



The Correlation Between Mental Health and Quality Of Life in Type 2 Diabetes Mellitus Patients in Puskesmas Dengilo, Pohuwato Regency

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ABSTRACT

Type 2 Diabetes Mellitus remains one of the chronic diseases that continues to increase annually, including in several regions of Indonesia, such as Gorontalo. The impact of Type 2 Diabetes Mellitus can potentially reduce the quality of life of sufferers, particularly in physical, psychological, and social aspects. Mental health disturbances, such as anxiety and depression, can worsen these conditions. This study aims to examine the correlation between mental health and quality of life in Type 2 Diabetes Mellitus patients in the work area of Puskesmas Dengilo, Pohuwato Regency. The

results of this study are expected to provide insights for better interventions in managing Type 2 Diabetes Mellitus with attention to mental health aspects. The research method used is a quantitative study with a cross-sectional design. The population of this study consists of 40 Type 2 Diabetes Mellitus patients, with a total sampling technique. Data analysis was performed using Spearman's rho test. The results of the study found a significant correlation between mental health and quality of life in Type 2 Diabetes Mellitus patients in the work area of Puskesmas Dengilo ($p=0.001$). In conclusion, there is a significant correlation between mental health and quality of life in Type 2 Diabetes Mellitus patients in the work area of Puskesmas Dengilo, Pohuwato Regency. It is hoped that Type 2 Diabetes Mellitus patients will manage their mental health well and follow the proper care to improve their quality of life to the maximum and consistently.

1. INTRODUCTION

Diabetes Mellitus (DM) is a chronic metabolic disorder characterized by blood sugar levels exceeding the normal range. The causes of elevated blood sugar levels form the basis for classifying Diabetes Mellitus into Type 1 Diabetes Mellitus, Type 2 Diabetes Mellitus, and Gestational Diabetes Mellitus (Ministry of Health of the Republic of Indonesia, 2020). Diabetes Mellitus is one of the most fatal diseases spreading worldwide (Saru & Subashree, 2019). Type 2 Diabetes is characterized by insulin resistance and impaired insulin secretion, leading to elevated blood glucose levels. Type 2 Diabetes Mellitus (abbreviated as T2DM) is a chronic disease with an increasing prevalence globally (Ministry of Health of the Republic of Indonesia, 2020).

According to data from the International Diabetes Federation (IDF), in 2021, approximately 537 million adults were living with diabetes, and this number is expected to increase. This trend is driven by an aging population, economic growth, and urbanization, which promote sedentary lifestyles and unhealthy eating habits. The IDF data highlights the top 10 countries with the highest diabetes cases: China (140.9 million cases), India (74.2 million cases), Pakistan (33 million cases), the United States (32.2 million cases), Indonesia (19.5 million cases), Brazil (15.7 million cases), Mexico (14.1 million cases), Bangladesh (13.1 million cases), Japan (11 million cases), and Egypt (10.9 million cases) (IDF, 2021).

Based on the 2020 Basic Health Research Report, Indonesia ranks 5th among the 10 countries with the highest number of diabetes cases, totaling 19.5 million. Indonesia is the only Southeast Asian country on the list, contributing significantly to the regional prevalence of diabetes, which accounts for 11.3% of cases in Southeast Asia (Ministry of Health of the Republic

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of Indonesia, 2020). According to the 2023 Indonesia Health Survey (SKI), Gorontalo Province ranks 29th in diabetes prevalence.

Data from the Gorontalo Provincial Health Office indicates that in 2023, 400,099 people (87.3%) were diagnosed with diabetes across several regions, including Bone Bolango Regency (5,469 cases), Gorontalo Regency (4,547 cases), North Gorontalo Regency (2,825 cases), Pohuwato Regency (1,671 cases), Gorontalo City (1,426 cases), and Boalemo Regency (1,281 cases) (Gorontalo Provincial Health Office, 2023). Among these, Pohuwato Regency ranks fourth in diabetes prevalence. If left unaddressed, this could lead to a surge in diabetes cases.

Data from the Pohuwato Health Office indicates that the number of diabetes mellitus (DM) patients who received services at various health centers in 2023-2024 totaled 1,573 individuals, including those at Dengilo Health Center. The prevalence of DM patients at Dengilo Health Center has continued to increase annually. This is evidenced by data from Dengilo Health Center, which recorded 28 DM patients in 2022, 33 patients in 2023, and a significant increase to 98 patients in 2024. Of these, 48 were classified as Type 1 Diabetes Mellitus patients, and 40 as Type 2 Diabetes Mellitus (T2DM) patients in 2024.

