

## ANALYSIS OF THE NUMBER OF DIABETES MELLITUS (DM) PATIENTS BY DISTRICT IN PRINGSEWU REGENCY IN 2019-2024

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### Abstract

Diabetes mellitus (DM) as a major non-communicable disease shows a significant increasing trend in Indonesia, especially in Lampung Province (ranked 7th nationally, prevalence 0.99% Riskesdas 2018) and Pringsewu Regency (1.13% of all ages). This quantitative descriptive study analyzes the distribution and trend of the number of DM sufferers according to 10 sub-districts in Pringsewu for the period 2019-2024 using secondary data from BPS (total 29,172 cases), identifying hotspots such as Pringsewu (6,049 highest cases), Gadingrejo (5,135 cases), and lowspots such as North Pagelaran (1,336 lowest cases). The results show an upward trend of 12.8% from 4,539 cases (2019) to 5,122 cases (2024), influenced by spatial disparities: urban sub-districts are high due to population density, sedentary lifestyles, high sugar/fat diets; while rural sub-districts are low due to agricultural activities and traditional lifestyles. This study recommends mass screening in hotspots, education on healthy urban lifestyles, and strengthening rural integrated health posts (Posyandu) for local NCD control based on spatial data.

**Keywords:** Diabetes Mellitus; Sub-District Analysis; Pringsewu Regency

### 1. INTRODUCTION

Diabetes mellitus is a non-communicable disease that is a global health problem and continues to increase in prevalence year after year. This disease is characterized by chronic hyperglycemia, a persistent increase in blood glucose levels that occurs due to disruptions in insulin secretion, insulin action, or a combination of both in the body's metabolic processes. Under normal physiological conditions, glucose from food is absorbed by the digestive system and then enters the bloodstream as the primary energy source for the body's cells. This glucose utilization process is controlled by the hormone insulin, produced by pancreatic beta cells. This process helps transport glucose from the blood into tissue cells such as muscle, liver, and adipose tissue for use as energy or storage as glycogen. However, in people with diabetes mellitus, this regulatory mechanism is disrupted, either because the pancreas is unable to produce sufficient insulin or because the body's cells develop resistance to insulin, reducing the hormone's effectiveness. As a result, glucose cannot be optimally utilized by cells and instead accumulates in the bloodstream, leading to long-term hyperglycemia (Purwandari et al., 2022).

This chronic hyperglycemia condition not only disrupts the body's metabolic balance but can also trigger various serious complications that impact the sufferer's quality of life. These complications can be acute, such as diabetic ketoacidosis and hyperglycemic hyperosmolar syndrome, or chronic complications that develop slowly due to damage to small blood vessels (microvascular) such as diabetic nephropathy, diabetic retinopathy, and peripheral neuropathy, as well as damage to large blood vessels (macrovascular) that contributes to an increased risk

of cardiovascular diseases such as coronary heart disease, stroke, and gangrene of the extremities. Therefore, diabetes mellitus is not only viewed as a disorder of glucose metabolism but also as a complex chronic disease that can have systemic impacts on various organs of the body if left uncontrolled (Lestari et al., 2021).

As one of the leading non-communicable diseases (NCDs), diabetes mellitus has become a significant global public health burden, with cases continuing to rise year after year in various countries. This increase is not only occurring in developed countries but is also accelerating in developing countries experiencing changes in lifestyles. According to the International Diabetes Federation (IDF), in its 10th edition of the Diabetes Atlas (2021), an estimated 537 million adults aged 20–79 worldwide are living with diabetes, with a global prevalence of approximately 10.5% of the total population in that age group. This figure is projected to continue to rise significantly if effective prevention and control efforts are not implemented, reaching an estimated 643 million sufferers by 2030 and rising again to approximately 783 million by 2045. This surge in cases is largely driven by various modifiable risk factors, such as increasing urbanization, changes in consumption patterns that tend to be high in calories, saturated fats, and simple sugars, and declining levels of physical activity due to increasingly sedentary modern lifestyles. Furthermore, the increasing prevalence of obesity, particularly in lower-middle-income countries, is also a significant contributing factor to the increased risk of diabetes mellitus. The IDF reports that approximately 77% of diabetes sufferers worldwide come from lower-middle-income countries, indicating that this disease is not only a health problem but is also closely related to social, economic, and lifestyle conditions (Sakul & Andriani, 2025).

