



## The Correlation Between Family Support and Depression Levels on Diabetes Mellitus Patients at Botupingge Public Health Center

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### ABSTRAK

Diabetes melitus (DM) merupakan penyakit jangka panjang yang terjadi ketika pankreas tidak menghasilkan insulin dalam jumlah yang cukup atau tubuh tidak dapat menggunakan insulin dengan efisien. Penderita DM akan menghadapi berbagai perubahan dalam kehidupannya, seperti pengaturan pola makan, olahraga, pengendalian gula darah, dan lainnya, yang harus dilakukan terus-menerus. Perubahan mendadak dalam gaya hidup ini dapat memicu reaksi psikologis negatif pada penderita DM, seperti mudah marah, perasaan tidak berguna, serta peningkatan kecemasan yang berisiko menyebabkan depresi. Beberapa langkah yang dapat diambil untuk mengurangi tingkat depresi pada penderita DM meliputi penggunaan obat-obatan, terapi modalitas, serta dukungan sistem yang memadai, terutama dari keluarga. Studi ini menyelidiki korelasi dukungan keluarga dengan tingkat depresi pada pasien diabetes melitus di wilayah kerja Puskesmas Botupingge. Penelitian menggunakan metode kuantitatif deskriptif dengan pendekatan Cross Sectional, data dikumpulkan dari 72 pasien DM di wilayah kerja Puskesmas Botupingge dengan menggunakan tehnik sampling Proportional Simple Random Sampling. Hasil Penelitian menunjukkan terdapat hubungan yang signifikan antara dukungan keluarga dengan tingkat depresi pada pasien DM di wilayah kerja Puskesmas Botupingge dengan hasil uji Spearman rank 0,000 ( $p$ -value

$<0,05$ ). Penelitian ini dapat dijadikan referensi untuk peneliti selanjutnya melakukan penelitian lanjutan dengan menggunakan sampel yang lebih banyak dan memperhitungkan variabel yang lain terkait Diabetes Melitus.

**Keywords :** Diabetes Melitus, Dukungan Keluarga, Tingkat Depresi

### ABSTRACT

*Diabetes mellitus (DM) is a chronic condition that occurs when the pancreas does not produce enough insulin or the body cannot use insulin efficiently. People with DM will face various changes, such as dietary regulation, exercise, blood sugar control, and others, which must be performed continuously. These sudden lifestyle changes can trigger negative psychological reactions in DM patients, such as irritability, feelings of worthlessness, and increased anxiety, which can lead to depression. Several steps can be taken to reduce depression levels in DM patients, including the use of medications, modality therapy, and adequate support systems, particularly from family. This study investigates the correlation between family support and depression levels among diabetes mellitus patients at Botupingge Community Health Center. This research used a descriptive quantitative method with a cross-sectional approach. Data were collected from 72 DM patients in the working area of Botupingge Community Health Center using the Proportional Simple Random Sampling technique. The results showed a significant relationship between family support and depression levels in DM patients in the working area of Botupingge Community Health Center, with a Spearman rank test result of 0.00 ( $p$ -value  $< 0.05$ ). This research is expected to be*

**Keywords:** Diabetes Mellitus, Family Support, Level Of Depression

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## 1. INTRODUCTION

Diabetes mellitus (DM) is a chronic disease that occurs when the pancreas cannot produce enough insulin or when the body cannot use the insulin it produces effectively. (Aminuddin et al., 2023). Approximately 422 million people in the world suffer from DM and 1.5 million deaths are caused by DM each year. (WHO, 2022). Indonesia ranks fifth in the country with the highest number of DM with 19.5 million sufferers in 2021 and is predicted to increase to 28.6 million in 2045. This issue is a concern for the Ministry of Health, considering that DM can cause many complications of the disease. (Ministry of Health, 2024).

The Gorontalo Provincial Health Office shows the latest data that in 2024 the prevalence of DM sufferers in Gorontalo Province was 10,735 sufferers spread across several districts/cities and Bone Bolango Regency was ranked first out of all the regencies/cities in Gorontalo Province, namely 3,574 sufferers. And according to data from the Bone Bolango Regency Health Office in 2024, it showed that the number of DM sufferers at the Botupingge Health Center in August was 321 DM sufferers and it was recorded that DM sufferers who were members of the Integrated Development Post (Posbindu) were 252 DM sufferers (Gorontalo Provincial Health Office, 2024).