The increasing number of DM cases continues to draw the attention of both the government and the community. This concern is reflected in programs such as the prevention of non-communicable diseases (NCDs), campaigns promoting the Healthy Living Community Movement (GERMAS), and various other policies aimed at preventing complications from T2DM (Ministry of Health, 2020). Common complications include kidney failure, diabetic retinopathy, neuropathy (nerve damage) in the feet leading to foot ulcers, infections, and even the need for foot amputations, all of which can significantly impact mental health (Rahmasari & Wahyuni, 2019).

Mental Health is a critical aspect in managing chronic diseases such as T2DM. Mental health indicators can be assessed through several aspects, including anxiety, depression, and loss of behavioral control, life satisfaction, and emotional conditions. T2DM patients often experience psychological stress caused by the burden of their illness, including treatment, lifestyle changes, and complications. According to data from the Ministry of Health of the Republic of Indonesia (2021), many T2DM patients are unaware of the mental health issues they face. Only 15% of patients reported experiencing excessive anxiety to healthcare providers, highlighting the need for improved intervention in detecting and addressing mental health issues among T2DM patients. These issues significantly impact patients' quality of life (Ministry of Health of the Republic of Indonesia, 2021).

Quality of life, a complex concept, encompasses an individual's perception of their overall well-being. For T2DM patients, quality of life is often disrupted by symptoms such as blurred vision, tingling sensations, and difficulty performing activities due to reduced motor coordination caused by the disease. A decline in the quality of life can negatively affect disease prognosis, increase the risk of complications, and shorten life expectancy (Gonzalez et al., 2020).

Research conducted over the past three years has shown a significant relationship between mental health and quality of life in patients with Type 2 Diabetes Mellitus (T2DM). For instance, a study by Smith et al. (2022) published in the *Journal of Diabetes Research* revealed that depression and anxiety in T2DM patients significantly reduced their quality of life, particularly in physical and social aspects. Another study by Lee et al. (2023) in *Diabetes & Metabolic Syndrome: Clinical Research & Reviews* found that psychological interventions, such as cognitive behavioral therapy, can improve the quality of life of T2DM patients experiencing mental health disorders.

Therefore, it is crucial to further explore this relationship in the context of T2DM patients within the work area of the Dengilo Health Center, Pohuwato Regency. Based on initial observations and available data obtained through direct interviews with T2DM patients visiting the Dengilo Health Center, 6 out of 9 T2DM patients reported being unable to perform physical activities as usual. They complained of difficulty sleeping, feeling bored with their ongoing treatment process, and even expressed feelings of worthlessness and being a burden to their families. Given the background and the issues outlined above, the researcher is interested in conducting a study titled: "The Relationship Between Mental Health and Quality of Life in Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center."

2. METHOD

This research will be conducted in November 2024. The study will take place in the Work Area of the Dengilo Health Center, Pohuwato Regency. This is a quantitative study with a cross-sectional approach. The population for this study consists of 40 Type 2 Diabetes Mellitus (T2DM) patients in the work area of the Dengilo Health Center. The sampling technique used in this study will be total sampling.

3. RESULT AND DISCUSSION

Table 1 Frequency Distribution of Respondents Based on Age of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center.

| No | Age Group | Frequency (n) | Percentage (%) |
|--------------|-------------------------|---------------|----------------|
| 1 | Adults: 19-44 years | 6 | 15 |
| 2 | Pre-Senior: 45-59 years | 24 | 60 |
| 3 | Elderly: ≥60 years | 10 | 25 |
| Total | | 40 | 100 |

Source: Primary Data 2024

Based on Table 1, it can be observed that the majority of respondents are aged between 45-59 years (Pre-senior), with a total of 24 respondents (60%). The smallest group consists of respondents aged between 19-44 years (Adults), with only 6 respondents (15%). The age classification follows the guidelines of the Minister of Health Regulation (Permenkes) No. 25 of 2016.

Table 2 Frequency Distribution of Respondents Based on Gender of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center.

| No | Gender | Frequency (n) | Percentage (%) |
|--------------|--------|---------------|----------------|
| 1 | Male | 6 | 15 |
| 2 | Female | 34 | 85 |
| Total | | 40 | 100 |

Source: Primary Data 2024

Based on Table 2, it can be seen that the majority of respondents are female, with a total of 34 respondents (85%).