Furthermore, the World Health Organization (WHO) reported that in 2016, diabetes mellitus directly caused approximately 1.6 million deaths worldwide, while approximately 2.2 million deaths were related to uncontrolled high blood glucose levels. Interestingly, nearly half of these deaths occurred in individuals under the age of 70, indicating that diabetes can have a serious impact on the productive age group and has the potential to reduce the productivity of society at large. This condition confirms that diabetes mellitus is a global health challenge that requires serious attention through various comprehensive control strategies, both through promotive and preventive efforts, as well as improving early detection and sustainable disease management. In the Southeast Asian region, including Indonesia, the trend of increasing diabetes cases also shows a similar pattern, in line with changes in demographic structure, population growth, rapid urbanization, and shifts in people's lifestyles towards increasingly unhealthy ones. In fact, Indonesia is recorded as one of the countries with the largest number of diabetes sufferers in the world and is ranked fifth globally with around 19.5 million sufferers in 2021, thus making diabetes mellitus one of the main priorities in the non-communicable disease control program at the national level (Ayu Devitasari Simanjuntak et al., 2024).

In Indonesia, the increasing trend in diabetes mellitus cases has also shown significant progress in recent decades, in line with changes in people's increasingly modern lifestyles. This increase is influenced by various interrelated risk factors, particularly changes in unhealthy diets and a tendency towards a less physically active lifestyle. Consumption of foods high in sugar, processed carbohydrates, and saturated fat, commonly found in fast food and packaged sweetened beverages, is now increasing among various groups of people, both in urban and rural areas. This consumption pattern contributes to increased blood glucose levels and triggers insulin resistance, ultimately increasing the risk of diabetes mellitus. Furthermore, a sedentary lifestyle is also a significant factor accelerating the increase in diabetes cases in Indonesia, where the majority of people, especially in urban areas, tend to spend more time working in front of computers, use motorized vehicles in daily activities, and have low levels of physical activity. This condition causes a decrease in insulin receptor sensitivity in muscle and adipose tissue, resulting in suboptimal glucose metabolism. Furthermore, the high prevalence of

obesity, particularly central obesity, characterized by fat accumulation in the abdominal area, is also a major risk factor contributing to the increasing incidence of diabetes mellitus in Indonesia. Visceral fat is known to produce various pro-inflammatory cytokines that interfere with insulin function in the body, increasing the likelihood of insulin resistance and chronic hyperglycemia (Simanjuntak et al., 2024).

The 2018 Basic Health Research (Riskesdas) data shows that the prevalence of obesity among adults in Indonesia has reached 21.8%, indicating that overweight is a serious public health challenge. In addition to these factors, smoking habits, high levels of stress due to work pressures and socioeconomic conditions, and irregular sleep patterns also contribute to the increased risk of diabetes mellitus in Indonesians. The combination of these various risk factors indicates that the increase in diabetes mellitus cases in Indonesia is influenced not only by biological factors, but also by changes in lifestyle and the social environment that are widespread in modern society (Nasution et al., 2021).

The high prevalence of obesity, particularly central obesity (abdominal fat) in the productive age group (25–45 years) and postmenopausal women, further exacerbates the situation because visceral fat releases pro-inflammatory cytokines that interfere with insulin signaling, with 2018 Riskesdas data showing an obesity prevalence of 21.8% in Indonesia. Other significant risk factors include active smoking (increasing oxidative stress and insulin resistance), chronic stress from urban traffic congestion and work pressure, inadequate sleep patterns (less than 7 hours per night), and genetic-environmental interactions such as a family history of type 2 diabetes exacerbated by exposure to obesogenic environments. All of these factors are interconnected in the epidemiology of diabetes in Indonesia, with large provinces such as West Java and East Java recording the highest rates, demanding multisectoral interventions to break this chain of risk (Aniksa, 2022).

