



## RELATIONSHIP BETWEEN PATIENT FACTORS AND PSYCHOLOGICAL WELL-BEING IN TYPE 2 DIABETES MELLITUS PATIENTS

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Original Research

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### ABSTRACT

**Introduction:** Psychological well-being is an individual's feelings about everything from trauma to acceptance of life. Diabetes mellitus is a chronic disease that is a major problem in the world of health and a disease that has the most consequences on physical, psychological, and social. Every type 2 diabetes mellitus patient has a different psychological condition, some have high psychological well-being and some have low psychological well-being. This study aimed to analyze the relationship between patient factors and psychological well-being in type 2 diabetes mellitus patients at the Tikung Lamongan Health Center UPT. **Methods:** This research method is quantitative with a correlational research design. The sampling technique used consecutive sampling, samples were taken on March 24 - April 2, 2022 at the Tikung Lamongan Health Center UPT with a total of 57 respondents. The instruments used were the SPWB Ryff questionnaire (1995), demographic data, and religiosity questionnaire compiled by Kartika (2017), while the data analysis used the chi-square test from SPSS. **Results:** The results showed no relationship between patient factors based on age, gender, education, and psychological well-being in patients with type 2 diabetes mellitus because it had an Asymp. Sig. (2-sided) value > 0.05, while patient factors based on religiosity were related to psychological well-being because it had an Asymp. Sig. (2-sided) value of 0.000. **Conclusions:** This study is expected to increase information and knowledge about efforts to prevent and control type 2 diabetes mellitus so that the psychological well-being that is owned increases.

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### INTRODUCTION

Psychological well-being (PWB) is an individual's feelings about everything from trauma to acceptance of life. Diabetes mellitus is a chronic disease that is a major problem in the world of health and a disease that has the most consequences of physical, psychological, and social. Every patient with type 2 diabetes mellitus has a different psychological condition, some have high psychological well-being and some have low psychological well-being (Fadillah et al., 2017).

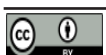
Diabetes Attitudes, Hopes, and Needs (DAWN) Study The world's largest international psychosocial program conducted a study of diabetes patients involving 13 countries with a total of 5,000 diabetes patients and 3,000 diabetes management professionals. The results of the DAWN study showed that 41% of diabetes patients had lower psychological well-being where Psychological well-being. In contrast, psychological well-being is one of the important goals of caring for diabetes patients (Utami, 2017).

The number of people with diabetes mellitus as seen from glucose examinations has increased, namely from 6.9% in 2013 to 8.5% in 2018. These results state that only around 25% of people with diabetes mellitus understand that the individual has diabetes. Among the

types of diabetes that have the largest number is type 2 diabetes mellitus with a percentage of 90% - 95% of all diabetes sufferers. In East Java, the number of people with diabetes mellitus is in fifth place with a prevalence of 2.6% (Ministry of Health, 2020). Among the types of diabetes that have the largest number is type 2 diabetes mellitus with a percentage of 90% - 95% of all diabetes sufferers (Fadillah et al., 2017). The total number of diabetes mellitus survivors in Lamongan Regency itself is 21,992 people with 33 health centers spread across the Lamongan Regency area and diabetes mellitus sufferers who have received health services according to standards are 21,633 people with a prevalence of 98.4% (East Java Provincial Health Office., 2020). In the working area of the Tikung Health Center UPT, the number of diabetes sufferers was 859 people in 2021.

The factors that influence PWB consist of two types, namely internal and external factors. Internal factors consist of age, gender, religiosity, and education, while external factors consist of culture and social support (Tanjung, 2018).

Coping strategies are one way that aims to solve every problem or effort to overcome stress. Research conducted by Hoyer, 2003 shows that coping



strategies are associated with high well-being. Coping strategies can cause individuals to have a sense of optimism. Optimism has a very strong relationship with psychological well-being so it has an important role in health (Angraeni, T., & Cahyani, 2012).

Based on these problems, researchers are interested in researching the relationship between patient factors and psychological well-being in type 2 diabetes mellitus patients at the Tikung Lamongan Health Center UPT.

