

Islamic Spiritual Guidance on Changes In Blood Sugar Levels In Type 2 Diabetes Mellitus Patients

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ABSTRACT

Article History:

Received : 03-12-2022

Revised : 16-12-2022

Accepted : 30-12-2022

Online : 30-01-2023

Keyword:

Islamic Spiritual
Guidance
Blood Sugar Levels



Diabetes Mellitus in Indonesia is increasing every year. Diabetes mellitus can be prevented, delayed and slowed down by controlling blood glucose levels. Controlling blood glucose levels in diabetics can be done with Islamic spiritual guidance. This study aims to analyze the effect of Islamic spiritual guidance on changes in blood sugar levels in Type 2 Diabetes Mellitus patients. The research method used was quasi-experimental using a pretest-posttest two group design. A sample of 22 respondents for the intervention group and 22 respondents for the control group. Data analysis used Wilcoxon test, dependent t-test, and Spearman rank correlation. The results showed that the mean blood sugar levels of the intervention group decreased 17.96 mg / dl. Statistically there is influence of Islamic spiritual guidance on blood sugar level ($p = 0,000$). The total energy requirement is a confounding variable that affects changes in blood sugar levels ($p = 0.002$). Diabetes mellitus patients are expected to apply spiritual guidance of Islam regularly to control blood sugar levels in order to improve the health of the body and prevent complications of diabetes.

ABSTRAK

Diabetes Mellitus di Indonesia meningkat setiap tahunnya. Diabetes melitus dapat dicegah, ditunda dan diperlambat dengan cara mengontrol kadar glukosa darah. Pengendalian kadar glukosa darah pada penderita diabetes dapat dilakukan dengan tuntunan spiritual Islam. Penelitian ini bertujuan untuk menganalisis pengaruh bimbingan spiritual Islam terhadap perubahan kadar gula darah pada pasien Diabetes Mellitus Tipe 2. Metode penelitian yang digunakan adalah quasi eksperimen dengan menggunakan pretest-posttest two group design. Sampel sebanyak 22 responden untuk kelompok intervensi dan 22 responden untuk kelompok kontrol. Analisis data menggunakan uji Wilcoxon, uji t dependen, dan korelasi rank Spearman. Hasil penelitian menunjukkan rerata kadar gula darah kelompok intervensi menurun 17,96 mg/dl. Secara statistik ada pengaruh bimbingan rohani Islam terhadap kadar gula darah ($p = 0,000$). Kebutuhan energi total merupakan variabel perancu yang mempengaruhi perubahan kadar gula darah ($p=0,002$). Pasien diabetes melitus diharapkan menerapkan bimbingan spiritual Islam secara rutin untuk mengontrol kadar gula darah guna meningkatkan kesehatan tubuh dan mencegah komplikasi diabetes.



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A. INTRODUCTION

Diabetes Mellitus is a chronic disease characterized by increased glucose levels in the blood. This disease can attack all levels of age and socio-economic. In Indonesia, currently diabetes mellitus is not yet on the top priority scale for health services, even though the negative impact is clear, namely in the form of a decrease in the quality of human resources, especially due to the chronic complications it causes (Soegondo et al., 2013).

Based on data obtained by the International Diabetes Federation (IDF) the global prevalence rate of people with diabetes mellitus in 2012 was 8.4% of the world's population or 371 million people, and increased to 382 million cases in 2013. The global prevalence rate of people with diabetes mellitus has increase in 2014 to 387 million cases. Indonesia is the 7th country with the highest incidence of diabetes mellitus with a total of 8.5 million sufferers after China (98.4 million), India (65.1 million), America (24.4 million), Brazil (11.9 million) , Russia (10.9 million), Mexico (8.7 million), Indonesia (8.5 million), Germany (7.6 million), Egypt (7.5 million), and Japan (7.2 million). IDF estimates that by 2035 the number of incidents of diabetes mellitus will increase to 55% (592 million) among people with diabetes mellitus aged 40-59 years (IDF, 2016).

The increasing number of people with diabetes mellitus can be caused by many factors including heredity or genetics, obesity, lifestyle changes, wrong eating patterns, drugs that affect blood glucose levels, lack of physical activity, aging, pregnancy, smoking, and stress. . Stress and Diabetes Mellitus have a very close relationship, especially in urban residents. Stress in people with Diabetes Mellitus can result in disturbances in controlling blood sugar levels, in stressful situations there will be an increase in the excretion of catecholamine hormones, glucagon, glucocorticoids, β -endorphins and growth hormone (Soegondo et al., 2013).

One of the ways to treat DM that needs to be known is by doing physical activity or exercising according to the patient's physical condition, in principle it doesn't need to be strenuous, but light exercise as long as it's regular. The need for activity in diabetics is very necessary, the effect of increasing physical activity will have a direct effect on improving the sensitivity of the muscles to insulin, so that sugar is more easily stored in the muscles than allowed to increase in the blood circulation (Maulana, 2016).