In the national context, Lampung Province occupies a worrying position regarding diabetes mellitus compared to other regions in Indonesia. Based on the 2018 Riskesdas data from the Indonesian Ministry of Health, Lampung ranks 7th in the province with the highest cases of diabetes mellitus for all ages, with a prevalence of 0.99% or around 31,462 sufferers in the population aged over 15 years; Bandar Lampung City ranks 3rd highest in the province with 1.63% or 3,878 cases. In 2022, the number of diabetes sufferers in Lampung was recorded at 89,981 people, with 99% having received standard services at health facilities, showing a significant increase from 2007 (prevalence of 0.5%) and surpassing provinces such as North Kalimantan which had lower rates. Compared to provinces with the highest prevalence, such as Jakarta (3.1%) in 2023, Yogyakarta (2.9%), and East Kalimantan (2.3%), Lampung ranks in the upper middle, while provinces like Papua Pegunungan (2.2%) have only 0.2%, reflecting regional disparities due to differences in socioeconomic factors and access to healthcare. This trend underscores the need to prioritize local interventions in Lampung to reduce the burden of this disease (Mongkau et al., 2022).

At the local level, Pringsewu Regency in Lampung Province shows an alarming condition of diabetes mellitus with a prevalence higher than the provincial average, reaching 1.13% for all ages and 1.55% in the population aged 15 years according to the 2018 Basic Health Research, with a significant increase to thousands of cases in 2021–2023 where the Gading Rejo, Sukoharjo, and Pringsewu Community Health Centers are the centers of the highest cases. Analysis by sub-district in Pringsewu Regency is very important because it allows for precise identification of epidemic hotspots, such as variations in the number of sufferers who are highest in vulnerable sub-districts due to disparities in access to primary health services (for example, longer distances to health centers in rural areas), urbanization patterns that distinguish urban sub-districts such as Pringsewu with high mobility versus rural areas such as Ambarawa which are more static, as well as specific local factors such as intensive agricultural activities that influence post-planting season sedentary lifestyles or high-carbohydrate diets from rice and

cassava as daily staples. This approach supports the planning of targeted interventions, such as mass early fasting blood glucose screening in high-risk sub-districts, promotional education on a low-glycemic index diet through integrated health posts (Posyandu) and youth organizations (Karang Taruna), and regular diabetes exercise programs at village halls to increase communal physical activity (Nasution et al., 2021).

Based on the background that has been described, the problem formulation in this study is how the number of Diabetes Mellitus (DM) sufferers by sub-district in Pringsewu Regency in 2019-2024, which sub-districts have the highest and lowest number of sufferers, and what the development trend of the number of DM sufferers during that period. Based on the background that has been described, the problem formulation in this study is how the number of Diabetes Mellitus (DM) sufferers by sub-district in Pringsewu Regency in 2019-2024, which sub-districts have the highest and lowest number of sufferers, and what the development trend of the number of DM sufferers during that period (Nasution et al., 2021).

The purpose of this study is to analyze the trends and distribution of the number of Diabetes Mellitus (DM) sufferers by sub-district in Pringsewu Regency for the period 2019-2024 based on data from the Central Statistics Agency (BPS). Specifically, the study aims to identify sub-districts with the highest and lowest prevalence, map patterns of annual increase or decrease in cases, and detect spatial factors that contribute to inter-district variations to support health intervention priorities. The results of this analysis are expected to form the basis for policy recommendations for the Pringsewu Regency Health Office in designing early screening programs, promotive education, and targeted allocation of community health center resources, thereby contributing to controlling the burden of diabetes mellitus at the local level.

