TRANSPUBLIKA INTERNATIONAL RESEARCH IN EXACT SCIENCES (TIRES)

OVERVIEW OF DIABETES MELLITUS CASES IN THE COMMUNITY OF KRUENG SABE SUBDISTRICT, ACEH JAYA REGENCY

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Abstract

This quantitative descriptive study aimed to characterize diabetes mellitus (DM) cases in Alue Tho Village, Krueng Sabe Subdistrict, Aceh Jaya Regency. A sample of 75 out of 108 families was surveyed over one month to assess community health, including Clean and Healthy Living Behavior (PHBS) behaviors, associated factors, and potential intervention strategies. Data collection involved structured interviews and questionnaires, ensuring respondent confidentiality. Descriptive statistics were used to analyze Clean and Healthy Living Behavior (PHBS) behaviors and compare characteristics of individuals with and without DM. The age group of 41-50 years constituted the largest proportion in both groups. Identified health factors such as hypertension, smoking, diet, physical activity, cholesterol, stroke, and heart disease provide valuable insights for developing effective DM management programs in the region. The surveillance of DM cases in Krueng Sabe Subdistrict, Aceh Jaya District, reveals that the demographic distribution of DM is significantly influenced by age and gender. The highest prevalence of DM cases is observed in the 51-60 age group. Despite low proportions of risk factors like smoking and high cholesterol levels, the respondents showed an awareness of healthy living through their vegetable/fruit consumption and participation in physical activities. Notably, no cases of stroke or heart disease were reported among the DM respondents in this surveillance.

Keywords: *Diabetes Mellitus, Clean and Healthy Living Behavior (PHBS), Surveillance*

1. INTRODUCTION

Diabetes mellitus is a chronic disease characterized by elevated blood sugar (glucose) levels in the blood. Glucose is the main source of energy for the body's cells (IDF, 2020). Diabetes mellitus can be caused by various factors, including genetic factors, environmental factors, and lifestyle factors (Hestiana, 2017). Diabetes mellitus is one of the most common non-communicable diseases (NCDs) in the world. According to data from IDF Diabetes Atlas (2022), there are about 463 million adults in the world who suffer from diabetes mellitus.

In Indonesia, the prevalence of diabetes mellitus is also increasing (Ilmah & Rochmah, 2015). According to the data Kemenkes RI (2018), The prevalence of diabetes mellitus in adults in Indonesia is 10.8%. This figure increased from the prevalence in 2013 of 8.5%. Aceh Jaya District is one of the districts in Aceh Province that has a high prevalence of diabetes mellitus (American Diabetes Association Professional Practice, 2022). According to data from the Aceh Jaya District Health Office in 2022, the prevalence of diabetes mellitus in adults in Aceh Jaya District was 12.5%.

The high prevalence of diabetes mellitus in Aceh Jaya Regency can be caused by various factors, including genetic factors, environmental factors, and lifestyle factors. Genetic factors are factors that cannot be changed, while environmental and lifestyle factors are factors that can be changed (Kaplan et al., 2010). Environmental factors that can increase the risk of diabetes mellitus in Aceh Jaya District include unhealthy diet, such as consumption of foods high in sugar, fat and salt. Next, lack of physical activity, and obesity. Lifestyle factors that can increase the risk of diabetes mellitus in Aceh Jaya District include smoking, economic demands, and stress.

2. RESEARCH METHODS

The research method used in the surveillance of Diabetes Mellitus Case Overview in the community of Krueng Sabe Subdistrict, Aceh Jaya District is quantitative descriptive research. The purpose of this study was to collect data detailing the description of diabetes mellitus cases in Krueng Sabe District. The study population involved all residents of Alue Tho Village, Krueng Sabee Subdistrict, Aceh Besar District, with a total of 108 family cards (KK). A sample of 75 households was selected from the population. The study was conducted in Alue Tho village for one month, from December 07, 2023 to January 10, 2024.

This surveillance is expected to produce data on the level of hygiene and public health, including clean and healthy living behavior (PHBS) behavior, inhibiting factors, and provide recommendations for improvement. The survey instruments used were structured interviews and questionnaires, maintaining the confidentiality of respondents' information through data anonymity. The number of respondents was determined statistically to ensure sample representativeness, and respondents were randomly selected using a list of Alue Tho village residents. Data will be collected through surveys using questionnaires, interviews, and direct observation in the field. Data analysis was conducted using descriptive statistics to present an overview of clean and healthy living behavior (PHBS) behavior in Alue Tho Village.

3. RESULTS AND DISCUSSION

3.1. Surveillance of Clean and Healthy Living Behavior Diabetes Mellitus Case Overview

After completing surveillance activities regarding the Diabetes Mellitus Case Overview in the Community of Krueng Sabe District, Aceh Jaya Regency, the following is a description of the results and discussion of this study:

a. Univariate Analysis

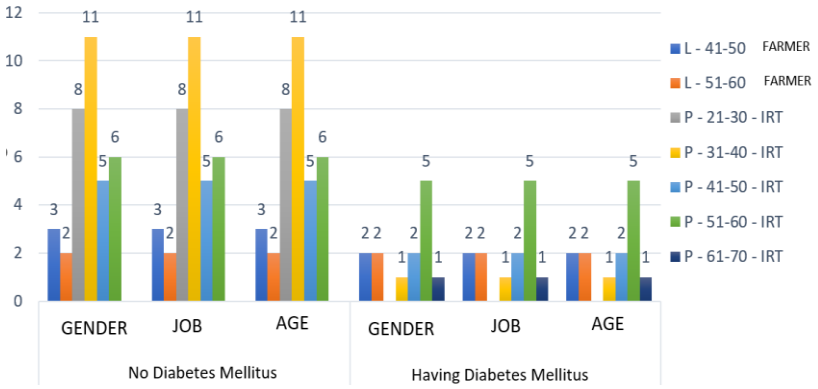

Figure 1. Frequency Distribution Chart Based on Gender Age in Surveillance of Diabetes Mellitus Case Overview in the Community of Krueng Sabe District, Aceh Jaya Regency

