



# JNK

JURNAL NERS DAN KEBIDANAN  
(JOURNAL OF NERS AND MIDWIFERY)

<http://jnk.phb.ac.id/index.php/jnk>



## Factor Associated with Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus



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### Article Information

#### History Article:

Received, 12/08/2020

Accepted, 11/11/2020

Published, 05/12/2020

#### Keywords:

Diabetes, burnout, syndrome

### Abstract

Diabetes mellitus is a metabolic disease that is often found in Indonesia and the number of sufferers is increasing every time. Management of therapy patients with type 2 diabetes mellitus consists of five steps that require compliance and discipline to maintain stable blood sugar levels. This condition causes burnout by diabetes mellitus patients. The purpose of this study was to identify factors associated with diabetes mellitus among type 2 Diabetes mellitus. This study used a correlational design with a cross-sectional approach with a sample size of 89 respondents who were taken by purposive sampling. Based on the results of the study it was found that most Diabetes mellitus patients were 56-60 years old, female, and the education background was junior high school level. The level of income of majority of the respondents was under 1 million rupiahs and suffered from Diabetes mellitus for 1-10 years. The result found almost the entire patient consumed diabetes drugs. Most of the respondents had a severe category in diabetes burnout syndrome. The research found that there was a correlation between age, gender educational background, level of income, duration suffering DM, consumption of diabetes drugs with diabetes burnout syndrome among type 2 Diabetes Mellitus. Health workers must provide education about the importance of preventing the incidence of burnout syndrome and taking therapeutic management for patients who already had diabetes burnout syndrome.

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DOI: 10.26699/jnk.v7i3.ART.p362–367

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P-ISSN : 2355-052X

E-ISSN : 2548-3811

## INTRODUCTION

Diabetes mellitus (DM) is a disease commonly known as diabetes; this disease can be experienced by various ages ranging from young to old disease. Diabetes Mellitus is a metabolic disease characterized by high blood sugar levels (hyperglycemia) caused by impaired insulin secretion, insulin resistance, or both. Diabetes Mellitus is also called the Silent Killer because it does not cause symptoms (asymptomatic) causing vascular damage before the disease is detected (Gibney et al., 2009). Insulin resistance and damage to pancreatic beta cells is a common condition pathogenesis of diabetes. Patients with prediabetes are 4-9% changed become diabetic every year (Bock et al, 2012) The prevalence of diabetes continues to increase rapidly worldwide and an estimated > 470 million people will have prediabetes by 2030 (Tabák et al, 2012).

The World Health Organization (WHO, 2013) as a world health agency stated that from the results of a survey, Indonesia currently has 8.4 million people with DM, and this number is expected to continue to increase to 21.3 million in 2030. Basic Health Research (RisKesDas) 2013 shows that in 2013 there were 2.4% of DM cases in Indonesia. Based on a preliminary study conducted in the working area of the Puskemas Pare, Kediri district, data were obtained from 295 people with Diabetes Mellitus Type II. From the results of preliminary studies, 7 out of 10 respondents showed symptoms of diabetes burnout syndrome.

Patients with Diabetes Mellitus have to do a series of procedures that require high compliance and discipline regarding medical management. Adherence in carrying out medical procedures is the key to maintaining stable blood sugar levels. In the course of treatment, patients with Type 2 Diabetes Mellitus sometimes feel bored, anxious, and experience boredom in carrying out the therapy. Diabetes mellitus patients will experience saturation during treatment. This is known as Diabetes burnout syndrome. Patients complain of feeling depressed, emotional feelings such as anger, anxiety, and depression (Nuari, 2020). The impact of patients with diabetes burnout syndrome can affect patients in the management of diabetes mellitus diseases.

Diabetes patients who experience burnout can experience stress which can affect their blood sugar levels and lead to non-compliance with therapy management (Nuari et al, 2018). This can affect

the stability of blood sugar levels. Based on the background, The purpose of this study was to identify factors associated with diabetes mellitus among type 2 Diabetes mellitus. among type 2 Diabetes Mellitus.

## METHODS

The research design was correlational with a cross-sectional approach. The research was located in the working area of Puskesmas Pare, Kediri District. The population in this study was all 295 patients with diabetes mellitus type 2. The respondents were taken using purposive sampling method, with a sample size of 89 respondents. The instrument in this study was diabetes burnout syndrome using a modified questionnaire from the Shirom – Melamed Burnout Questionnaire. The data analysis was performed on the results of the study using univariate and bivariate tests. The univariate test was used to determine the frequency distribution of the results of the study, while the bivariate test used the Spearman Rho test and Pearson Test with a significance level of 0.05.

