

# CHARACTERISTICS AND LIFESTYLE IN DIABETES MELLITUS PATIENTS

Mila Triana Sari<sup>1)</sup>, Haflin<sup>2)</sup>

<sup>1)</sup>Study Program of Professional Nursing, School of Health Sciences Baiturrahim

<sup>2)</sup>Department Pharmacy, Health Polytechnics, Ministry of Health Jambi

## ABSTRACT

**Background:** Diabetes mellitus is a chronic metabolic disorder caused by malfunctioning pancreatic beta cells and insulin resistance. This study aimed to describe the characteristics and lifestyles of diabetes mellitus patients.

**Subjects and Method:** A descriptive study was conducted at Putri Ayu health center. A sample of 81 patients with diabetes mellitus were selected by purposive sampling. The data were collected by questionnaire and described in frequency (n) and percent (%).

**Results:** Most of the patients' age were ranged from 55 to 65 years (40.7%), female (72.8%), had secondary education (67.9%), worked (59.3%), and suffered from DM >1 year, and as many as 59.3% had a good lifestyle.

**Conclusion:** Half of the study subjects have a good lifestyle in patients with Diabetes Mellitus.

**Keywords:** characteristics, lifestyle, diabetes mellitus

## Correspondence:

Mila Triana Sari. Study Program of Professional Nursing, School of Health Sciences Baiturrahim. Jl. Prof. M. Yamin 30, Jambi, Indonesia. Email: milatrianasari73@gmail.com. Mobile: 081314022355.

## BACKGROUND

Diabetes mellitus is a global health threat, with the number of sufferers skyrocketing every year. The WHO (World Health Organization) data predicts an increase in people with DM in Indonesia from 8.4 million in 2000 to around 21.3 million in 2030 (Perkeni, 2019). The International Diabetes Federation (IDF) estimates that Indonesia is ranked 6th with the number of people with diabetes mellitus of 10.3 million sufferers (International of Diabetic Federation, 2017).

The results of the Basic Health Research (Riskesmas) in 2018 showed an increase in the prevalence of DM in Indonesia from 1.5% in 2013 to 2.0% in 2018, of the total population of Indonesia, while Jambi province was

ranked 26th out of 34 provinces with prevalence DM is 1.5% of the total population (Infodatin diabetes, 2018).

If the prevalence of DM is not handled correctly, DM disease will continue to increase (Decroli, 2019), and this DM disease can cause serious health problems, including eye damage (retinopathy), kidney damage (diabetic nephropathy), and skin damage (dermopathy), all of these complications make the patient unproductive, decreased quality of life, disability, and become a burden to the family and premature death (Ningsih, 2016; John, 2019),

One way to overcome the increasing prevalence of DM is to change the patient's lifestyle, such as maintaining a balanced diet, exercising regularly, and maintaining an

ideal body weight (Rudianti, 2013). According to the Health Promotion Glossary (WHO 1998), Lifestyle is a way of living based on identifiable patterns of behavior determined by the interplay between an individual's characteristics, social interactions, and socioeconomic and environmental-mental living conditions (World Health Organization in Detroit, 2019).

Rumaharbo (2015) also states that lifestyle is a person's pattern of living in the world, expressed in his activities, interests, and opinions. Lifestyle describes the whole person interacting with his environment. Changing your lifestyle by not smoking, avoiding alcohol, getting enough sleep, losing excess weight, adjusting your diet, and exercising regularly to burn excess fat and calories is a healthy lifestyle that people with diabetes mellitus must live. This study aimed to describe the characteristics and lifestyle of people with Diabetes Mellitus (DM).

---

## **SUBJECTS AND METHOD**

---

### **1. Study Design**

This study uses an analytical descriptive research design, which was carried out in the working area of the Putri Ayu Public Health Center, Jambi City, from July to August 2021.

### **2. Population and Sample**

The study population was DM patients at Putri Ayu Health Center, Jambi, which amounted to 426 people. A sample of 81 people with DM were selected by purposive sampling.

### **3. Study Variables**

The dependent variable in this study is the lifestyle of DM patients. The independent variable is the characteristics of DM patients.

## **4. Operational Definition of Variables**

### **a. DM patients**

Definition: patients who are declared to suffer from DM based on the doctor's diagnosis as recorded in the medical record who is domiciled in the working area of Putri Ayu Health Center.