DM sufferers experience many changes in their lives, starting from regulating their diet, exercise, controlling blood sugar, and others that must be done throughout their lives. Sudden changes in life make DM sufferers show several negative psychological reactions including anger, feeling useless, increased anxiety and depression. In addition to these changes, if DM sufferers have experienced complications, it will increase depression in sufferers because complications will make sufferers spend more money, negative views about the future, and how to lower blood sugar must be disciplined in managing boring activities that trigger DM sufferers to become depressed. (Prayitno, 2020).

Depression is a condition where someone experiences emotions that are characterized by sadness and feelings of meaninglessness and guilt, distancing themselves from the environment, losing their appetite, not being able to sleep peacefully and experiencing anxiety, depression is also not just a feeling of stress and sadness like something that comes and goes, but depression is a serious condition experienced by someone that affects behavior, emotions, a person's way of thinking and its nature which can be permanent so that it requires treatment to overcome it. (Malelak, 2023). Efforts that can be taken to reduce the level of depression include pharmacotherapy, modality therapy and having an adequate support system such as friends, neighbors, especially support from family. (Syamsudin et al., 2023).

The family is the smallest unit of society consisting of the head of the family and several people who gather and live in one place under one roof in a state of mutual support. (Amalia et al., 2023). Family support is a lifelong process, where the source and type of family support influence the stages of the family life cycle such as the family's actions and acceptance of the sick person. Family members view that supportive people are always ready to provide help and assistance if needed. There are three dimensions of interaction in family support, namely reciprocity (habits and frequency of reciprocal relationships), advice/feedback (quantity/quality of communication) and emotional involvement (increasing intimacy and trust) in social relationships. (Nofriani Mangera et al., 2019).

Family support is very beneficial for DM patients because it can be a factor that has a positive impact on patient self-care so that patients will know that there are other people who care, appreciate and love them and can improve their health and adapt in living their lives. In DM management, family support is needed, where family members participate in all aspects of health care needed by patients such as providing the necessary medicines, information support in the form of providing advice, instrumental support such as providing a place to stay, appreciation support in the form of providing feedback and praise and emotional support in the form of sympathy and empathy (Priharsiwi and Kurniawati, 2021). Lack of family support can trigger depression in DM sufferers.

Based on the background description above, the researcher is interested in further researching the relationship between family support and depression levels in Diabetes Mellitus patients in the Botupingge Health Center Working Area because in this area there is still a lack of information and knowledge about this.

## 2. METHOD

This research is a descriptive quantitative research with a cross-sectional research design. The research location was conducted in the Botupingge Health Center Working Area, Bone Bolango Regency, on November 6-28, 2024. The sample determination in this study used the Proportional Simple Random Sampling method. The research subjects were 72 diabetes mellitus sufferers in the Botupingge Health Center Working Area. The instruments used to measure were the family support questionnaire and the Depression Anxiety Stress Scales (DASS 42) with the results of the validity test conducted by researchers at the Suwawa Health Center on 30 respondents obtained a significant value of 0.361 and the results of the reliability test obtained Cronbach alpha 0.948. The data analysis technique used in this study was univariate analysis to describe family support and depression levels and bivariate analysis to describe the relationship between family support and depression levels using the Spearman rank test. The results of the data analysis are presented in the form of frequency and percentage tables and in the form of cross tables.

## 3. RESULT AND DISCUSSION

Table 2. Respondent Characteristics of diabetes mellitus patients in the Botupingge Community Health Center work area

Respondent Characteristics	Frequency (n)	Percentage (%)
Age		
36-45 years (Late Adulthood)	11	15.3
46-55 years (Early Elderly)	21	29.2
56-65 years (Late Elderly)	30	41.7
>65 years (Seniors)	10	13.9
Total	72	100
Gender		
Man	20	27.8
Woman	52	72.2
Total	72	100
Long time suffering from DM		
< 3 years	13	18.1
3-5 years	38	52.8
> 5 years	21	29.2
Total	72	100
Education		
SD	38	52.8
JUNIOR HIGH SCHOOL	4	5.6
SENIOR HIGH SCHOOL	21	29.2
College	9	12.5
Total	72	100
Work		
Housewife	47	65.3
Farmer	2	2.8
Trader	5	6.9
civil servant	8	11.1
Doesn't work	3	4.2
Other	7	9.7
Total	72	100

Based on Table 1. The research subjects as many as 72 respondents showed that most were aged 56-65 years (41.7%), female (72.2%), the longest duration of suffering from DM was 3-5 years (52.8%), the highest education was elementary school (52.8%), and the highest occupation was housewife (65.3%).