Patients who experience increased blood sugar levels have a certain level, of course what is needed is not only physical exercise given by health workers to patients. The need for support and encouragement from the family is also very necessary. Apart from family, the patient also needs the presence of a spiritual guide who can convince the patient to be optimistic about the recovery of his illness. Invites patients to be calm, patient, sincere, and reminds patients to continue to pray and worship Allah according to the patient's abilities.

Spiritual guidance is all activities carried out by a person in order to provide assistance to other people who experience spiritual difficulties in their living environment, so that the person is able to overcome them on their own because there is an expectation of happiness in life in the present and in the future (Yosep, 2014). Based on the description above, the researcher is interested in researching "The Influence of Providing Islamic Spiritual Guidance on Changes in Blood Sugar Levels in Patients with Type 2 Diabetes Mellitus".

B. METHODS

The research method used was quasi-experimental using a pretest-posttest two group design. The research design involved a treatment group and a control group. The study population was the case group and the control group, namely all people with type 2 diabetes

mellitus who came to the Rensing Health Center in East Lombok Regency. The samples for both the case and control groups were 44 people consisting of 22 respondents each for the case group and 22 respondents for the control group. The sampling technique used in this study was purposive sampling.

The primary data in this study were data on the results of measuring blood sugar levels obtained from the results of examining blood sugar levels using a digital glucometer directly to the sample, the results of measuring carbohydrate intake and energy intake using the 24-hour food recall questionnaire, adherence to taking medication using the Morisky questionnaire. Medication Adherence Scale (MMAS-8), and stress using the DASS 42 questionnaire to the sample directly. The statistical test used to analyze the research data was determined through the data normality test with the Shapiro-Wilk test. The parametric test was used to determine differences in blood sugar levels before and after being given Islamic spiritual guidance in the intervention group and the control group. If the data distribution is normal then use the t-test dependent parametric statistical test but if the data distribution is not normal then use the non-parametric Wilcoxon test. Knowing the effect of countering variables on blood sugar levels using the Spearman Rank Correlation test.

C. RESULT AND DISCUSSION

1. Result

Table 1. Frequency distribution by sex

Gender	Group				Total
	Intervention		Control		
	N	%	N	%	
Male	7	31,8	7	31,8	14
Female	15	68,2	15	68,2	30

Table 1 shows that the majority of respondents are female.

Table 2. Different test based on age using the Wilcoxon test

Group	Mean	Standard Deviation	<i>p-value</i>
Intervention (50-60)	56,9	2,89	0,849
Control (50-60)	56,6	2,95	

Table 2 shows no age difference between the two groups.

Table 3. Frequency distribution based on stress levels before and after being given treatment

Group		Category					Total
		Normal (0-14)	Light (15-18)	Medium (19-25)	Heavy (26-33)	Very Heavy (≥34)	
Intervention	pre	3 13,6%	5 22,7%	13 59,1%	1 4,5%	0 ,0%	22 100%
	post	6 27,3%	7 31,8%	9 40,9%	0 ,0%	0 ,0%	22 100%
Control	pre	4 18,2%	2 9,1%	14 63,6%	2 9,1%	0 ,0%	22 100%
	post	3 13,6%	3 13,6%	15 68,2%	0 ,0%	1 4,5%	22 100%

Table 3 shows that before being given treatment of the two intervention groups and the control group, most of them experienced stress at a medium stress level.

After being given treatment, in the intervention group there were 6 respondents who experienced normal stress levels, and in the control group who were not given Islamic spiritual guidance, there was 1 respondent who experienced stress at a very heavy level.

Table 4. Test the different levels of stress in the intervention group and the control group using the dependent t-test

Group	Pre test Mean \pm SD	Post test Mean \pm SD	<i>p-value</i>
Intervention	20,0 \pm 4.50	17,0 \pm 4,05	,000
Control	20,8 \pm 5.02	20,7 \pm 5,22	,785
<i>p-value</i>	,557	,028	

Table 4 shows that after being tested differently, the results showed that there was no difference in stress levels between the intervention group and the control group before being given treatment, but after being given treatment there were differences in stress levels. In the intervention group there was a decrease in stress levels after being given treatment, and in the control group there was no significant decrease in stress levels.

Table 5. Frequency distribution based on adherence to taking medication after being given treatment

Group	Category		Total
	Adhered	No Adhered	
Intervention	20 90,9%	2 9,1%	22 100%
Control	21 95,5%	1 4,5%	22 100%

Table 5 shows that from the two groups after being given treatment most of the respondents adhered to taking medication.