### **b. Age**

Definition: the age of DM patients whose age groups categorize:

1. 35 years old
2. >40 years old

### **c. Gender**

Definition: the gender of people with DM, which is grouped into:

1. Male
2. Female

### **d. Education**

Definition: was the last formal education of DM sufferers, as evidenced by a diploma grouped into:

1. Basic
2. Medium (Junior High School, Senior High School)
3. High (Diploma, Bachelor)

### **e. Work**

Definition: was an activity carried out by DM sufferers to meet the needs of family life, grouped into:

1. Work
2. Not Working

f. The duration of suffering from DM  
Definition: the length of time a DM patient has suffered from DM since it was first diagnosed, grouped into:

1.  $\leq 1$  year
2.  $> 1$  year

### **g. The lifestyle of DM sufferers**

Definition: a lifestyle that is owned by DM sufferers at Putri Ayu Health Center, Jambi, which includes physical activity and diet.

## 5. Study Instruments

Data collection in this study used a questionnaire for DM patients aged 35-65 years who live in the working area of Putri Ayu Health Center. The questionnaire was divided into 2, namely, demographic characteristics, including age, gender, education, occupation, and length of suffering from DM. In contrast, the lifestyle questionnaire for DM patients consisted of 15 positive and negative statements, including eating habits, drinking, exercise, smoking habits, control weight, control blood sugar, and stress.

The inclusion criteria in this study are:

- Living at the area of Putri Ayu Health Center, Jambi
- Can read and write and can communicate well.
- Diagnosed with DM
- Willing to be a respondent.
- At the time, the research was at the research site

## 6. Data analysis

Data analysis in this study used descriptive analysis to describe and analyze DM patients' characteristics and

### 1. Characteristics of DM Patients

**Table 1. Frequency distribution of the characteristics of people with DM**

Variable	Category	Frequency	Percentage
<b>Age</b>	36-45 years old	4	4.9
	46-55 years old	30	37.0
	55 -65-years-old	33	40.7
	> 65 years old	14	17.4
<b>Gender</b>	Male	22	27.2
	Female	59	72.8
<b>Education</b>	Elementary school	9	11.2
	Junior High School, Senior High School	55	67.9
	Graduate school	17	20.9
<b>Job</b>	Unemployed	33	40.7
	Employed	48	59.3
<b>Duration</b>	≤1 Year	23	28.4
	> 1 Year	58	71.6

lifestyles, which were presented textually and tabularly from the appearance of the frequency distribution of DM patients according to the variables studied. This study was conducted to determine the frequency distribution of characteristics of DM sufferers, which include: age, education, occupation, how long they have been diagnosed with DM, and the lifestyle of DM sufferers.

## 7. Research Ethics

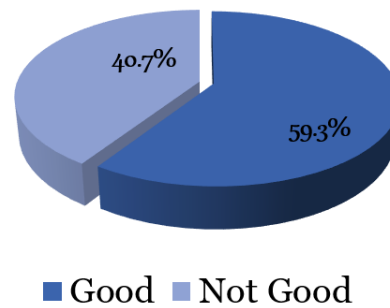
This study applies research ethics, namely:

- Respect for human dignity
- Respect for privacy and confidentiality
- Justice and Inclusiveness
- Balancing Harms and Benefits

## RESULTS

Based on table 1.1 shows that most DM sufferers are in the age range of 55-65 years as many as 33 (40.7%), female 50 (72.8%). Two third of the DM patients had secondary education (67.9%). Most of them had >1 year suffering from DM (71.6%).

## 2. Lifestyle of DM Patients



**Figure 1. The lifestyle of DM sufferers at Putri Ayu health center, Jambi**

### DISCUSSION

This study shows that most of the age categories of people with Diabetes Mellitus are 55-65 years (40.7%). The results of this study are in line with Hasanah's research (2018) which also revealed that DM was more common in the age range of 55-75 years or the early and late elderly, as well as the results of Wati's research in (2018) which concluded that DM was more common at the age of 45-65 years. This result is by Riskesdas (2018), which found that in the age category, the most prominent DM sufferers were in the age range of 55-64 years and 65-74 years.

The American Diabetes Association (ADA) (2017) states that age is a risk factor that causes DM. The susceptible age for DM is 45 years old. This is caused by the body starting to enter a degenerative period, which decreases the body's function to metabolize glucose. In addition, DM is associated with risk factors that cannot be changed, including a family history of DM (first-degree relative).