The Frequency Distribution Chart by Age and Gender in Diabetes Mellitus case surveillance in the Krueng Sabe Sub-district Community, Aceh Jaya District provides insight into the demographic characteristics of respondents with and without Diabetes Mellitus (DM). This analysis focuses on the age range of 21-70 years and gender (Male and Female). In the group that did not have Diabetes Mellitus, there were 5 respondents with male gender and 5 respondents with female gender. This distribution was evenly distributed across the age ranges, with the highest number of cases in the 41-50 years age range, with 8 cases.

Meanwhile, in the group with Diabetes Mellitus, there were 4 respondents with male gender and 4 respondents with female gender. In this group, the distribution of DM cases was also evenly distributed across various age ranges, with the highest number of cases in the 51-60 years age range, totaling 5 cases. Overall, the surveillance recorded a total of 10 respondents who did not have DM and 8 respondents who had DM. In the group without DM, gender and age range tended to be evenly distributed, while in the group with DM, the age range of 41-60 years recorded a higher number of cases.

In the percentage analysis, 100% of the respondents in the group without DM were either Male or Female, while in the group with DM, 50% of the respondents were Male and 50% were Female. The age range of 41-50 years recorded the highest percentage in both groups, 80% and 62.5% respectively.

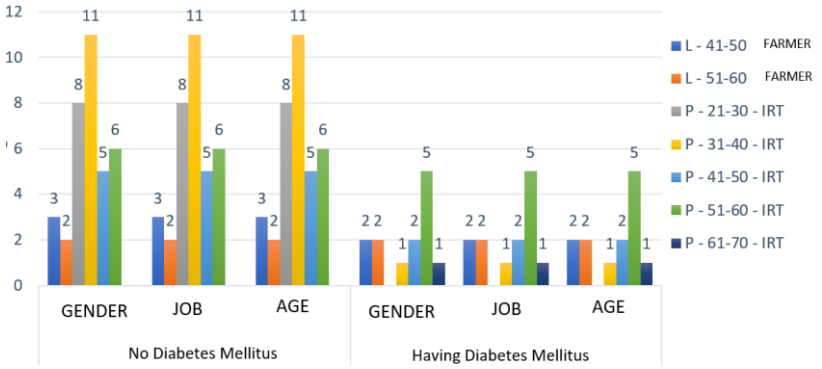

Figure 2. Frequency Distribution Chart Based on Lifestyle and Complications with Other Diseases in the Surveillance of Diabetes Mellitus Case Overview in the Community of Krueng Sabe District, Aceh Jaya Regency

The Frequency Distribution Chart Based on Lifestyle and Complications with Other Diseases in Surveillance of Diabetes Mellitus Case Overview in the Community of Krueng Sabe Subdistrict, Aceh Jaya District, provides in-depth insight into the relationship between Diabetes Mellitus (DM) and several health factors. The focus was on the variables of hypertension, smoking, vegetable/fruit consumption, physical activity, cholesterol, stroke, and heart disease.

In detail, of the 48 respondents involved in the surveillance, 13 people (27.08%) had Diabetes Mellitus. Within this group, it was seen that 6 respondents (46.15%) had Hypertension, while 1 respondent (7.69%) had Smoking habit. Although the proportion of Smoking in the DM group is relatively low, it should be remembered that DM itself can increase the risk of cardiovascular disease. In the aspect of Vegetable/Fruit Consumption, 13 respondents with DM (100%) reported consuming vegetables/fruits. This shows awareness of healthy eating among respondents with DM.

Physical Activity was also highlighted, where all respondents with DM (100%) reported participating in physical activity. This is a positive result, as physical activity can help manage DM. In terms of Cholesterol, 2 out of 8 respondents (25%) with DM had high cholesterol levels. Although the numbers are limited, managing cholesterol levels is important in DM management to reduce the risk of complications.

No cases of stroke or heart disease were reported in either group, suggesting that this surveillance has not recorded any significant association between DM and the risk of stroke or heart disease. Considering these results, this surveillance provides valuable information regarding the prevalence and association between Diabetes Mellitus and health risk factors in the local community (Isnaini & Saputra, 2017). Further analysis and regular monitoring may help to strategize effective interventions in the management of Diabetes Mellitus in the region.

4. CONCLUSION

From the surveillance of Diabetes Mellitus cases in the community of Krueng Sabe Subdistrict, Aceh Jaya District, it can be concluded that the demographic distribution of this disease is closely related to age and gender factors. In the group with DM, there is a

tendency for cases to be higher in the age range of 51-60 years. Although the surveillance recorded relatively low proportions for risk factors such as smoking and high cholesterol levels, vegetable/fruit consumption and participation in physical activity among DM respondents indicated awareness of a healthy lifestyle. However, it should be noted that this surveillance has not recorded any cases of stroke or heart disease among DM respondents.

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