**Family Support for Diabetes Mellitus Patients in the Botupingge Health Center Work Area**

**Table 2. Family support for diabetes mellitus patients in the Botupingge Community Health Center work area**

Family support	Frequency	Percentage
Good	51	70.8
Enough	19	26.4
Not enough	2	2.8
Total	72	100

Based on table 2, it shows that of the 72 respondents, the majority are in the good category, namely 51 respondents (70.8%).

The results of the study showed that family support with a good category was 51 respondents (70.8%), it can be seen from the results of the study that good family support occurs because the aspects of the family support indicator are fulfilled. Respondents who received good family support stated that their family members participated in all aspects of health care needed by patients such as information support in the form of providing information related to DM and reminding them to always control their blood sugar and take medication, instrumental support such as providing financial assistance and helping to complete the things needed for care and treatment, appreciation support in the form of providing feedback and praise and emotional support in the form of sympathy and empathy so that patients feel loved, cared for and motivated to always carry out care and treatment.

This is in line with research Arinimi et al. (2024), family support is in the good category if there is support from the family which includes emotional support, information support, instrumental support and assessment support. According to The Last Supper (2021), Family support is in the good category because family members participate in all aspects of health care required by the patient.

The results of the study also showed that respondents who had family support in the sufficient category were 19 people (26.4%), it can be seen from the results of the study of family support in the sufficient category based on the results obtained that the family has provided sufficient support, namely only emotional support and instrumental support such as the family always understands and comforts them when they look sad with problems related to DM and feels easy to ask for family help and always supports in financial matters, but the family does not provide information support such as information about things that can worsen the disease and support for appreciation such as giving praise when the patient succeeds in controlling blood sugar.

The results of this study are in line with research conducted by Wayan et al. (2019) which shows the results of 99 respondents, most of whom have sufficient family support, namely 59 respondents (59.6%). Emotional and instrumental family support is easier to provide to people with diabetes because these two types of support are directly related to daily needs. According to Mardiyanti et al., (2020), the easiest form of support to provide is related to emotional support. DM sufferers can easily get support in terms of accepting the condition of DM they are experiencing. This can be explained that in theory family acceptance of any condition experienced by their family members is emotional support.

The results of the study also showed that respondents who had family support in the less category were 2 people (2.8%). Based on the results, it was found that the family provided less support, namely in information support and appreciation support, which can be seen from the results of the questionnaire on less family support, indicating that they had never received

information about DM from their families and had never been given praise or appreciation when they were undergoing care and treatment. This is in line with research Wayan et al. (2019) The research results obtained showed that as many as 20 (20.2%) respondents received insufficient family support. According to Mardiyanti et al., (2020) which explains that families can be less supportive of diabetes sufferers due to various factors. One of them is a lack of knowledge and understanding, where family members may not fully understand the impact of diabetes, so they do not provide appropriate informational support regarding the management of the disease. In addition, the busyness of family members who are too focused on work often reduces their time to accompany and monitor the condition of diabetes sufferers.

### Depression Levels in Diabetes Mellitus Patients in the Botupingge Health Center Work Area

Table 3. Depression levels in Diabetes Mellitus patients in the Botupingge Community Health Center work area

Depression Level	Frequency	Percentage
Normal	49	68.1
Light	14	19.4
Currently	6	8.3
Heavy	2	2.8
Very heavy	1	1.4
Total	72	100

Based on Table 3, it shows that of the 72 respondents, the majority were in the normal category or not depressed, namely 49 respondents (68.1%).

In this study, it was found that most respondents had a level of depression in the normal category or were not experiencing depression. This can be seen that out of 72 respondents studied, respondents who had a normal level of depression were 49 people (68.1%). We can see from the level of depression that has been done, on average respondents stated that they felt they still had an interest in many things, felt worthy, felt valuable, could still enjoy the things they did and never felt depressed.

According to Prayitno (2020), people with diabetes do not always experience depression because of strong social support and a good understanding of their condition. Support from family, spouses, and loved ones helps maintain psychological well-being, reduces feelings of worthlessness, and strengthens positive emotional bonds. When this social support is met, people with diabetes feel valued and better able to manage their disease without feeling burdened, which ultimately prevents depression. In addition, with good disease care management, sufferers can maintain their physical and mental health, which reduces the risk of feelings of hopelessness or anxiety that often trigger depression. This is in line with research Sepang & Lainsamputti, (2022), the majority of DM sufferers in this study were included in the normal depression group, namely 101 respondents (64.7%). Diabetes sufferers tend to avoid depression because of good social support, such as from family and close people. This support provides a sense of appreciation and prevents feelings of inferiority that can lead to depression.