## MATERIALS AND METHODS

This study is a quantitative study using a correlational research design. This study was conducted at the Polindes or Pustu Poskesdes in the working area of the Tikung Lamongan Health Center UPT. This study was conducted from March to April 2022. The population in this study were all type 2 diabetes mellitus patients in the Working Area of the Tikung Lamongan Health Center UPT with a total of 859 sufferers. The sampling technique used by the researcher was consecutive sampling so the sample in this study amounted to 57 respondents who met the inclusion criteria. The inclusion criteria include some type 2 diabetes mellitus patients

who visit the Polindes in the working area of the Tikung Lamongan Health Center UPT from March 24, 2022 - April 2, 2022, are willing to be respondents, patients can communicate well, patients aged  $\geq 18$  years. The variables in this study are patient factors (independent variables) and psychological well-being (dependent variables). The instrument used for data collection in this study was a closed questionnaire. The independent variable instrument is divided into 2, namely for age, gender, and education using demographic data, while religiosity uses a questionnaire sheet according to the concept of Glock and Stark (1962) compiled by Kartika, 2017 This questionnaire consists of 19 questions covering five dimensions, namely beliefs, religious practices, experiences, intellectuals, and consequences. The questionnaire consists of 10 favorable questions and 10 unfavorable questions (Hanim, 2018). The instrument to determine the level of psychological well-being uses the Psychological Well-Being Scale (PSWB) according to Ryff's theory (1995) modified by Astutik (2019) with a total of 42 questions and consists of favorable and unfavorable questions. This study has passed the ethical test with No. 2472-KEPK Faculty of Nursing, Airlangga University. Data were analyzed using SPSS software.

## RESULTS

The distribution of research results will be presented in the form of a table that provides a general overview of patient factors (age, gender, education, and religiosity), psychological well-being, and the relationship between patient factors (age, gender, education, and religiosity) and psychological well-being.

**Table 1.** Condition of patient factors based on age, gender, education, and religiosity at UPT Puskesmas Tikung Lamongan in 2022 (n=57)

Age (Years)	Frequency (f)	Percentage (%)
18-39	2	3.5
40-60	33	57.9
>60	22	38.6
Gender	Frequency (f)	Percentage (%)
Male	16	28.1
Female	41	71.9
Education	Frequency (f)	Percentage (%)
Primary School	41	71.9
Junior High School	12	21.1
High School	4	7.0
College	0	0.0
Religiosity	Frequency (f)	Percentage (%)
Very Low	0	0.0
Low	2	3.5
Medium	7	12.3
High	41	71.9
Very High	7	12.3
<b>Total</b>	<b>57</b>	<b>100</b>

Based on Table 1, the majority of respondents are aged 40-60 years as many as 33 people (57.9%), and the dominance of female respondents is many as 41 people (71.9). The majority of respondents' education is Primary School education as many as 41 people (71.9%), and the majority of religiosity is in the High category as many as 41 people (71.9%).

**Table 2.** General description of psychological well-being in patients with type 2 diabetes mellitus at UPT Puskesmas Tikung Lamongan in 2022 (n=57)

Psychological Well-Being	Frequency (F)	Percentage (%)
Less	3	5.3
Medium	6	10.5
High	48	84.2
<b>Total</b>	<b>57</b>	<b>100</b>

Based on Table 2 above, it can be seen that out of 57 respondents, almost all of the respondents have high psychological well-being, namely 48 people (84.2%), and very few respondents have low psychological well-being, namely 3 people (5.3%).

