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## Research Article

# Diabetes Distress: Assessment And Screening Of Stress Levels Among People With Diabetes Mellitus

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### Abstract

**Aims:** Type 2 diabetes mellitus patients are more likely to suffer from depression, with a prevalence of between 24% and 29%. In 2017, there were 184 people with diabetes in the Poasia Health Center's working area, but only 26 of them were actively participating in the prolanis program on a regular basis. The low number of patients who are actively seeking treatment is likely due in part to the fact that they have diabetes.

**Methods:** Patients with diabetes mellitus (DM) who are registered as prolanis patients at the Poasia Kendari health center are the focus of this descriptive study. Depression levels were assessed using the Diabetes Distress Scale (DDS 17).

**Results:** There were 26 patients with type II diabetes mellitus (also known as "type II diabetes mellitus") who participated in the researcher's study based on demographic data obtained from the Poasia Health Center that were diagnosed with mild depression, with as many as 20 of them falling into this category. (76.22%), while 23% to 24% of respondents (23.08%) were suffering from moderate to severe depression

### Keywords

Diabetes Mellitus, stress, Diabetes Distress Scale (DDS) 17

## INTRODUCTION

The prevalence of DM in the world is increasing from year to year. From WHO data in (1), it was found that Indonesia ranks fourth in the largest number of DM patients with a prevalence of 8.4 million people. The top 3 countries are India with 31.7 million, China with 20.8 million, and the United States with 17.7 million. In 2010, DM patients in Indonesia reached a minimum prevalence rate of 5 million people, while in the world it reached 239.9 million people, and by 2030 it is estimated that the prevalence of DM in Indonesia will increase to 21.3 million people (2)

A study at a Teaching Hospital in Northern Ireland stated that of 80 DM patients who came to the Endocrine Department, 31 (38.8%) experienced symptoms of depression. 20 (25%) had mild depression, 10 (12.5%) had moderate depression, and 1 (1.3%) had severe depression.<sup>5</sup> In 2005 the International Diabetes Federation showed that the prevalence of depression in DM patients reached 60%, of which 15% of patients have moderate depression (3). Depression experienced by patients can be in the form of decreased interest and ability in carrying out daily activities, the emergence of emotional disorders, and reduced awareness of the DM itself,

which has an effect on the patient's lack of control of blood sugar levels (4).

Patients with type 2 diabetes mellitus are more likely to suffer from depression, which has a prevalence of between 24% and 29%. The lack of glycemic control in type 2 diabetes mellitus is strongly linked to depression, which in turn raises the risk of complications, mortality, decreased physical function, and increased health care costs (5)

Ironically, the management of depression in patients with type 2 diabetes mellitus seems to receive less attention than other complications of diabetes. Lack of attention to this condition should not occur given that depression is associated with diabetes complications and death. Evidence suggests that recognition and treatment of depression is less than ideal and particularly in primary care settings where most patients with diabetes receive physical care only (6)

The number of people with diabetes mellitus during 2017 was 184 people and only 26 people actively participated in the prolans program. Diabetes mellitus itself is a problem for the health care team, but so are the psychological reactions that may arise, which in turn affects the care of patients. From the point of view of health workers, this means the prevalence of mild mental disorders and is a risk of severe mental disorders. A person suffering from depression really needs to improve health services because of the emotional burden. Recognizing the symptoms of depression in individuals with diabetes

is necessary for people with type II diabetes and vice versa, and screening for depression in diabetics is highly recommended. However, the screening method for depression in patients with type II DM and its intervention is not sufficient. From these problems, it is necessary to do research between type 2 diabetes mellitus and depression.

## METHODS

Diabetic patients who are registered at Poasia Kendari Health Center as prolans patients were evaluated for depression severity in this descriptive study. The level of depression was assessed using the Diabetes Distress Scale (DDS), in which there were 17 questions representing the criteria for depression in DM patients. There were 17 questions in total, and they were broken down into four categories: emotional burden, interpersonal distress, doctor-related distress, and therapy adherence. Emotional toll, interpersonal distress, doctor-related distress, and adherence to therapy were the four categories of concern addressed by the questionnaires (Regimen-related Distress). The collected data will be subjected to univariate analysis. The study was conducted at the Outpatient Health Center of Poasia. This research was conducted in December 2017. The sample in this study were patients with type 2 diabetes mellitus in the Poasia Health Center, Kendari City, as many as 26 respondents.