Table 6. Different tests of medication adherence in the intervention group and the control group after being given treatment using the Wilcoxon test

Category	Mean	Standard Deviation	<i>p-value</i>
Intervention	6,1	1,40	,147
Control	6,5	,90	

Table 6 shows that after being tested differently, the results showed that there was no difference in medication adherence between the intervention group and the control group.

Table 7. Energy frequency distribution (TKE) before and after being given treatment in the intervention group and the control group

Frequency	Intervention		Control	
	Pre test	Post test	Pre test	Post test
Mean	84,24	91,55	75,09	76,60
Median	81,27	87,59	74,71	76,30
Standard Deviation	16,12	19,77	13,79	10,73
Minimum	61,92	62,60	54,27	57,01
Maximum	122,31	129,58	106,11	97,70

Table 7 shows that the average energy (TKE) increased after being given treatment in the intervention group and the control group.

Table 8. Energy difference test (TKE) in the intervention group and the control group using the dependent t-test

Group	Pre test Mean \pm SD	Post test Mean \pm SD	<i>p-value</i>
Intervention	84,24 \pm 16,12	91,55 \pm 19,77	0,150
Control	75,09 \pm 13,79	76,60 \pm 10,73	0,675
<i>p-value</i>	,008	,000	

Table 8 shows that after being tested for energy differences (TKE) before and after between the intervention group and the control group, the results showed that there were differences. The results of the energy difference test (TKE) for each group showed that there was no significant difference.

Table 9. Distribution of carbohydrate frequency before and after being given treatment in the intervention group and the control group

Frequency	Intervention		Control	
	Pre test	Post test	Pre test	Post test
Mean	47.98	50.47	53.19	49.33
Median	47.91	50.20	51.72	51.43
Standard Deviation	9.012	8.47	9.50	10.13
Minimum	26.37	31.53	36.70	27.09
Maximum	66.35	69.04	76.30	62.23

Table 9 shows that after being given treatment in both groups, it was found that in the intervention group there was an increase in carbohydrates and in the control group there was a decrease in carbohydrates.

Table 10. Carbohydrate different test in the intervention group and the control group

Group	Pre test Mean \pm SD	Post test Mean \pm SD	<i>p-value</i>
Intervention	47,98 \pm 9,01	50,47 \pm 8,47	,351*
Control	53,19 \pm 9,50	49,33 \pm 10,13	,263**

<i>p-value</i>	,076*	,592**
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Table 10 shows that after being tested differently using the t-test dependent* and Wilcoxon**, it was found that there was no difference in carbohydrates between the intervention group and the control group before and after being given treatment.

Table 11. Frequency distribution of blood sugar levels before and after being given treatment in the intervention group and the control group

Frequency	Intervention		Control	
	Pre test	Post test	Pre test	Post test
Mean	210,78	192,81	216,22	218,78
Median	183,50	174,50	212,00	216,00
Standard Deviation	75,11	66,99	57,31	56,28
Minimum	105,00	98,00	100,00	100,00
Maximum	380,00	358,00	320,00	317,00

Table 11 shows that after being given treatment in both groups, it was found that in the intervention group there was a decrease in blood sugar levels and in the control group there was an increase in blood sugar levels.

Table 12. Test of different blood sugar levels during the intervention group and the control group

Group	Pre test	Post test	<i>p-value</i>
	Mean ± SD (mg/dL)	Mean ± SD (mg/dL)	
Intervention	210,78 ± 75,11	192,81 ± 66,99	0,000 **
Control	216,22 ± 57,31	218,78 ± 56,27	0,292*
<i>p-value</i>	0,615**	0,157*	

Table 12 shows that after being tested for differences in blood sugar levels before between the intervention group and the control group using the Wilcoxon** test and after using the t-test dependent* test, the results showed no difference. The results of different tests on blood sugar levels in the intervention group using the Wilcoxon test** showed that there were differences in blood sugar levels with a p value of 0.000, which means that the Islamic spiritual guidance given to the intervention group had an effect on lowering blood sugar levels. Whereas in the control group the results obtained were $p > 0.05$ which means that there was no effect of giving diabetes exercise on reducing blood sugar levels.

Table 13. Correlation between confounding variables and blood sugar levels after being given treatment using the Spearman test

Dependent Variable	Confounding Variables					
	Energy (TKE)		Carbohydrate		Medication adherence	
	N	P	N	P	N	p
Blood Sugar Levels (mg/dL)	44	,002	44	,282	44	,927

Table 13 shows that the results of the correlation test obtained only the energy variable (TKE) which was significantly correlated with blood sugar levels, while other variables were not significantly correlated.