Table 3 Frequency Distribution of Respondents Based on Last Educational Level of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center.

| No | Education | Frequency (n) | Percentage (%) |
|--------------|--------------------------|---------------|----------------|
| 1 | Elementary School (SD) | 5 | 12.5 |
| 2 | Junior High School (SMP) | 5 | 12.5 |
| 3 | Senior High School (SMA) | 23 | 57.5 |
| 4 | Bachelor's Degree (S1) | 7 | 17.5 |
| Total | | 40 | 100 |

Source: Primary Data 2024

Based on Table 3, it can be observed that the majority of respondents have completed Senior High School (SMA), with 23 respondents (57.5%). The smallest groups are those with an Elementary School (SD) and Junior High School (SMP) education, each with 5 respondents (12.5%).

Table 4 Frequency Distribution of Respondents Based on Occupation of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center.

| No | Occupation | Frequency (n) | Percentage (%) |
|--------------|---------------------|---------------|----------------|
| 1 | Not Working | 3 | 7.5 |
| 2 | Housewife (IRT) | 16 | 40 |
| 3 | Civil Servant (ASN) | 5 | 12.5 |
| 4 | Entrepreneur | 16 | 40 |
| Total | | 40 | 100 |

Source: Primary Data 2024

Based on Table 4, it can be observed that the majority of respondents work as Housewives (IRT) and Entrepreneurs, with 16 respondents (40%) in each group. The smallest group consists of those who are not working, with 3 respondents (7.5%).

Table 5 Frequency Distribution of Respondents Based on Duration of Diabetes Mellitus Type 2 in the Work Area of Dengilo Health Center.

| No | Duration | Frequency (n) | Percentage (%) |
|--------------|----------|---------------|----------------|
| 1 | ≤5 tahun | 30 | 75 |
| 2 | >5 tahun | 10 | 25 |
| Total | | 40 | 100 |

Source: Primary Data 2024

Based on Table 5, it shows that the majority of respondents have been suffering from Type 2 Diabetes Mellitus for 5 years or less, with 30 respondents (75%). According to the Minister of Health Decree (2020) No. HK.01.07/MENKES/603/2020, Type 2 Diabetes Mellitus patients typically experience complications 5–10 years after being diagnosed.

Univariate Analysis

Based on the research conducted, the following distribution of respondents based on Mental Health of Type 2 Diabetes Mellitus patients is presented in the table below.

Table 6 Frequency Distribution of Respondents Based on Mental Health of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center.

| No | Mental Health | Frequency (n) | Percentage (%) |
|--------------|---------------|---------------|----------------|
| 1 | Poor | 8 | 20 |
| 2 | Good | 27 | 67.5 |
| 3 | Very Good | 5 | 12.5 |
| Total | | 40 | 100 |

Source: Primary Data 2024

Based on Table 6, it can be seen that the majority of respondents with Diabetes Mellitus have good mental health, with 27 respondents (67.5%). Based on the research conducted, the following distribution of respondents based on Quality of Life of patients is presented in the table below.

Table 7 Frequency Distribution of Respondents Based on Quality of Life of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center.

| No | Quality of Life | Frequency (n) | Percentage (%) |
|----|----------------------|---------------|----------------|
| 1 | Poor Quality of Life | 3 | 7.5 |
| 2 | Fair Quality of Life | 5 | 12.5 |

| | | | |
|--------------|----------------------|----|-----|
| 3 | Good Quality of Life | 32 | 80 |
| Total | | 40 | 100 |

Source: Primary Data 2024

Based on Table 7, it shows that the majority of respondents suffering from Type 2 Diabetes Mellitus have good quality of life, with 32 respondents (80%), and the smallest group has poor quality of life, with 3 respondents (7.5%). Based on the research conducted on Type 2 Diabetes Mellitus patients in the work area of Dengilo Health Center, a bivariate analysis is then performed to determine the relationship between Mental Health and Quality of Life, as shown in the following table.

Table 8. Crosstab Analysis of Mental Health and Quality of Life of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center.

| Mental Health | Quality of Life | | | Total | Statistical Test |
|---------------|-----------------|------|------|-------|------------------|
| | Poor | Fair | Good | | |
| Poor | 3 | 5 | 0 | 8 | 0.001 |
| Good | 0 | 0 | 27 | 27 | |
| Very Good | 0 | 0 | 5 | 5 | |
| Total | 3 | 5 | 32 | 40 | |

Source: Primary Data 2024

Based on Table 8, it shows that the majority of respondents with Type 2 Diabetes Mellitus who have good mental health also have good quality of life, totaling 27 respondents (67.5%). The smallest group, those with poor mental health, also have poor quality of life, totaling 3 respondents (7.5%).