## RESULTS

### Characteristics of Respondents

#### Gender

According to gender, this graph shows how many people responded to the question. (Table 1)

**Table 1.**  
**Distribution of Respondents by Gender at the Poasia Health Center in 2017**

Gender	n	%
Male	8	30.77
Female	18	69.23
Total	26	100.0

Data Source: Primary Data in 2017

Table 1 above can be seen that of the 26 respondents the majority were female, namely 18 respondents (69.23%), while male respondents were 8 respondents (30.77%). So from the results of respondents based on gender, it can be concluded that DM patients at the Poasia Health Center in 2017 were mostly female.

#### Age

The distribution of respondents by age in this study can be seen in Table 2.

**Table 2.**  
**Distribution of Respondents by Age Group at the Puskesmas Poasia 2017**

Age	n	%
30 - 40 Years	1	3,84
41 - 50 Years	8	30,77
51 - 60 Years	6	23,08
61 - 70 Years	8	30,77
71 - 80 Years	3	11,54
<b>Total</b>	<b>36</b>	<b>100,0</b>

Data Source: Primary Data in 2017

Based on Table 2 above, most of the respondents were aged between 41 – 50 years, namely 8 respondents (30.77%), and aged between 61 – 70 years, there were also 8 respondents (30.77%).

#### Education

The distribution of respondents by education level in this study can be seen in Table 3.

**Table 3.**  
**Distribution of Respondents by Education Level at the Puskesmas Poasia 2017**

Level of education	n	%
SD	7	26,92
SMP	4	15,39
SMA	11	42,31
SPK	1	3,84
S1	3	11,54
<b>Total</b>	<b>36</b>	<b>100,0</b>

Data Source: Primary Data in 2013

Based on Table 3 above, most of the respondents have a high school education level, namely 11 respondents (42.31%), and the least are respondents with SPK education level, namely 1 respondent (3.84%).

### Long Suffering DM

The distribution of respondents according to the duration of suffering from DM in this study can be seen in Table 4

**Table 4.**  
**Distribution of Respondents Based on duration of suffering from DM at the Poasia Health Center in 2017**

Age	n	%
0 - 5 Years	13	50
6 - 10 Years	8	30,77
11 - 15 Years	4	15,39
16 - 20 Years	1	3,84
<b>Total</b>	<b>36</b>	<b>100,0</b>

Data Source: Primary Data in 2017

Based on Table 4 above, most of the respondents suffered from DM for 0–5 years, namely 13 respondents (50%), and 1 respondent (3.84%) who suffered from DM for 16 – 20 years.

### Depression Level

The distribution of respondents' depression levels in this study can be seen in Table 5

**Table 5.**  
**Distribution of Respondents by Level of Depression at the Poasia Health Center in 2017**

	Criteria	Frequency (n=26)	Presentation (%)
<b>Depression</b>	Light	20	76,92
	Medium - Heavy	6	23,08
<b>Emotional Burden</b>	Light	16	61,54
	Medium - Heavy	10	38,46
<b>Physician - related Distres</b>	Light	22	84,61
	Medium - Heavy	4	15,39
<b>Regimen - related Distres</b>	Light	19	73,07
	Medium - Heavy	7	26,93
<b>Interpersonal Distress</b>	Light	20	
	Medium - Heavy	6	

Table 5 above can be seen that from 26 respondents there were 20 respondents (76.92%) who experienced mild depression and 6 respondents (23.08%) who experienced moderate to severe depression. When viewed from each category, it can be seen that Emotional Burden results are 16 respondents (61.54%) who experience mild disorders and 10 respondents (38.46%) who experience moderate-severe disorders. In the Physician-Related Distress category, there were 22 respondents (84.61%) who had mild disturbances and 4 respondents (15.39%) who had moderate-severe disorders. In the Regimen-related Distress category, there were 19 respondents (73.07%) who experienced mild disorders and 7 respondents (26.93%) who experienced moderate-severe disorders. Meanwhile, for the Interpersonal Distress category, there were 20 (76.92%) respondents who experienced mild disturbances and 6 respondents (23.08%) experienced moderate-severe disorders.

#### GDS Value

Range (mg/dl)	Frequency (n=26)	Presentation (%)
150-199	4	16
200-249	15	58
250-300	7	26
<b>TOTAL</b>	<b>26</b>	<b>100</b>

## DISCUSSION

The researchers' findings revealed that at age 26, the prevalence of depression was 26 percent higher than the national average. Patients with type II diabetes (DM type II) who are mildly depressed are still common, as many as 20 respondents (76.92%) while 6

respondents (23.08%) experienced moderate to severe depression. This is in line with the research conducted by (7) in a study conducted at the Surakarta Hospital which showed that patients with mild depression were 51 (58.6%), moderate depression were 41.4%, namely 38 people and major depression as much as 0%.

