with diabetes in Indonesia has the potential to experience a drastic increase from 8.4 million people in 2011 to 21.3 million people in 2030. The spike in sufferers can occur if our country is not serious in efforts to prevent, treat and comply with disease treatment. In 2014, there were more than 50 million people suffering from DM in Southeast Asia (Elizabeth 2013).

Diabetes has now become the sixth leading cause of death in all age groups in Indonesia. There is a tendency for non-communicable diseases such as Diabetes Mellitus to increase. This is caused by unhealthy living behavior that continues to grow in society. The 2015 Basic Health Research (Riskesdas) shows that currently the prevalence of diabetes in urban areas is 5.7%. What is concerning, 73.7% of these diabetic patients are not diagnosed and do not take medication (Dedi 2013).

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Based on the latest statistical results at this time in 2019, there are 230 million people in the world who suffer from DM. This number will increase by 3% or increase by 7 million people every year. In 2015 the number of sufferers reached 8.4 million and it is estimated that by 2025 it will reach 12.4 million people or the fifth largest in the world. Meanwhile, according to the current pattern of population growth, it is estimated that in 2020 there will be 178 million people aged over 20 years and assuming a DM prevalence of 4.6% will get 8.2 million diabetic patients (Andi 2016).

Diabetes Mellitus (DM) is a dangerous disease that is often referred to as a silent killer in addition to heart disease, which is a major health problem.

Diabetes Mellitus from Greek: *diabainein*, translucent or shower of water and Latin: Mellitus, (sweet taste) which is also known in Indonesia as diabetes, which is a metabolic disorder caused by many factors, with symptoms in the form of chronic hyperglycemia and diabetes mellitus. Metabolism of carbohydrates, fats and proteins. Long-term complications include cardiovascular disease, chronic kidney failure (the main cause of dialysis), retinal damage that can lead to blindness, and nerve damage that can lead to impotence and gangrene with the risk of amputation (Wijaya 2013).

In 2013, the proportion of the Indonesian population aged 15 years with DM was 6.9%. Patients affected are not only old age, but many are still of productive age. The prevalence of DM based on a doctor's diagnosis and symptoms increases with age. The largest number of DM sufferers is aged between 40–59 years, but starting at age 65 years, it tends to decrease (Nursalam 2014).

Based on the results of the 2015 Basic Health Research (Riskesdas), the highest prevalence of Diabetes Mellitus was in the provinces of West Kalimantan and North Maluku (11.1% each), followed by Riau (10.4%) and NAD (8.5%). Meanwhile, the lowest prevalence of Diabetes Mellitus is in the province of Papua (1.7%), followed by NTT (1.8%), the highest prevalence of impaired glucose tolerance is in West Papua (21.8%), followed by West Sulawesi (17.6%). And North Sulawesi (17.3%), while the lowest was in Jambi (4%), followed by NTT (4.9%). The highest mortality rate due to DM is in the 45–54 year age group in urban areas by 14.7%, while in rural areas it is 5.8% (Soekidjo 2015).

Medical record data in South Tapanuli Hospital 2019 obtained patients with type II diabetes mellitus in 2016 as many as 129 people. From the literature study data, researchers are interested in studying the description of the incidence of type II diabetes mellitus in South Tapanuli Hospital 2019. To find out the description of the incidence of type II diabetes mellitus.

## 2 Methods

### Research design

The design of this study used a descriptive research design, to analyze the description of the incidence of type II diabetes mellitus in South Tapanuli Hospital 2019.

#### Research Time and Place

##### 1. Research Time

This research was conducted from October to November 2019.

##### 2. Research Place

The location of this research was carried out at the South Tapanuli Hospital 2019.

## B. Population and sample.

### 1. Population

In this study, all who suffered from type II diabetes mellitus were 129 people in 2019 at the South Tapanuli Hospital 2019.

### 2. Sample

The number of samples studied was 40 people, from 129 people the sampling method was using the total sampling method, which made the sample from the total as the population at the South Tapanuli Hospital 2019. The sample is part of the population that will be studied or part of the characteristics possessed by population.