Furthermore, this study found that the majority of DM sufferers were women (72.8%); this is by Riskesdas data in 2018, which revealed that there

are more women with DM in Indonesia (1.8%) than men (1.2%) (Riskesdas, 2018). This study aligns with Wati's research (2018) which concluded that women are more affected by DM than men.

According to Imelda (2019), women tend to be more at risk of developing diabetes mellitus because the increase in fat levels in women is higher than in men, so the incidence of diabetes mellitus in women is 3-7 times higher than in men. Men are 2-3 times.

This study found that the education level of DM sufferers was secondary, primary education (67.9%). Wati (2018) concluded that DM was more common in patients with low levels of education. This result is not by Riskesdas (2018), the highest DM sufferers are education graduates at the D1/D2/D3/PT level, which is the category of the highest education level.

According to Ukat et al. (2013), the level of education does not cause a person to be affected by DM. Education can affect how a person can receive the information provided.

The same result was also obtained by Cruz and Deep (2012). They concluded that the education factor is

one of the variables that have a significant relationship with the knowledge of diabetes clients in managing their disease.

This study also found that most people with DM had jobs. According to Grant et al. (2009), people who work with high incomes are more susceptible to developing Diabetes Mellitus. This is because socio-economic changes and appetite will result in changes in people's eating patterns that tend to consume fast food, junk food, and high carbohydrates, which are inversely proportional to the concept of healthy and balanced food. It hurts health and nutrition (Suiraoaka, 2012).

Furthermore, in this study, the duration of being diagnosed with DM was more than one year. DM is a chronic disease that cannot be cured; blood sugar levels can only be controlled to remain normal; for more than one year, it is hoped that DM sufferers will be able to adapt to their condition.

According to diagram 1, the results of this study show that the majority of people with DM have an excellent lifestyle (59.3%). Lifestyle also affects the emergence of diabetes mellitus. Changes in the traditional lifestyle to a more modern lifestyle, fast food, overeating, and lack of exercise can increase diabetes mellitus in Indonesia (Purwanti, 2016). Unhealthy habits such as an unbalanced diet with high cholesterol levels, smoking and alcohol, excessive sugar intake, lack of exercise, and a portion of rest to stress can affect Diabetes Mellitus.

Factors related to the lifestyle of people with diabetes mellitus include gender and knowledge. The results

showed that DM was more experienced by female respondents and had a good lifestyle; Yusra's research (2011) suggests that women tend to comply in undergoing treatment and care. The therapy they undergo will work well. This impacts health behavior and lifestyle related to DM disease is also good. Meanwhile, men tend to have higher self-confidence and can overcome various problems independently by using their abilities, including when experiencing diabetes mellitus.

Anticipating a lifestyle to prevent DM and complications in DM sufferers that have an impact on death, the community, especially DM sufferers, needs to be SMART, namely by doing: Regular health checks to control body weight to keep it ideal and not at risk of getting sick quickly, check blood pressure, blood sugar and cholesterol regularly. Avoid secondhand smoke and don't smoke. Diligently do physical activity for at least 30 minutes a day, such as exercising, walking, cleaning the house. It is hoped that this SMART behavior will be implemented by DM patients properly, correctly, regularly, and measurably. Information diabetes explained that the management of DM is a balanced diet by consuming healthy food and balanced nutrition, consuming at least five portions of fruit and vegetables per day, reducing sugar consumption to a maximum of 4 tablespoons or 50 grams per day avoiding food/drinks. Sweet or carbonated. Enough rest. Manage stress correctly and adequately (Infodatin diabetes, 2018).

According to Suyono (2018), humans need changes to a better lifestyle

to avoid all diseases and reduce the risk of more chronic diseases. It is proven that lifestyle changes make a person better than the previous condition; in this case, it is a change in the lifestyle of DM sufferers to behave smartly.

Based on the results of this study, it is necessary for the role of health workers to carry out promotive and preventive efforts to DM patients by conducting health education about DM so that DM patients can learn skills in managing DM disease independently at home so that there are no complications and maximizing the Integrated Guidance Post (Posbindu). to facilitate public access to diabetes early detection and DM control.

---

#### **AUTHOR CONTRIBUTION**

---

Authors contributed to the concept, design, analysis, and discussion of data.

---

#### **ACKNOWLEDGMENT**

---

We would like to show our gratitude to Institute of Health Science Baiturrahim Jambi and community health center Putri Ayu for their support in this research.