## 2. RESULTS AND DISCUSSION

This study uses a quantitative approach with a descriptive approach. The data used is secondary data obtained from the Central Statistics Agency (BPS) of Pringsewu Regency for the 2019-2024 period. The data analyzed included the number of diabetes mellitus sufferers in each sub-district in Pringsewu Regency. The analysis technique used was descriptive analysis, examining the development or trend in the number of sufferers from year to year.

**Table 1. Number of Diabetes Mellitus (DM) Sufferers by District in Pringsewu Regency 2019-2024**

| Subdistrict     | Number of Diabetes Melitus (DM) Sufferers According to Year in Pringsewu Regency |      |      |      |      |      | Total Sufferers Every Year |
|-----------------|--|------|------|------|------|------|----------------------------|
|                 | 2019   | 2020 | 2021 | 2022 | 2023 | 2024 |                            |
| Padarsuka       | 407  | 411  | 441  | 446  | 450  | 444  | 2599                       |
| Ambarawa        | 402  | 406  | 435  | 440  | 604  | 460  | 2747                       |
| Pagelaran       | 528  | 535  | 573  | 579  | 585  | 657  | 3457                       |
| Pagelaran Utara | 212  | 215  | 231  | 233  | 252  | 193  | 1336                       |
| Pringsewu       | 936  | 946  | 1014 | 1025 | 1095 | 1033 | 6049                       |
| Gadingrejo      | 862  | 871  | 934  | 945  | 541  | 982  | 5135                       |
| Sukoharjo       | 546  | 552  | 592  | 598  | 198  | 628  | 3114                       |
| Banyumas        | 240  | 243  | 260  | 263  | 463  | 269  | 1738                       |
| Adiluwih        | 406  | 411  | 440  | 445  | 839  | 456  | 2997                       |
| <b>Total</b>    | 4539   | 4590 | 4920 | 4974 | 5027 | 5122 | 29172                      |

Based on data, Table 1, on the number of Diabetes Mellitus (DM) sufferers by sub-district in Pringsewu Regency from 2019-2024 obtained from the Central Statistics Agency (BPS), it can be seen that the distribution of DM sufferers shows a varied pattern between sub-districts

and changes from year to year. This data provides an overview of the condition of the spread of Diabetes Mellitus in various administrative areas in Pringsewu Regency. Each sub-district has a different number of sufferers, which can be influenced by various factors such as population size, level of public awareness of health, lifestyle, and access to health care facilities. Differences in social and environmental conditions in each sub-district can also be factors that cause variations in the number of recorded cases.

In addition to showing differences between sub-districts, the data also demonstrates the dynamics of the number of diabetes sufferers over the six-year observation period. Changes in the number of sufferers from year to year reflect the evolving public health situation in the region. In some sub-districts, the number of sufferers appears to be increasing gradually, while in others, the changes tend to be smaller. This variation indicates that the development of diabetes mellitus cases does not always occur evenly across the region, but rather has distinct characteristics in each sub-district.

In general, the number of DM sufferers in Pringsewu Regency tended to increase during the observation period from 2019 to 2024. This increasing trend may indicate that Diabetes Mellitus remains a health problem that requires greater attention. However, in certain years, there were less significant fluctuations in the number of sufferers, with slight decreases or increases compared to the previous year. These fluctuations indicate that changes in the number of cases do not always occur consistently each year, but can be influenced by various factors occurring during a particular period. Therefore, analysis of this data is important to understand the development of the number of Diabetes Mellitus sufferers and provide an overview of the public health conditions in Pringsewu Regency during the study period.

In 2019, the number of Diabetes Mellitus (DM) sufferers in Pringsewu Regency was recorded at 4,539 cases. This figure provides an initial overview of the number of DM sufferers at the beginning of the observation period. In the following year, 2020, the number of sufferers increased to 4,590 cases. This increase indicates an increase in the number of sufferers compared to the previous year, although the increase was not significant. Furthermore, in 2021, the number of sufferers changed again to 4,920 cases. This increase indicates that the number of DM cases continues to increase from year to year and indicates that the disease remains a health problem found in the Pringsewu Regency community.