## 3 Results and Discussion

### A. Research Results

From the results of this study, the data obtained after processing, is presented in the form of a table as follows:

#### 1. Characteristics of Respondents

##### a. Characteristics of respondents by age

Based on the distribution of age respondents at the South Tapanuli Hospital 2019. Seen from Table 1 shows that the average The patient's age was mostly 61–69 years, as many as 16 people or 40.0%.

##### a. Characteristics of respondents by gender

Based on the distribution of gender respondents at the South Tapanuli Hospital 2019 seen from Table 2 shows that of the 40 total respondents, the most gender is female, namely 23 people or 57.5% and male, 15 people, 37.5%.

**Table 1.** Frequency Distribution of Respondents by Age At South Tapanuli Hospital 2019

Umur	n	(%)
55–59 Tahun	14	35,0
61–69 Tahun	16	40,0
70–80 Tahun	10	25,0
Total	40	100

*Source: Primary data October 2019.*

**Table 2.** Distribution of Respondents Frequency by Gender At South Tapanuli Hospital 2019

JenisKelamin	n	(%)
Laki-Laki	15	37.5
Perempuan	23	57.5
Total	40	100

*Source: Primary data October 2019.*

a. Characteristics of respondents based on education level

Based on the distribution of education level respondents at the South Tapanuli Hospital 2019 seen from Table 3 shows that of the 40 respondents whose education level was elementary school, there were 14 people or 35.0%

1. Criteria Based on the Variable Under Study (Univariate Analysis)

a. Dietary habit

From the Table 4 shows that from 40 respondents, the frequency of respondents experiencing good eating patterns was 28 people (70.0%) and 12 people were less good (30.0%)

**Table 3.** Frequency distribution of respondents based on education in South Tapanuli Hospital 2019

Pendidikan	n	(%)
Tidak Sekolah	5	12,5
SD	14	35,0
SMP	5	12,5
SMA	7	17,5
Sarjana	9	22,5
Total	40	100

Source: Primary data October 2019.

**Table 4.** Frequency Distribution of Respondents Based on Diet in South Tapanuli Hospital 2019

Dietary habit	n	(%)
Well	28	70,0
Not good	12	30,0
total	40	100

Source: Primary data October 2019.

**Table 5.** Distribution of Respondents Frequency Based on Physical Activity in South Tapanuli Hospital 2019

Physical Activity	n	(%)
yes	19	47,5
No	21	52,5
Total	40	100

Source: Primary data October 2019.

**Table 6.** Distribution of Respondents Frequency Based on Stress in South Tapanuli Hospital 2019

Stres	n	(%)
Stres	25	62,5
No Stres	15	37,5
Total	40	100

*Source: Primary data October 2019.*

a. Physical Activity

From the Table 5, it shows that from 40 respondents, the frequency of respondents Physical activity answered yes as many as 19 people (47.5%) and no as many as 21 people (52.5%).

a. Stress

Table 6 shows that from 40 respondents, the frequency of stress respondents answered yes as many as 25 people (62.5%) and not as many as 15 people (37.5%).

## 4 Discussion

### 1. Diet

The frequency distribution of respondents with type II diabetes mellitus based on diet (Table 4) shows a good diet of 70% and a poor diet of 30%.

This study is in line with Sari’s findings in a previous study in (2016) where from 23 respondents who had to be studied as many as 14 respondents (60.9%) had fast food consumption which often 5 people (21.7%) had fast food consumption sometimes. And 4 people (17.4%) have fast food consumption. Meanwhile, from 23 control respondents, 5 people have frequent consumption of fast food, 10 people (43.5%) mempunyai makanan konsumsi siap saji kadang dan 8 orang (34.8%) had infrequent consumption of fast food.

Likewise Ningsih (2016) that of the 91 respondents who skipped breakfast there were 33 people (82.5%) and respondents who did not skip breakfast there were 30 people (37.5%).

Likewise, Sari (2016) that out of 46 case respondents, 16 people (69.6%) consumed 3 servings of fruit and vegetables per day and 7 people (30.4%) 3 servings per day.