Research conducted by Degmeci (8) found that the prevalence of depression in patients with type II diabetes mellitus was 36.1% (moderate, moderate, and severe) of the sample. Then, (9) in their research in Taiwan showed that the prevalence of depression in type II diabetes mellitus in Taiwan was lower than in western countries. This indicates the influence of differences in the customs and culture of each country. According to research (10) conducted in Palestine that most patients suffering from depression are women, have multiple illnesses, are have low education, low adherence to treatment, and individuals whose BMI values are abnormal. Furthermore, based on the results of the multivariate analysis he did, only low education, unemployment, and having many diseases, and low levels of adherence to treatment had a significant value compared to the others (10)

Complications of type II diabetes mellitus are closely related to depression and vice versa. Erectile dysfunction is one of the strongest predictors of complications of type II diabetes mellitus with depression according to (4,11).

According to Feinstein (2014) in his research, the general population who have risk factors for depression in diabetes mellitus are women, childbirth status, economic problems, and have low activity levels. (12)



## CONCLUSION

According to the findings of this study, the majority of respondents with blood sugar levels over the usual range experience a modest emotional load across all categories. This may be a reason for community nurses to be concerned about the psychological well-being of patients with diabetes mellitus. Additionally, a variety of treatments can be implemented to alleviate the patient's anxiety and load.

## REFERENCES

1. WHO. Diabetes [Internet]. 2021. Available from: <https://www.who.int/news-room/fact-sheets/detail/diabetes>
2. Kusniyah Y, Nursiswati RU. Hubungan tingkat self care dengan tingkat hba1c pada klien diabetes melitus tipe 2 di poliklinik endokrin RSUP DR. Hasan Sadikin Bandung. 2010;
3. Mathew CS, Dominic M, Isaac R, Jacob JJ. Prevalence of depression in consecutive patients with type 2 diabetes mellitus of 5-year duration and its impact on glycemic control. *Indian J Endocrinol Metab.* 2012 Sep;16(5):764–8.
4. Holt RIG, de Groot M, Golden SH. Diabetes and depression. *Curr Diab Rep* [Internet]. 2014 Jun;14(6):491. Available from: <https://pubmed.ncbi.nlm.nih.gov/24743941>
5. Bădescu S V, Tătaru C, Kobylinska L, Georgescu EL, Zăhian DM, Zăgrean AM, et al. The association between Diabetes mellitus and Depression. *J Med Life.* 2016;9(2):120–5.
6. Darwish L, Beroncal E, Sison MV, Swardfager W. Depression in people with type 2 diabetes: Current perspectives. *Diabetes, Metab Syndr Obes Targets Ther.* 2018;11:333–43.
7. Safitri D, Sudaryanto A, Ambarwati R. Hubungan Antara Tingkat Depresi Dengan Kualitas Hidup Pada Pasien Diabetes Melitus Tipe Ii Di Rumah Sakit Islam Surakarta. Universitas Muhammadiyah Surakarta; 2013.
8. Degmečić D, Bačun T, Kovač V, Mioč J, Horvat J, Včev A. Depression, anxiety and cognitive dysfunction in patients with type 2 diabetes mellitus—a study of adult patients with type 2 diabetes mellitus in Osijek, Croatia. *Coll Antropol.* 2014;38(2):711–6.
9. Huang C-J, Lin C-H, Lee M-H, Chang K-P, Chiu H-C. Prevalence and incidence of diagnosed depression disorders in patients with diabetes: a national population-based cohort study. *Gen Hosp Psychiatry.* 2012;34(3):242–8.
10. Sa'ed HZ, Al-Jabi SW, Sweileh WM, Arandi DA, Dabeek SA, Esawi HH, et al. Relationship of treatment satisfaction to health-related quality of life among Palestinian patients with type 2 diabetes mellitus: Findings from a cross-sectional study. *J Clin Transl Endocrinol.* 2015;2(2):66–71.
11. Kalra S, Jena BN, Yeravdekar R. Emotional and Psychological Needs of People with Diabetes.

- Indian J Endocrinol Metab  
[Internet]. 2018;22(5):696–704.  
Available from:  
<https://pubmed.ncbi.nlm.nih.gov/30294583>
12. Davidson KW, Barry MJ,

Mangione CM, Cabana M, Caughey AB, Davis EM, et al. Screening for Prediabetes and Type 2 Diabetes: US Preventive Services Task Force Recommendation Statement. JAMA - J Am Med Assoc. 2021;326(8):736–43.