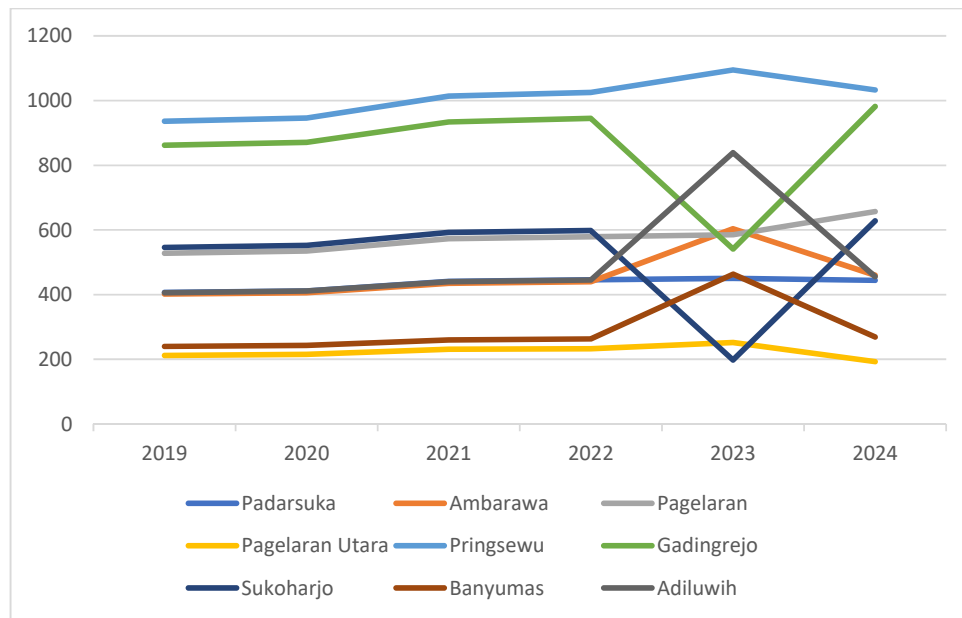
Changes in the number of DM sufferers were also seen in 2023, when 5,027 cases were recorded. This figure indicates that the number of sufferers surpassed 5,000 during the observation period. Furthermore, in 2024, the number of sufferers increased again, reaching 5,121 cases. This increase indicates that the number of cases recorded each year tends to increase, although the changes are not always drastic.

When viewed as a whole from 2019 to 2024, the data trend indicates an increasing trend in the number of diabetes mellitus sufferers in Pringsewu Regency over the past six years. This increasing pattern illustrates that DM cases continue to develop over time, resulting in a trend of increasing numbers of sufferers recorded each year compared to the previous year. This situation suggests that diabetes mellitus remains a health problem that requires attention, as the number of cases has not shown a significant decline during the observation period.

Although there are differences in the number of increases each year, the data generally shows an upward trend. This indicates that the increase in the number of sufferers does not always occur at the same rate each year, but rather shows a tendency to increase over a longer period. Therefore, this data can provide an overview of the development of the number of DM sufferers in Pringsewu Regency during the study period and serve as a basis for understanding the public health conditions related to diabetes mellitus in the region. This information can also be used as a consideration in analyzing the dynamics of non-communicable disease cases at the regional level.

When analyzed by sub-district, there are quite striking differences in the number of sufferers. Pringsewu, Gadingrejo, and Pagelaran sub-districts have the highest number of DM sufferers compared to other sub-districts. For example, Pringsewu sub-district recorded 6,049 cases in a given year, the highest number among other sub-districts. The high number of sufferers in this region may be influenced by the level of high population density, a lifestyle that tends to be less active, and a food consumption pattern that is high in sugar and fat (Naibaho & Sitompul, 2025).

In contrast, districts such as Padarsuka, North Pagelaran, and Banyumas show relatively lower numbers of cases, with North Pagelaran, for example, reporting around 1,336 cases. This low number is likely due to the community's higher levels of physical activity, such as work in the agricultural sector, and a relatively traditional lifestyle. Furthermore, the smaller population also contributes to the low number of cases in these areas (Kusnadi et al., 2017).