---

#### **FUNDING AND SPONSORSHIP**

---

This study was self-funded.

---

#### **CONFLICT OF INTEREST**

---

There was no conflict of interest in this study.

---

#### **REFERENCES**

---

American Diabetic Association (2017). Standards Of Medical Care In

Diabetes 2017. J. appl. res. educ.40 (1).

Decroli E (2019). Diabetes mellitus type 2. Universitas andalas publishing. Padang.

Grant JF, Hicks N, Taylor AW, Chittleborough CR, Phillips PJ (2009). Gender-Specific Epidemiology of Diabetes:a Representative Cross Sectional Study. *Int J Equity Health*. 8 (6). 1-12. doi: 10.1186/1475-9276-8-6.

Hasanah DN, Purwanti OK (2018). The Relationship between Knowledge Level and Lifestyle of People with Type 2 Diabetes Mellitus in the Work Area of the Purwosari Public Health Center, Surakarta City. *Medical Journal*. 1-21.

John. 2019. Guide to Medications for the Treatment of Diabetes Mellitus 1st Edition. American Diabetes Association. England.

Imelda S (2019). Factors Affecting the Occurrence of Diabetes Mellitus at the Harapan Raya Health Center in 2018. *Scientia Journal*. 8 (1). doi: 10.35141/scj.v8i1.406.

IDF (2017). IDF Diabetes Atlas Eight Edition 2017. International Of Diabetic Federation. France.

Kementrian Kesehatan RI (2018). Main Results of Riskesdas 2018. Kemenkes RI. Jakarta.

Ningsih A (2016). Diabetes Mellitus Management Guidelines for Health Students. PT. Gramedia Utama. Jakarta.

Community Health Center Putri Ayu Tahun (2021). Monthly Report on Work Area Pain Data community health center Putri

- Ayu 2021. Community health center Putri Ayu. Jambi.
- PERKENI (2019). Management and Prevention of Type 2 Diabetes Mellitus in Indonesia. PERKENI: Jakarta.
- Data and Information Center of the Indonesian Ministry of Health (Infodatin) Diabetes (2018). Kemenkes RI: Jakarta.
- Riskesdas (2018). Indonesian Ministry of Health Research and Development Agency in 2018. Retrieved from [https://kesmas.kemkes.go.id/assets/upload-dir\\_519d41d8cd98foo/files/Hasil-riskesdas 2018\\_1274.pdf](https://kesmas.kemkes.go.id/assets/upload-dir_519d41d8cd98foo/files/Hasil-riskesdas 2018_1274.pdf).
- Rudianti FB (2013). Conquering Hypertension and Diabetes: Detecting, Preventing and Treating with Medical and Herbal Ways. Sakkahusma: Bandung.
- Rumaharbo H (2015). Book Preventing Diabetes Mellitus with Lifestyle Changes. In Media: Yogyakarta.
- Suyono S, Bahar K, Cipta S (2018). Integrated Diabetes Mellitus Management: A Guide to Diabetes Mellitus Management for Doctors and Educators. Publishing Hall FKUI: Jakarta.
- Suiraoka IP (2012). Degenerative disease. Yogyakarta: Nuha Medika.
- Notoatmodjo S (2014). Health Promotion and Health Behavior. Jakarta: Rineka Cipta.
- Notoatmodjo, Soekidjo, 2018. Health Research Methodology. Jakarta: Rineka Cipta.
- Yusra A (2011). The relationship between family support and the quality of life of patients with type 2 diabetes mellitus in the internal medicine clinic at Fatmawati General Hospital Jakarta. (Online). Retrieved from: <http://lontar.ui.ac.id>. Diakses pada 22 juli 2021.
- Ukat MYZ, Yuliwar R, Dewi N (2018). The relationship between the level of knowledge and lifestyle in patients with diabetes mellitus in the Kendalsari Public Health Center Work Area, Tulusrejo Village, Lowokwaru District, Malang. Jurnalpsik.Unitri. 644-654.
- Wati FA (2018). The relationship between the level of knowledge about diabetes mellitus and the lifestyle behavior of patients with type II diabetes mellitus at the Prambanan Community Health Center, Klaten. Jurnal Universitas Aisyah. 1-17.
- WHO (2016). Global Reports on Diabetes. WHO Library Cataloguing. France