**Table 3.** Relationship between patient factors based on age and psychological well-being in patients with type 2 diabetes mellitus at UPT Puskesmas Tikung Lamongan in 2022 (n=57)

Age	Psychological Well-Being						Total		P-Value
	Low		Medium		High				
	n	%	n	%	n	%	n	%	
18-39	0	0	0	0.0	2	3.5	2	3.5	0.949
40-60	1	1.8	3	5.3	29	50.9	33	57.9	
>60	1	1.8	3	5.3	18	31.6	22	38.6	
Total	2	3.5	6	6	49	86.0	57	100	

Based on Table 3, the age of 40-60 years has a high psychological well-being category. The results of the Chi-Square Test from SPSS on the relationship between patient factors based on age and psychological well-being in type 2 diabetes mellitus patients at the Tikung Lamongan Health Center UPT produced an Asymp. Sig. (2-sided) value of 0.949 so that decision making based on the Asymp. Sig. (2-sided) value of patient factors based on age has no relationship with psychological well-being because it has an Asymp. Sig. (2-sided) value > 0.05

**Table 4.** Relationship between patient factors based on gender and psychological well-being in patients with type 2 diabetes mellitus at UPT Puskesmas Tikung Lamongan in 2022 (n=57)

Gender	Psychological Well-Being						Total		P-Value
	Low		Medium		High				
	n	%	n	%	n	%	n	%	
Male	2	3.5	2	3.5	12	21.1	16	28.1	0.284
Female	0	0.0	4	7.0	37	64.9	41	71.9	
Total	2	3.5	6	10.5	49	86.0	57	100	

Based on Table 4, the female gender has high psychological well-being. The results of the Chi-Square Test from SPSS on the relationship between patient factors based on gender and psychological well-being in type 2 diabetes mellitus patients at the Tikung Lamongan Health Center UPT produced an Asymp. Sig. (2-sided) value of 0.284 so that decision making based on the Asymp. Sig. (2-sided) value of patient factors based on gender has no relationship with psychological well-being because it has an Asymp. Sig. (2-sided) value > 0.05.

**Table 5.** Relationship between patient factors based on education and psychological well-being in patients with Type 2 diabetes mellitus at the Tikung Lamongan Health Center UPT in 2022 (n=57)

Education	Psychological Well-Being						Total		P-Value
	Low		Medium		High				
	n	%	n	%	n	%	n	%	
Primary School	2	3.5	6	10.5	33	57.9	41	71.9	0.551
Junior High School	0	0.0	0	0.0	12	21.1	12	21.1	
High School	0	0.0	0	0.0	4	7.0	4	7.0	
College	0	0.0	0	0.0	0	0.0	0	0.0	
Total	2	3.5	6	10.5	49	86.0	57	100	

Based on Table 5, respondents who have elementary school education have high psychological well-being. The results of the Chi-Square Test from SPSS on the relationship between patient factors based on education with psychological well-being in type 2 diabetes mellitus patients at the Tikung Lamongan Health Center UPT produced an Asymp. Sig. (2-sided) value of 0.551 so that decision making based on the Asymp. Sig. (2-sided) value of patient factors based on education has no relationship with psychological well-being because it has an Asymp. Sig. (2-sided) value > 0.05.

**Table 6.** Relationship between patient factors based on religiosity and psychological well-being in patients with Type 2 diabetes mellitus at the Tikung Lamongan Health Center UPT in 2022 (n=57)

Religiosity	Psychological Well-Being						Total		P-Value
	Low		Medium		High				
	n	%	n	%	n	%	n	%	
Very Low	0	0.0	0	0.0	0	0.0	0	0.0	0.000
Low	2	3.5	0	0.0	0	0.0	2	3.5	
Medium	0	0.0	4	7.0	3	5.3	7	12.3	
High	1	1.8	2	3.5	38	66.7	41	71.9	
Very High	0	0.0	0	0.0	7	12.3	7	12.3	
Total	3	5.3	6	10.5	48	84.2	57	100	

Based on Table 6, respondents with high religiosity have high psychological well-being. The results of the Chi-Square Test from SPSS on the relationship between patient factors based on religiosity and psychological well-being in type 2 diabetes mellitus patients at the Tikung Lamongan Health Center UPT produced an Asymp. Sig. (2-sided) value of 0.000 so that decision making based on the Asymp. Sig. (2-sided) value of patient factors based on education has a relationship with psychological well-being because it has an Asymp. Sig. (2-sided) value <0.05.