**Figure 1. Number of Diabetes Mellitus (DM) Sufferers by District in Pringsewu Regency 2019-2024**

Looking at annual trends in each sub-district, several areas show significant year-over-year increases. For example, Gadingrejo Sub-district saw an increase from 862 cases in 2019 to 982 cases in 2024. This indicates an increased risk of diabetes mellitus, which requires special attention. Meanwhile, several other sub-districts experienced less significant fluctuations, indicating relatively stable conditions. This trend indicates an uneven distribution of disease, which can be an important indicator for planning area-based health interventions (Naibaho & Sitompul, 2025).

The differences in the distribution of Diabetes Mellitus (DM) sufferers between sub-districts can be influenced by various interrelated factors. The main contributing factors include a diet high in sugar and carbohydrates, lack of physical activity, the increasing prevalence of obesity, and age. Unbalanced dietary habits can increase the risk of diabetes, especially if people frequently consume foods high in sugar and carbohydrates without balancing it with a healthy lifestyle. Furthermore, obesity is also an important risk factor because excess weight can affect the body's metabolism and increase the likelihood of blood sugar disorders. Age also plays a significant role, as with increasing age, the body's ability to regulate glucose metabolism can decline, thus increasing the risk of Diabetes Mellitus (Naibaho & Sitompul, 2025).

In addition to biological and lifestyle factors, socioeconomic factors, education level, and access to health services also play a significant role in determining the prevalence of diabetes mellitus in a region. People with higher levels of education generally have better knowledge about healthy lifestyles and disease prevention, making it easier to adopt healthy behaviors. Conversely, limited access to health services can lead to delays in disease detection and treatment. A diet high in sugar and carbohydrates often stems from the consumption of processed foods, sweetened drinks, and readily available instant snacks. Meanwhile, low levels of physical activity are not only influenced by a sedentary lifestyle but can also be related to limited public sports facilities, a lack of open spaces for activities, and the increasingly dominant use of motorized transportation in daily life. Therefore, these various factors can collectively influence differences in the number of diabetes mellitus sufferers in each sub-district (Mongkau et al., 2022).