## RESULTS

Based on the results showed that the frequency distribution of respondent based on gender, age, level education, duration of suffering from diabetes mellitus, level of income, consumption of diabetes drugs and diabetes burnout syndrome among type 2 Diabetes Mellitus.

**Table 1 Participant Characteristics (Socio economic and demographic)**

Variable	f	%
<b>Age</b>		
46-50 years old	16	18
51-55 years old	15	16,9
56-60 years old	27	30,3
61-65 years old	17	19,1
66-70 years old	14	15,7
<b>Gender</b>		
Male	47	52,8
Female	42	47,2
<b>Education Level</b>		
Elementery	27	30,3
Yunior High School	34	38,3
Senior High School	19	21,3
Higher education	9	10,3

<b>Level of Income Every Month</b>		
Under 1 million rupiahs	46	51,7
1-2 million rupiahs	19	21,3
2-3 million rupiahs	9	10,1
More than 4 million rupiahs	15	16,9
<b>Duration Suffering DM</b>		
0-5 years	40	44,9
6-10 years	40	44,9
11-15 years	9	10,1
<b>Consumption Of Diabetes Drugs</b>		
Yes	71	79,8
No	18	20,2
<b>Diabetes Burnout Syndrome</b>		
Severe	34	38
Moderate	32	36
Mild	23	25
		<b>N=89</b>

**Table 2 Correlation between Age And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

<b>Age</b>	<b>Diabetes Burnout Syndrome</b>		
	<b>Severe</b>	<b>Moderate</b>	<b>Mild</b>
46-50 years old	9	5	2
51-55 years old	7	6	2
56-60 years old	12	10	5
61-65 years old	5	4	8
66-70 years old	1	7	6
<b>Total</b>	<b>34</b>	<b>32</b>	<b>23</b>
<b>P value: 0,000</b>			

Based on the results of the statistical test analysis, it was found that there was a significant correlation between the age of Diabetes Mellitus patients and diabetes burnout syndrome among Type 2 Diabetes Mellitus

**Table 3 Correlation between Gender And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

<b>Age</b>	<b>Diabetes Burnout Syndrome</b>		
	<b>Severe</b>	<b>Moderate</b>	<b>Mild</b>
Male	13	18	16
Female	21	14	
<b>Total</b>	<b>34</b>	<b>32</b>	<b>23</b>
<b>P value: 0,017</b>			

Based on the results of statistical test analysis, it was found that there was a significant correlation between the sex of Diabetes Mellitus patients and diabetes burnout syndrome Among Type 2 Diabetes Mellitus.

**Table 4 Correlation between Education Level And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

<b>Educational Level</b>	<b>Diabetes Burnout Syndrome</b>		
	<b>Severe</b>	<b>Moderate</b>	<b>Mild</b>
Elementary	13	11	3
Yunior High School	15	13	6
Senior High School	4	8	7
Higher education	2	0	7
<b>Total</b>	<b>34</b>	<b>32</b>	<b>23</b>
<b>P value: 0,001</b>			

Based on the results of statistical test analysis, it was found that there was a significant correlation between education level and diabetes burnout syndrome among Type 2 Diabetes Mellitus.

**Table 5 Correlation between Level of Income Every Month And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

<b>Income Level</b>	<b>Diabetes Burnout Syndrome</b>		
	<b>Severe</b>	<b>Moderate</b>	<b>Mild</b>
0-1 million rupiahs	20	17	9
1-2 million rupiahs	8	9	2
2-3 million rupiahs	1	5	3
More than 4 million rupiahs	5	1	9
<b>Total</b>	<b>34</b>	<b>32</b>	<b>23</b>
<b>P value: 0,044</b>			

Based on the results of statistical test analysis, it was found that there was a significant correlation between levels of income every month and diabetes burnout syndrome among Type 2 Diabetes Mellitus.

**Table 6 Correlation between Duration Suffering Diabetes Mellitus And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

Log Suffering DM	Diabetes Burnout Syndrome		
	Severe	Moderate	Mild
0-5 years	27	11	2
6-10 years	7	21	12
11-15 years	0	0	9
<b>Total</b>	<b>34</b>	<b>32</b>	<b>23</b>
<b>P value: 0,000</b>			

Based on the results of statistical test analysis, it was found that there was a significant correlation between the suffering duration of Diabetes Mellitus and diabetes burnout syndrome among Type 2 Diabetes Mellitus.