## DISCUSSION

### Patient Factors

#### Patient Factors Based On Age

Based on the results of the study, most respondents were aged 40-60 years. The researcher assumes that most respondents who suffer from DM are middle-aged or are in the age range of 40-60 years because at that age many people are busy with their activities so their health is less controlled which causes someone to get tired easily due to decreased body function. This will have an impact on the risk of being attacked by diseases such as type 2 diabetes mellitus.

The adult age range according to Elizabeth B. Hurlock is divided into three stages, namely early adulthood, middle adulthood, and late adulthood. Early adulthood begins at the age of 18 years to approximately the age of 40 years when physical and psychological changes have reached maturity. Middle adulthood, starting at the age of 40 years to the age of 60 years, this age range is marked by a decline in physical and psychological abilities that are visible in everyone. Late adulthood, This period begins when someone reaches the age of 60 years until death, when physical and psychological abilities are felt to decline more rapidly in everyone.

According to (Widyasari, 2017) humans generally experience physiological changes that drastically decrease rapidly after the age of 40 years. Diabetes often appears after a person enters a vulnerable age, especially after the age of 45 years in those who are overweight, so that their bodies are no longer sensitive to insulin. A person  $\geq 45$  years old has an increased risk of developing DM and glucose intolerance caused by degenerative factors, namely decreased body function, especially the ability of cells to produce insulin for glucose metabolism. The results of this study are in line with the research conducted by (Chakravorty, 2020) (Kurnia, TS & Setyorogo, 2013) which showed that the age group <45 years is the age group that is less at risk of suffering from Type 2 DM. The risk in the age group <45 years is 72 percent lower than in the age group  $\geq 45$  years.

#### Patient Factors Based On Gender

Based on the results of the study, most of the respondents were female. According to the researcher's assumption, females are more at risk of suffering from diabetes mellitus because of poor diet and women will experience menopause which later causes body fat to easily accumulate due to hormonal processes.

According to Trisnawati SK & Setyorogo S (2013), females tend to be more at risk of experiencing diabetes mellitus related to a large body mass index and menstrual cycle syndrome and during menopause which results in easy accumulation of fat which inhibits the transport of glucose into cells. The results of the analysis conducted by (Windani et al., 2019) showed that the number of respondents with type 2 DM was greater, namely females (53.6%) and men (46.4%). This is in line with research conducted by Yusra (2011) and Wu (2007) showing that the incidence of DM in women is higher than in men.

#### Patient Factors Based On Education

Based on the results of the study, most respondents had an elementary school education. Researchers assume from the data that the higher a person's education, the higher their knowledge in preventing and recognizing symptoms of their illness so that they are at lower risk of contracting the disease, and someone with a higher education is more aware of maintaining their health. Irawan (2010) said that people with a higher level of education will be more able to accept themselves as sick if they experience symptoms related to disease compared to groups of people with lower education because groups of people with higher education will usually have more health knowledge and have a high awareness in maintaining their health.

This is in line with research (Isnaini & Ratnasari, 2018) with the majority of respondents having graduated from elementary school totaling 31 people (58.4%) and the lowest being college totaling 4 people (7.5%), the study found that people with a higher level of education

tend not to get type two Diabetes Mellitus because they usually have a lot of health knowledge.

### **Patient Factors Based On Education**

Based on the results of the study above, most respondents have high religiosity. Researchers assume that religiosity has a significant impact on a person's physical and psychological condition, because the higher the religiosity, the higher the DM sufferer accepts their life.

According to (Fadillah et al., 2017) Type 2 diabetes mellitus sufferers who have high religiosity will accept everything that happens to them and will not blame anyone and anything that happens to them. Type 2 diabetes mellitus sufferers believe and realize that the disease is God's will which will bring wisdom, so that they have a calmer emotional condition, do not complain and accept whatever happens to them without having to blame themselves, can still be active in daily activities, can still be independent and not always depend on others or have high psychological well-being. This is in line with research (Putri, 2017) which shows that most respondents have a very high religiosity category, namely 32 people (45.1%), followed by high religiosity of 24 people (33.8%), moderate religiosity of 15 people (21.1%), and no respondents with low and very low religiosity categories.