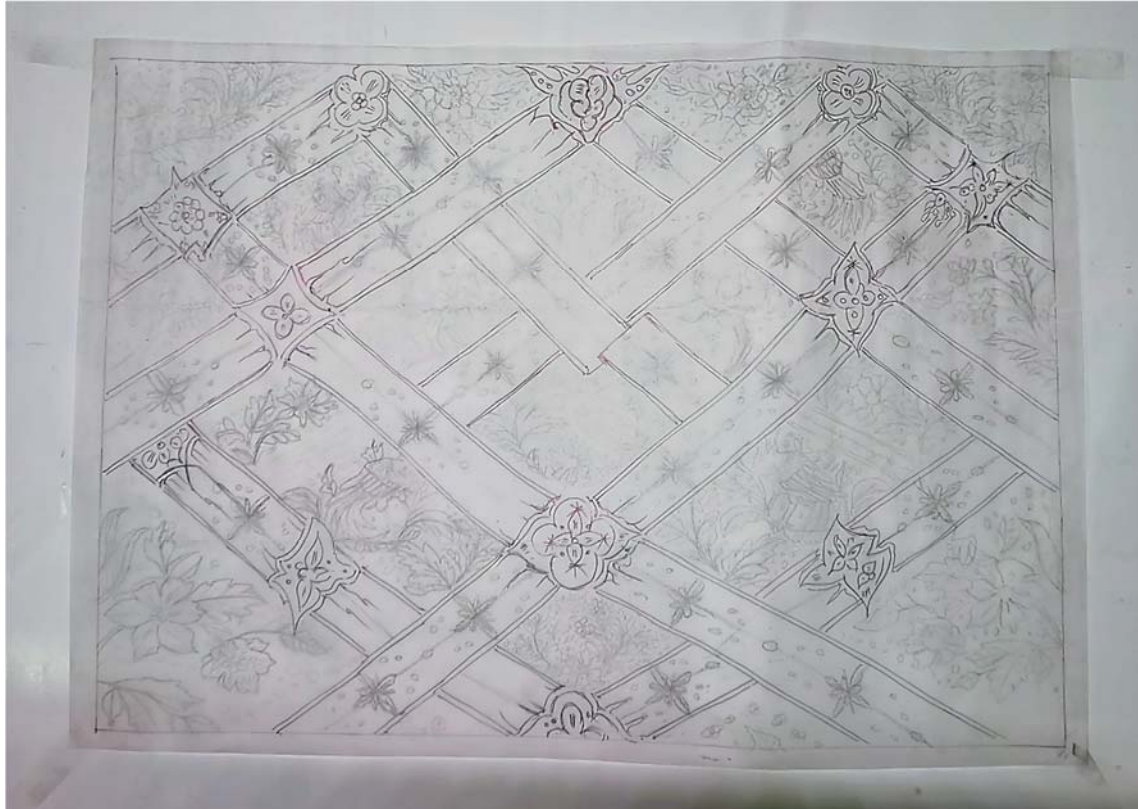
Environmental factors also contribute to the high rate of diabetes mellitus. Urban areas tend to have higher rates than rural areas due to a more dominant sedentary lifestyle, such as lack of physical activity and high consumption of fast food. This is in line with data showing that urban districts have a higher number of sufferers than rural districts. In addition, rapid urbanization causes changes in the social and economic environment, which can affect people's lifestyles. Work pressure, daily activities, and easy access to fast food in big cities are additional factors that increase the risk of diabetes mellitus. On the other hand, rural areas, although tending to be more physically active due to agricultural work, sometimes have limited access to health services and education related to diabetes prevention, so that unseen risks can persist (Kusnadi et al., 2017).

Based on the data analysis, it can be seen that the distribution of diabetes mellitus sufferers in Pringsewu Regency is uneven and tends to increase year by year. Therefore, more serious management efforts are needed, especially in sub-districts with high numbers of sufferers. The local government is expected to improve promotive and preventive programs, such as education on healthy lifestyles, increasing community physical activity, and providing routine health check-ups. These efforts can include nutrition counseling, mass exercise or sports programs, and campaigns to reduce sugar and simple carbohydrate consumption. Furthermore, community-based interventions, such as the establishment of support groups for sufferers or those at high risk, can increase program effectiveness (Purwandari et al., 2022).

Furthermore, early screening is crucial for individuals with high-risk factors, such as obesity, a family history of diabetes, and those over 40. With appropriate interventions, it is hoped that the number of diabetes mellitus sufferers in Pringsewu Regency can be reduced and the community's quality of life can be improved. Furthermore, a comprehensive prevention strategy can encourage the development of a healthy lifestyle within the community, reduce the economic burden on the government related to the cost of DM treatment, and increase public awareness of the importance of early prevention and sustainable chronic disease risk management (Kusnadi et al., 2017).

### 3. BATIK MOTIF

The philosophy of the batik, Figure 2, in the image can be interpreted as a visual representation of the dynamics of the spread and progression of diabetes mellitus in Pringsewu Regency. The main motif consists of intersecting geometric patterns forming a regular grid, illustrating the interconnected structure of the subdistrict areas. Each intersecting line symbolizes the relationships between regions in the context of disease case distribution, where no region stands alone but rather influences others through social, economic, and environmental factors. This aligns with research findings showing that the number of diabetes mellitus patients varies across sub-districts yet remains within the same regional system.



**Figure 2. Motif Batik**

The symmetrically repeating patterns reflect the trend of increasing cases year over year. The repetition of the motif indicates that the phenomenon of diabetes mellitus is not a fleeting occurrence but rather one that continues to develop and recur over a specific period. Lines that appear distinct yet remain flexible illustrate that although there is a trend of increasing case numbers (as seen from 2019 to 2024), this pattern can still be guided or controlled through appropriate interventions. In other words, this motif also implies the existence of opportunities to bring about positive change.