Table 9 Relationship Between Mental Health and Quality of Life of Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center

| Spearman's rho | | Mental Health | Quality of Life |
|-----------------|-------------------------|---------------|-----------------|
| Mental Health | Correlation Coefficient | 1,000 | ,834** |
| | Sig. (2-tailed) | . | <,001 |
| | N | 40 | 40 |
| Quality of Life | Correlation Coefficient | ,834** | 1,000 |
| | Sig. (2-tailed) | <,001 | . |
| | N | 40 | 40 |

Source: Primary Data 2024

Based on Table 9, the statistical test using Spearman's rho obtained a p-value of 0.001, which means ($p < 0.05$) with a significance level of $\alpha = 0.05$. Therefore, it can be concluded that H_0 is rejected and H_1 is accepted, indicating that there is a relationship between mental health and quality of life among Type 2 Diabetes Mellitus patients in the work area of Dengilo Health Center.

DISCUSSION

Mental Health in Type 2 Diabetes Mellitus Patients in the Work Area of Dengilo Health Center

Based on the results of the study conducted on Type 2 Diabetes Mellitus patients in the work area of Dengilo Health Center regarding Mental Health, it was found that the mental health of Type 2 Diabetes Mellitus patients was categorized as "poor" for 8 respondents (20%), "good" for 27 respondents (67.5%), and "very good" for 5 respondents (12.5%). From the data, it can be concluded that the majority of respondents have good mental health, with 27 respondents (67.5%) falling into this category. This is evidenced by the responses to the questionnaire, where

most respondents reported feeling happy, satisfied, and content with their personal life. Many respondents still enjoy their daily work, indicating that Type 2 Diabetes Mellitus patients still feel loved and needed.

This is in line with the study conducted by Diana Fida Fakhriani in 2019, which stated that good mental health is a condition of individual well-being, where the person is aware of their potential to manage behavioral harmony, such as life satisfaction, emotional and psychological conditions, as well as their environment, despite the burden of illness they face. Therefore, it can be concluded that individuals with good mental health can express feelings of happiness, satisfaction with their life, and enjoyment of the activities they engage in (Diana Fida Fakhriani, 2019).

Aulthouse's research revealed that positive mental health plays a key role in enhancing an individual's subjective happiness. This condition is also associated with longer life expectancy, lower disease risks, and faster recovery when facing health issues. Therefore, mental health disorders can reduce individual performance and decrease productivity in daily activities (Aulthouse et al., 2017).

However, there are some respondents who report having poor mental health, with 8 respondents (20%). This is evidenced by a small number of responses indicating that they feel discouraged, lack enthusiasm, and are anxious and worried about their illness. Mental health, or mental well-being, is a reflection of an individual's emotional, psychological, and social state. In addition to affecting thoughts and emotions, mental health also has a significant impact on an individual's physical condition. Individuals with good mental health generally have a positive attitude, socialize easily with their environment, and are able to perform well. On the other hand, those who experience depression, anxiety, or excessive worries tend to lose motivation, feel fatigued quickly, and become less productive (Aziz, 2015). This aligns with the study conducted by Syamsuhaldi in 2019, which stated that individuals with poor mental health are more likely to experience difficulties in coping with life's pressures and managing feelings such as fear, tension, excessive worry, and discomfort (Syamsulhadi, 2019).

There were also respondents with very good mental health, totaling 5 respondents (12.5%). This is evidenced by their responses to the questionnaire, where a small number of respondents reported not feeling anxious, tense, nervous, depressed, or discouraged in their personal lives despite suffering from Diabetes Mellitus. According to Aulthouse in 2017, mental health is the first approach to achieving an individual's positive psychological condition. This includes feelings of joy, happiness, and life satisfaction in order to avoid feelings of anxiety, tension, and depression.

This is also in line with the Islamic perspective, where mental health is defined as an individual's ability to manage psychological functions and achieve harmony with oneself, others, and the environment in a dynamic way. According to Zulkarnain, mental health in the perspective of Islamic psychology plays an important role in the soul, thoughts, attitudes, feelings, views, and life beliefs. With good mental health, individuals can create psychological and spiritual harmony within themselves, thereby avoiding mental disorders such as anxiety, doubt, and inner conflict (Zulkarnain, 2019).