### **Psychological Well-being**

Based on the results of the study above, almost all respondents have high psychological well-being. The researcher assumes that most diabetes patients have high psychological well-being because the sufferers can accept the diagnosis that they have diabetes and can achieve their lives and can accept the difficulties caused by their diabetes.

Ryff (1989) stated that psychological well-being is a psychological condition achieved by individuals where individuals can accept all their shortcomings and advantages (self-acceptance), be independent (autonomy), be able to build positive relationships with others (positive relations with others), can master their environment in the sense of being able to modify the environment to suit their wishes (environmental mastery), have a purpose in life (purpose in life), and continue to develop their personality (personal growth). In line with the research (Amani & Coralia, 2017) with respondents of 77 patients with Type 2 diabetes mellitus at Soreang Regional Hospital, it was found that 62.34% had high psychological well-being, which means that most patients feel that they are still functioning in accepting the weaknesses and difficulties faced as a result of being affected by diabetes mellitus and can achieve their life goals by developing their potential. Meanwhile, 37.66% have low psychological well-being, meaning that there are still patients who feel that their lives are not useful enough so it is difficult to accept the weaknesses and difficulties they face as patients with diabetes mellitus and find it difficult to achieve their life goals because they cannot find their strengths. This

means that most patients live their lives functioning highly and can recognize their respective abilities and potentials so that they can achieve their goals in life.

### **Relationship between Patient Factors and Psychological Well-being**

Based on the results of research on the relationship between patient factors based on education with psychological well-being in type 2 diabetes mellitus patients at the Tikung Health Center UPT Lamongan, it was found that patient factors based on education had no relationship with psychological well-being because they had an Asymp. Sig. (2-sided) value  $> 0.05$ . Researchers assume that education has no relationship with psychological well-being because someone who has high or low psychological is influenced by the individual himself and is subjective depending on his inner experience.

Ryff (in Keyes, 2005) stated that psychological well-being in a person is closely related to what is in a person and is subjective without being influenced by something outside a person. This is in line with research (Fadillah et al., 2017) from the results of the chi-square test obtained a sig value of 0.448 ( $p > 0.05$ ) which means that there is no relationship between psychological well-being and education in diabetes mellitus patients.

### **Relationship between patient factors based on religiosity and psychological well-being**

Based on the results of research on the relationship between patient factors based on religiosity with psychological well-being in patients with type 2 diabetes mellitus at the Tikung Health Center UPT Lamongan, it was found that patient factors based on education had a relationship with psychological well-being because they had an Asymp. Sig. (2-sided)  $< 0.05$ . The researcher assumed that respondents who had high religiosity would also have high psychological, this was because a person's psychological well-being depended on the individual's inner experience and a person's religiosity was also influenced by the commitment of each individual.

According to Glock and Stark (in Widayat and Nuandri, 2014) stated that religiosity is a religious commitment, which is used as a religious truth, which is carried out by a person as part of the beliefs, emotions, and experiences that a person realizes are included in their religion, and how a person lives and is influenced by the religion they adhere to. Research on psychology and religiosity conducted by Ellison and Levin found a positive relationship between religiosity and psychological well-being. This is in line with research (Fadillah et al., 2017) that there is a significant relationship between religiosity and psychological well-being in patients with type 2 diabetes mellitus. The higher the religiosity, the higher the psychological well-being of patients with type 2 diabetes mellitus. Conversely, the lower the religiosity, the lower the psychological well-being of patients with type 2 diabetes mellitus.



## CONCLUSIONS

This study concludes that there is no relationship between internal factors or patient factors based on age, gender, and education with psychological well-being in patients with type 2 diabetes mellitus at the Tikung Lamongan Health Center UPT. There is a relationship between internal factors or patient factors based on religiosity and psychological well-being in patients with type 2 diabetes mellitus at the Tikung Lamongan Health Center UPT. Further researchers hope to be able to use different and more perfect research methods with a varied and greater number of respondents so that there will be many studies on the relationship between patient factors and psychological well-being in diabetes patients.

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