Furthermore, the results of the study also found that from 72 respondents studied, respondents who had mild depression levels were 14 people (19.4%). This can be seen in the depression level questionnaire, on average respondents who had mild depression levels were caused by often feeling no longer strong enough to do an activity, losing interest in many things such as interest in eating, walking and socializing and finding it difficult to be enthusiastic about many things again. This is in line with research conducted by The Sarfika (2019), which shows the results of the study that almost half of diabetes mellitus patients experience mild depression (43.4%). The symptoms of depression experienced by respondents in this study were frequent sleep disturbances, sometimes feeling unhappy with life, sometimes feeling sad, often not maintaining a diet and often feeling tired,

The results of this study also show that out of 72 respondents studied, respondents who had moderate depression levels were 6 people (8.3%), this can be seen from the results of the

study that on average respondents with moderate depression said that they often felt sad, had difficulty being enthusiastic and lost interest in many things such as losing interest in eating and socializing and not being able to enjoy the things they do. This is in line with research Kanoman (2021) which shows that diabetes sufferers can experience moderate depression, namely 20%. Also supported by research Vina (2021) which explains that when someone is diagnosed with diabetes mellitus (DM), there is a significant change in their lifestyle. This lifestyle change can cause psychological stress, which often gives rise to feelings of depression. This increased depression is a natural psychological response due to the adjustments that must be made by DM sufferers, which can involve stress, anxiety, and feelings of loss of control over their health condition. Increased depression will affect a person's diet and lifestyle.

It was also found that from 72 respondents studied, respondents who had a severe depression level were 2 people (2.8%) and respondents who had a very severe depression level were 1 person (1.4%). This was because they felt that their lives were no longer valuable and had no meaning, felt that they had no future and no hope, and were burdened by feelings of deep sadness, despair, and depression. This is in line with research Ricky & Wulandari (2024), which shows that some respondents with diabetes mellitus have a severe depression level of 12 respondents (40%). Feelings of being worthless when suffering from DM can trigger depression. Low self-esteem causes negative feelings. This occurs when DM sufferers view themselves negatively when suffering from illness which causes feelings of uselessness and helplessness. This is a sign of a negative self-concept. Negative thoughts trigger depression to get worse.

**Relationship Between Family Support and Depression Levels in Diabetes Mellitus Patients in the Botupingge Health Center Work Area**

Table 4. Bivariate data analysis of the relationship between family support and depression levels in Diabetes Mellitus patients in the Botupingge Community Health Center work area

Family Support	Depression level	
	p value	0,000
Strength of Correlation		-0.643

Based on table 4. The bivariate data analysis technique used in this study used the Spearman rank statistical test, which was 0.000. This shows that there is a significant relationship between family support and the level of depression in DM patients in the Botupingge health center work area (p-value <0.05). The results of the Spearman rank test show a correlation coefficient value of -0.643, which means that there is a fairly strong negative relationship between the two variables tested. This negative relationship shows that when one variable increases, the other variable tends to decrease.

Table 5. Tabulation table of the relationship between family support and depression levels in Diabetes Mellitus patients at the Botupingge Community Health Center.

Family Support	Depression Level										Total	p Value	
	Normal		Light		Currentl y		Heavy		Very heavy				
	N	%	N	%	N	%	N	%	N	%			
Good	44	61.1	6	8.3	1	1.4	0	0.0	0	0.0	51	70.8	0,000
Enough	5	6.9	8	11.1	5	6.9	1	1.4	0	0.0	19	26.4	
Not enough	0	0.0	0	0.0	0	0.0	1	1.4	1	1.4	2	2.8	
Total	49	68.1	14	19.4	6	8.3	2	2.8	1	1.4	72	100	



Based on Table 5, it shows that of the 72 respondents, the majority have good category family support with normal levels of depression or not being depressed, namely 44 respondents (61.1%).