Fakhriyani (2019) added that aspects of the soul, such as thoughts, feelings, will, attitudes, perceptions, views, and life beliefs, must be coordinated. This coordination creates harmony that can prevent individuals from feelings of doubt, anxiety, restlessness, and inner conflict—an internal contradiction within the individual themselves.

Quality of Life in Type 2 Diabetes Mellitus Patients in the Working Area of Puskesmas Dengilo

Based on the research conducted on patients with Type 2 Diabetes Mellitus in the working area of Puskesmas Dengilo regarding Quality of Life, it was found that the quality of life of Type 2 Diabetes Mellitus patients was categorized as poor in 3 respondents (7.5%), moderate in 5 respondents (12.5%), and good in 32 respondents (80%). This data shows that the majority of respondents have a good quality of life, with 80% of respondents falling into this category. The results of this study indicate that most Type 2 Diabetes Mellitus patients in the working area of Puskesmas Dengilo have a good quality of life, with 80% of respondents categorized as such.

This is supported by the answers in the questionnaire, which indicate that most respondents are satisfied with their treatment. The large number of respondents who still enjoy daily activities reflects that they feel loved, valued, and have a meaningful role in their environment despite facing health challenges (Meris, 2019). These findings are in line with a previous study by Sani et al. (2022) at Puskesmas Wanaraja, where the majority of Type 2 Diabetes Mellitus patients were categorized with good quality of life. The importance of holistic support, including the management of complications and psychosocial factors, was highlighted to improve the quality of life for patients. Health-related quality of life reflects the condition of individuals who have experienced or are experiencing a disease and are receiving specific treatment (Wahyudin *et al.*, 2024)

As for those with moderate quality of life, 5 respondents (12.5%) reported this category. This was demonstrated by their responses to the questionnaire, where they indicated that they were still able to manage their health condition well, felt satisfied with their treatment, maintained a healthy diet, and engaged in physical activity. Previous studies have shown that Type 2 Diabetes Mellitus patients often have a moderate quality of life. For example, a study by Umam et al. (2020) at Puskesmas Wanaraja in Garut Regency found that most Type 2 Diabetes Mellitus patients (63.7%) had moderate quality of life. This finding aligns with the study by Larasati et al. (2020), where 53 respondents or 59.6% were found to have a moderate quality of life. Similar findings were reported by Siregar et al. (2020), where most respondents had a moderate quality of life (63.9%). Type 2 Diabetes Mellitus patients with a moderate quality of life can still live more independently, reduce diabetes-related complications, and feel more satisfied with their lives. Factors such as good blood sugar control, understanding of the disease, and emotional and social support play a crucial role in improving their quality of life (Siregar et al., 2020).

However, it is worth noting that a small portion of respondents (7.5%) had poor quality of life. This was evidenced by their responses to the questionnaire, where some respondents expressed anxiety and worry about their condition. These feelings may lead to a lack of enthusiasm in daily life. These findings emphasize the need for a more holistic approach, such as psychosocial support and stress management, to improve the quality of life for all Type 2 Diabetes Mellitus patients. An individual's quality of life is influenced by various factors, such as independence, physical and psychological conditions, social activities, social interactions, and family roles. In general, the elderly experience various limitations that lead to a decline in quality of life. As the smallest unit in society, family plays an essential role in caring for the elderly to help improve their quality of life (Yuliati et al., 2014).

The Relationship Between Mental Health and Quality of Life in Type 2 Diabetes Mellitus Patients in the Working Area of Puskesmas Dengilo

Based on the statistical test using Spearman's rho, a p-value of 0.001 ($p < 0.05$) with a significance level of $\alpha = 0.05$ was obtained. Therefore, considering the significance level of the Spearman's rho test, it can be concluded that H_0 is rejected and H_1 is accepted, indicating a relationship between Mental Health and Quality of Life in Type 2 Diabetes Mellitus patients in the working area of Puskesmas Dengilo.

The results of this study found that mental health has a positive correlation with the quality of life of diabetes mellitus patients. This means that the quality of life of patients will improve if their mental health is well-maintained. In other words, when mental health is addressed and well-managed, the quality of life of Type 2 diabetes patients will improve, allowing them to reach an optimal health status and feel more comfortable in their daily life. The direction of the relationship between these two variables in this study indicates a positive relationship. Based on these findings, it can be concluded that the quality of life of Type 2 diabetes patients is significantly influenced by their mental health condition. Inability to maintain good mental health may risk lowering their quality of life.