**Table 7 Correlation between Consumption Of Diabetes Drugs And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

Diabetes Drag Consumption	Diabetes Burnout Syndrome		
	Severe	Moderate	Mild
Yes	16	32	23
No	18	0	0
<b>Total</b>	<b>34</b>	<b>32</b>	<b>23</b>
<b>P value: 0,000</b>			

Based on the results of statistical test analysis, it was found that there was a significant correlation between consumption of diabetes drug and diabetes burnout syndrome among Type 2 Diabetes Mellitus.

## DISCUSSION

### The Correlation of Age And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus

Based on the results of the study it was found that the majority of respondents who had burnout syndrome aged 56-60 years. The results of data analysis showed that there was a significant correlation between the age of Diabetes Mellitus

patients and diabetes burnout syndrome among type 2 Diabetes Mellitus.

Patients with diabetes mellitus are mostly found at an older age than younger patients (Kalyani et al, 2013). This is in accordance with Noventi's research (2019) which states that ages 35 to more than 65 years will have a risk of developing Diabetes mellitus. The results of this study showed that respondents who experience burnout are in the severe category in 56-60 years, where at that age the level of experience with the problem has matured so that there is burnout which is also driven by other factors such as economic factors, retirement from work and other external factors can affect the saturation of diabetes mellitus treatment.

### The Correlation of Gender And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus

Based on the results of the study found the majority of respondents who had burnout in the severe category was female. The analysis showed that there was a correlation between gender and diabetes burnout syndrome among type 2 Diabetes Mellitus. Many research results showed that the incidence of DM in women was more than men. Several risk factors such as obesity, lack of exercise, age and a history of diabetes during pregnancy cause a high incidence of diabetes in women (Nuari, NA & Kartikasari, M, 2015). According research by Gautam et al, (2009) on a cross sectional study of the quality of life of type DM patients 2 in India, most of the respondents are female.

### The Correlation of Education Level And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus

Based on the result, the majority of respondents who had severe burnout syndrome were had junior high school education background level. According to Azwar (2003) in Bangun (2009) argued that the level of education then someone will behave more positively. Knowledge is a very important behavioral practice. If good patient knowledge is expected able to form positive behavior for avoid burnout of the diabetes mellitus treatment.

### **The Correlation of Level of Income Every Month And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

Based on the result, the majority of respondents who had severe burnout syndrome were in the level of income under 1 million rupiahs every month. Diabetes Mellitus patients always control blood sugar continuously; it required an adequate source of income so that the therapy could be fulfilled (Nuari NA, 2018) Selection of activities and drugs that diabetes patients should do Mellitus must be adjusted to the source of his income. Diabetes mellitus patients with a low income cause burnout in the treatment of diabetes mellitus ( Nuari NA, 2017).

### **The correlation of Duration Suffering Diabetes Mellitus And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

Based on the results of the study found that the majority of duration suffering diabetes mellitus 1-10 years. The results of data analysis showed there was a significant correlation between duration suffering Diabetes Mellitus patients and diabetes burnout syndrome among type 2 Diabetes Mellitus. The length of time suffering from diabetes affects the level of adaptation Diabetes Mellitus patients have in carrying out treatment for their disease (Nuari, 2016).

### **Correlation between Consumption Of Diabetes Drug And Diabetes Burnout Syndrome Among Type 2 Diabetes Mellitus**

Based on the results of the study found that almost all of the respondents consumed Diabetes drugs. The results of the data analysis showed there was a significant correlation between consumption of Diabetes drugs and diabetes burnout syndrome among type 2 Diabetes Mellitus. Patients who suffered from DM disease for a long time will tend to experience burnout in taking medication. Burnout in these patients can be caused by the necessity and compliance of patients in taking medication and diet therapy to control their blood sugar levels.

### **CONCLUSION**

Based on the results of the study found that most of the Diabetes mellitus patients were 56-60 years old, female, had junior high schooleducation background level. The majority respondent hadthe

level of income under 1 million rupiahs. There were many patients suffered from Diabetes mellitus for 1-10 years. The result found almost the patient consumed diabetes drugs. Most of the respondent had severe category in diabetes burnout syndrome. The study findings found there was a correlation between ages, gender educational background, level of income, duration suffering DM, consumption of diabetes drugs and diabetes burnout syndrome among type 2 Diabetes Mellitus.

### **SUGGESTION**

Patients with diabetes burnout syndrome need support from family and health professionals. Health workers must provide education about the importance of preventing the incidence of burnout syndrome and taking therapeutic management for patients who already have diabetes burnout syndrome. Families and nurses are expected to support diabetes mellitus patients to reduce patient burn out in managing and treating their diseases.

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