In this study, respondents who had good family support with a normal depression level or were not experiencing depression were 44 people (61.1%). Most of the respondents in this study received good family support, which played a role in keeping their depression levels in the normal category, this shows that good family support can be related to preventing or reducing depression levels. This is in line with the results of the study The Nurhayati (2020), which shows that family support has a significant relationship with depression ( $p = 0.000$ ) in DM patients. Respondents who receive family support will experience milder depression compared to respondents who do not receive family support. This is also supported by research Junaidi & Miranda (2022), which explains that one of the management in the care of patients with depression related to DM is to involve family support in care. The study stated that social interaction plays a role in the adaptation of patients with chronic diseases. One of the emotional supports that patients can get is support from their family. This is what makes DM sufferers able to control the depression they experience when facing a serious problem.

In this study, it was also found that respondents who had good family support with a mild depression category were 6 people (8.3%) and 1 person (1.4%) had moderate depression. This shows that these respondents received good family support but had mild and moderate depression categories. This is in line with research conducted by Hidayati & Baequny (2021), which shows that of the 31 respondents who had good family support, there were 6 respondents who experienced mild depression and 4 respondents experienced moderate depression. According to Purnomo et al (2021), even though DM sufferers have good family support, they are still at risk of experiencing mild to moderate depression. This is due to fluctuations in blood sugar levels that often occur in DM sufferers. When blood sugar levels increase, the body responds by releasing stress hormones such as cortisol, epinephrine, and norepinephrine. Increases in these hormones can affect and contribute to the onset of depressive symptoms. Family support is important, but physical factors such as hormonal changes due to diabetes can still trigger mental disorders such as depression.

The results of this study also show that respondents who have sufficient family support with a normal level of depression or do not experience depression are 5 people (6.9%). This is because some respondents said they can quickly accept their condition and adapt to the necessary lifestyle changes, such as a healthy diet. This acceptance reduces stress and anxiety so that they avoid depression. This is supported by Vina (2021) which explains that even though family support is only in the sufficient category, DM sufferers can avoid depression because some DM sufferers are able to accept their disease condition well and adapt to the necessary lifestyle changes. The ability to accept the situation and live a healthy lifestyle, such as maintaining a diet and exercising regularly, helps reduce stress and anxiety, thus preventing the emergence of symptoms of depression.

In this study, it was also found that respondents who had sufficient family support with a mild depression category were 8 people (11.1%) and moderate depression category 5 people (6.9%) and 1 person with severe depression (1.4%). It can be seen that if family support is only given at a sufficient or moderate level, it is not strong enough to protect DM sufferers from the risk of mild, moderate to severe depression. This is in accordance with The Nurhayati (2020), which emphasizes the importance of social support, especially from family, in helping to reduce depressive symptoms in individuals, especially those with chronic conditions such as DM. Family support can function as a protector or "buffer" that helps individuals manage stress better. However, if this support is only provided at a sufficient or moderate level, it may not be enough to effectively protect them from the psychological distress they experience. As a result, these individuals remain at risk of experiencing depression, whether at a mild, moderate or even severe level.

In this study, there were also respondents with less family support, namely 2 respondents (2.8%) who had severe and very severe depression levels. Although only a small number of respondents were in the less family support category (2 respondents or 2.8%). This leads to the

possibility that lack of family support can contribute to higher levels of depression. This is supported by Prayitno (2020) which states that lack of family support can be one of the main factors that trigger depression in DM patients. In the context of DM care management, family support is not just an additional need, but an integral part that helps patients face the challenges of DM. Lack of family support, especially from those closest to them such as spouses, often worsens mental conditions and increases the risk of depression.

From the results of this study, related theories and research, the researcher assumes that the greater the family support for DM sufferers, the lower the risk of DM sufferers experiencing depression. Conversely, if the lower the family support for DM sufferers, the higher the risk of DM sufferers experiencing depression.

The limitations of this study consist of several aspects that can affect the results and findings, such as the research sample being limited to a particular location does not represent the wider population, so the research results are difficult to generalize.

#### 4. CONCLUSION

Family support for DM patients in the Botupingge health center work area is mostly in the good category, namely 51 out of 72 respondents (70.8%), The level of depression in DM patients in the Botupingge health center work area mostly has a normal depression level or is not experiencing depression, namely 49 out of 72 respondents (68.1%). There is a relationship between family support and the level of depression in diabetes mellitus patients in the Botupingge health center work area because the results of the Spearman rank correlation test obtained a p value of 0.000, meaning less than  $\alpha = 0.05$ . It is expected to be used as a reference for further researchers to conduct further research using more samples and taking into account other variables related to Diabetes Mellitus.

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