At every intersection of the lines, there is a floral ornament that serves as the focal point. In batik philosophy, flowers are often interpreted as symbols of life, growth, and hope. In the context of this journal, these flowers can be interpreted as representations of the communities in each subdistrict. Each flower shares a similar form yet remains unique, illustrating that every region possesses its own distinct characteristics—whether in terms of population size, lifestyle, or health awareness levels. The presence of flowers at these intersection points also signifies that critical areas (subdistricts with high case counts) become focal points in response efforts, such as Pringsewu and Gadingrejo, which have the highest number of patients. In addition, the background motifs—such as plants, leaves, and natural elements—reflect the community's living environment and lifestyle.

These elements illustrate the differences in conditions between urban and rural areas, which also influence the number of diabetes mellitus cases. Areas with denser and more complex backgrounds can be interpreted as urban areas characterized by a sedentary lifestyle and high consumption of sugary and fatty foods, thereby posing a higher risk. Conversely, the parts of the motif that appear simpler and more natural represent rural areas with higher levels of physical activity, resulting in relatively lower rates of diabetes. Thus, this motif's background

underscores that environmental factors and lifestyle habits play a significant role in the spread of the disease.

The small ornamental details filling the empty spaces between the main patterns symbolize risk factors that are not always immediately apparent, such as stress, sleep patterns, smoking habits, and genetic factors. Although small, these elements still contribute to the overall picture, as the journal explains that the rise in diabetes cases is not caused by a single factor, but rather by a combination of various interrelated factors.

Overall, this batik philosophy illustrates that diabetes mellitus is a complex, holistic phenomenon involving the interaction between people, the environment, and lifestyle. The interconnected patterns underscore the importance of a community-based approach to disease management, while the floral motifs convey a message of optimism that, through education, prevention, and early detection, the community has the opportunity to live healthier lives. The motifs, which repeat continuously yet remain harmonious, also symbolize that even as cases continue to rise, sustained control efforts can create a balance between public health and community life.

#### 4. CONCLUSION

Based on the analysis of data on the number of Diabetes Mellitus (DM) sufferers by sub-district in Pringsewu Regency from 2019 to 2024, it can be concluded that the number of DM sufferers shows an increasing trend during the observation period. The total number of cases increased from 4,539 cases in 2019 to 5,122 cases in 2024, indicating an increase of approximately 12.8% over a six-year period. This indicates that diabetes mellitus remains a public health problem that requires serious attention in Pringsewu Regency.

The distribution of DM sufferers between sub-districts shows significant differences. Pringsewu Sub-district had the highest number of sufferers, with a total of 6,049 cases during the study period, followed by Gadingrejo Sub-district with 5,135 cases, and Pagelaran Sub-district with 3,457 cases. The high number of sufferers in these areas is thought to be related to higher population density, changes in community lifestyles, and increased consumption of foods high in sugar and fat.

In contrast, North Pagelaran District had the lowest number of diabetes sufferers, with a total of 1,336 cases during the study period. This is likely influenced by its smaller population, relatively higher levels of physical activity, and a lifestyle still dominated by agricultural activities.

Overall, this study shows that the distribution of Diabetes Mellitus sufferers in Pringsewu Regency is uneven across sub-districts and tends to increase from year to year during the observation period. This condition indicates that diabetes mellitus cases remain a health problem that requires greater attention, especially in areas with a relatively high number of sufferers. Therefore, more comprehensive management efforts are needed through various promotive and preventive programs, such as increasing education about healthy lifestyles, implementing a balanced diet, increasing community physical activity, and implementing routine health screenings to detect disease risks early. These programs are expected to help suppress the increase in the number of cases and increase public awareness of the importance of maintaining health. Therefore, the results of this study are expected to be a source of information and a basis for consideration for local governments and health agencies in designing more effective, targeted, and targeted Diabetes Mellitus control policies and strategies in Pringsewu Regency.

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