This is consistent with research by Vera (2023), which also explains the impact on their physical condition, as the inability to manage anxiety and stress can cause disruptions in daily activities. Therefore, enhancing support for the mental health of Type 2 diabetes patients is crucial for improving their overall quality of life (Vera, 2023). One of the factors contributing to a moderate quality of life in Type 2 diabetes patients is family support. Family plays a vital role in improving the mental health and quality of life of Type 2 diabetes patients. Those with good family

support tend to manage their disease and treatment more effectively. This leads to an improvement in their quality of life, reducing feelings of anxiety or stress, and helping them lead a more comfortable life. Conversely, without adequate family support, diabetes patients may struggle to manage their condition, which can decrease their overall quality of life (Rahmi, H., et al, 2020).

A study by Rahmi, H., et al (2020) found that family support, in the form of emotional empathy and acknowledgment, makes patients feel better, cared for, understood, loved, and motivated, helping them regain confidence in facing concerns due to their illness. Additionally, research conducted by Vera (2023) states that family support consists of attitudes, actions, and acceptance from family members experiencing illness, including care and maintenance, with significant family support for Type 2 diabetes patients. The types of family support given to these patients include emotional/empathetic support, esteem support, instrumental support, and informational support (Vera, 2023).

Besides family support, mental health and quality of life in Type 2 diabetes patients must be assessed based on various criteria, as an individual's well-being reflects their quality of life. Factors such as age, gender, education level, occupation, income, and duration of diabetes are essential variables to consider (Nurfaizah, 2023). Age can affect both mental health and quality of life in Type 2 diabetes patients because physical, mental, and functional capacities decline with age. Moderate-intensity physical activities, such as prolanis exercise, elderly fitness exercises, and brisk walking for 30 minutes, are more effective in lowering blood glucose levels compared to light-intensity physical activities. Blood glucose levels decrease more significantly when performed regularly, structured, and consistently for the appropriate duration (Safitri, 2022).

Quality of life can be influenced by various factors, such as the need for diabetes mellitus type 2 care, symptoms from abnormal blood glucose levels, other diseases, and sexual dysfunction. Quality of life itself is defined as an individual's perception of their self-functioning in the context of values, culture, social interaction, and life goals, and is influenced by physical health, psychological condition, independence, and social relationships (Hudatul Umam et al, 2020).

According to research by Balyan et al. (2023), Type 2 diabetes mellitus significantly impacts patients' quality of life by disrupting glucose metabolism, leading to organ damage, nerve disorders, and cardiovascular problems. Physical activity, especially regular exercise, plays a crucial role in managing diabetes and improving quality of life by helping to control blood glucose levels, improve insulin sensitivity, and support overall health. The research accurately reflects that Type 2 diabetes mellitus can significantly impact patients' quality of life due to disturbances in body metabolism. Regular physical activity plays a vital role in managing diabetes by controlling blood glucose levels, improving insulin sensitivity, and supporting overall health. Regular exercise can help diabetes patients improve both their physical and mental well-being (Balyan et al., 2023).

Based on the various studies cited, the researcher assumes that quality of life is influenced by multiple factors, including family support, physical activity, and sexual life. Family support provides a sense of security and motivation, essential for maintaining physical and mental health. Regular physical activity plays a role in controlling physical conditions, especially for those with chronic illnesses. Meanwhile, a healthy sexual life supports emotional well-being and interpersonal relationships. All of these factors are interconnected, and the balance between them can contribute to improving overall quality of life. The interconnectedness of the above studies can be explained through several aspects that mutually support and strengthen the researcher's findings. All of these aspects work together to determine how well patients manage their disease and achieve optimal quality of life.

4. CONCLUSION

1. The mental health of Type 2 diabetes mellitus patients in the Puskesmas Dengilo work area showed that 27 respondents (67.5%) were in the good category, 5 respondents

(12.5%) were in the very good category, and 8 respondents (20%) were in the less good category.

2. The quality of life of Type 2 diabetes mellitus patients in the Puskesmas Dengilo work area showed that 32 respondents (80%) were in the good category, 5 respondents (12.5%) were in the sufficient category, and 3 respondents (7.5%) were in the poor category.
3. There is a significant relationship between mental health and the quality of life of Type 2 diabetes mellitus patients. Based on the results of the statistical test using Spearman's rho, the p-value obtained was 0.001 ($p < 0.05$) with a significance level of $\alpha = 0.05$.

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