This is why breakfast is very important and it is better to consume fruit to replenish energy. During the day, the dominant body hormone is the hormone adrenaline, which requires more nutrients from food sources of protein. At night, the more active hormones are melatonin and serotonin, which make the body more relaxed. Nutrients that help the activity of this hormone are carbohydrates (Susanto 2013).

### 1. Physical Activity

The distribution of the frequency of respondents with type II diabetes mellitus based on physical activity (Table 5) shows physical activity. The results of the analysis show that from 40 respondents, 19 people answered Yes (47.5%) and 21 people answered no (52.5%).

This study is in line with Fitriyani (2015) who found that from 107 respondents whose daily physical activity was light, there were 9 (8.41%) who did not do physical activity and a number of 48 people (64.9%) who did physical activity.

Likewise, Sari (2016), that of 23 respondents, 13 people (56.5%) had low physical activity, 6 people (26.1%) had moderate physical activity, and 4 people (17.4%) had moderate physical activity. High physical activity.

Likewise, Samiyah (2014) It is known that from 73 respondents, 37 people (50.7%) did physical activity and 36 people (49.3%) did not do physical activity. Lack of movement or a relaxed life is a risk factor for causing diabetes mellitus. Physical activity and exercise are beneficial because they can improve fitness, prevent excess weight, reduce body fat, burn blood glucose into energy, body cells can become more sensitive to insulin, blood circulation becomes better and can reduce the risk of type II diabetes mellitus by up to 50%.

It has been seen from previous researchers that physical activity or exercise is directly related to an increase in the rate of muscle glucose recovery (how much muscle takes up glucose from the bloodstream). During exercise, the muscles use the glucose stored in the muscles and when the glucose is depleted, the muscles fill the gaps by taking up glucose from the blood. This will result in a decrease in blood glucose thereby increasing blood glucose control.

#### 1. Stress

The distribution of the frequency of respondents with type II diabetes mellitus based on stress (Table 6) shows stress. The results of the analysis show that from 40 respondents there were 25 respondents who answered Stress (62.5%) and 15 people (37.5%).

This study is in line with Sari (2016) which has 23 respondents, as many as 15 people (65.2%) experience stress due to the environment and 8 people (34.8%) do not experience stress due to the environment.

Likewise Fitriyani (2015) which has 142 respondents, as many as 10 people (7.04%) who do not experience stress 132 (92.96%) who experience stress.

Likewise, Samiyah (2014) has 23 respondents, 6 people (26.1%) do not experience stress and 17 people (73.9%) experience stress.

People who are under stress have a higher risk of developing diabetes than people who are not under stress. This happens if people who are under stress give a negative reaction, namely someone is emotionally disturbed, then those who are out of control, rarely or not exercising, and the body produces hormones that can inhibit insulin work which can cause blood sugar levels to increase. When stressed, the body will increase the production of the hormones epinephrine and cortisol so that blood sugar rises and there is energy reserves for activities. However, sugar levels continue to be triggered high because prolonged stress will increase the risk for diabetes.

Seeing from the comparison of previous researchers that stress is something that has become part of human life and can be experienced by anyone; Stress is usually perceived as something that is not good or negative when in fact it is not. Depending on how the individual responds or responds to the stress he faces.

## 5 Conclusions and Recommendations

### A. Conclusion

Based on the results and discussion of the description of the incidence of type II diabetes mellitus in South Tapanuli Hospital 2019, it can be concluded that the distribution of respondents with type II diabetes mellitus consists of diet, physical activity, stress.

### B. Suggestion

Based on the conclusions drawn, the authors provide the following suggestions:

#### 1. For Hospitals

It is necessary to conduct an outreach to increase knowledge about type II diabetes mellitus which includes the incidence or causes of diabetes mellitus, symptoms of diabetes mellitus and how to prevent diabetes mellitus by distributing leaflets to people with diabetes mellitus.

#### 2. For People with Diabetes Mellitus Type II

It is hoped that it can keep blood sugar levels in a normal state, reduce weight for obese patients, maintain eating patterns, stress, do sports activities to reduce the risk of diabetes mellitus.

#### 3. For Other Researchers

It is necessary to conduct more in-depth research in the health sector about diabetes mellitus so that it can prevent the occurrence of morbidity.

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