2. Discussion

The results of the analysis on the sex group showed that most of the respondents were female. In the intervention group there were 15 respondents or 68.2% and in the control group there were 15 respondents or 68.2%. This is in accordance with the theory and the results of several other studies which state that DM disease is more experienced by women than men. This is due to three factors. The first factor, HDL cholesterol, LDL, and triglyceride levels are higher in women than men. The amount of fat in adult men averages between 15-20% of total body weight, and in women around 20-25%. The second factor, high levels of HDL, LDL and triglyceride cholesterol in women can cause a decrease in insulin sensitivity. The third factor, the protective mechanism in the walls of blood vessels in women is higher than in men so that it can exacerbate blood vessel blockage (Novianti et al., 2019).

The risk of type 2 DM tends to be more experienced by women because it is possible that women feel more stress which can support an increase in blood sugar levels. Stress is greater for women, especially if they are separated from the people closest to them (Utama, 2021). The results of the analysis in the age group showed that the average age of the two groups was 50 – 60 years. In the intervention group the mean value was 56.9 and in the control group the mean value was 56.6. The results of the different test of the two groups showed no significant difference in age with a p value of 0.849.

Age is the respondent's life span as measured in years and counted from birth to last birthday. Aging is an important risk factor for Diabetes Mellitus. In all epidemiological studies in various populations, the prevalence of Diabetes Mellitus shows a very specific increase with age (Sofwan, 2019). Type II diabetes mellitus can occur in children and adults, but usually occurs after the age of 30 years. People who are a high-risk group for suffering from Diabetes Mellitus are those who are over 45 years old. The prevalence of type II diabetes mellitus will increase with increasing age, up to the elderly age group (Dafriani, 2017).

The results of the different test analysis of stress levels in the intervention group showed a significant difference between before and after being given treatment with a p value of 0.00. Stress is a non-specific body response to any disturbed bodily needs, a universal phenomenon that occurs in everyday life and cannot be avoided, everyone experiences it. Stress can have a total impact on individuals, namely physical, psychological, intellectual, social, and spiritual, stress can threaten physiological balance. Emotional stress can lead to negative or destructive feelings toward oneself and others. Intellectual stress will interfere with one's perception and ability to solve problems, social stress will interfere with the individual's relationship to life (Derek et al., 2017).

Stress causes overproduction of cortisol, cortisol is a hormone that counteracts the effects of insulin and causes high blood glucose levels. If a person experiences severe stress that is produced in his body, then more cortisol will be produced, this will reduce the body's sensitivity to insulin. Cortisol is an enemy of insulin, making it more difficult

for glucose to enter cells and increasing blood glucose (Pratiwi et al., 2014). This research is in accordance with the research entitled Factors Associated with Blood Sugar Levels in Patients with Type 2 Diabetes Mellitus at RSUD K.R.M.T Wongsonegoro Semarang, the results obtained Based on the results of the chi-square test in this study indicate that there is no significant relationship between stress levels and blood sugar levels, with a p value = 0.094 ($p > 0.05$) (Berkat et al., 2019).

The results of the correlation analysis between energy (TKE) and blood sugar levels obtained a p value of 0.002 ($p < 0.05$), which means that there is an influence between energy and blood sugar levels in type 2 diabetes mellitus patients after being given treatment. This can happen because people with Type II DM consume foods that contain excess energy resulting in excess energy which can affect blood sugar levels. A person's energy needs according to FAO/WHO are energy consumption derived from food needed to cover a person's energy expenditure, if a person has a size, body composition and activity level that is in accordance with long-term health it will enable the maintenance of socially and economically required physical activity. Consumption of food and drink containing sufficient energy and nutrient sources according to the needs of the human body is needed to meet energy needs, in addition to reducing strenuous activity, rest and sleep is one way to help meet energy needs (Mufti et al., 2015).

Intake of foods high in energy (high in fat and sugar) and low in fiber is related to blood sugar levels. The imbalance between high-energy food intake and energy expenditure for activities in the long term allows obesity, insulin resistance and type 2 DM disease (Puspitasari, 2014). Excessive consumption of high-energy foods triggers insulin resistance by increasing levels of blood glucose and free fatty acids in the blood. Consumption of high-energy foods also causes an increase in body fat resulting in obesity. Central obesity is closely related to insulin resistance (Fitri & Yekti, 2014). This study is in accordance with Muliani's research, entitled Intake of Nutritional Substances and Blood Sugar Levels in Type 2 DM Patients at the Internal Medicine Polyclinic at RSUD Dr. H. Abdul Moeloek Lampung Province, statistical test results obtained using Fisher's exact showed that there was a significant relationship between energy intake and blood sugar levels in patients, this was indicated by the value of $P = 0.001$ (Muliani, 2013).

The results of the correlation analysis between carbohydrates and blood sugar levels obtained a p value of 0.282 ($p > 0.05$), which means that there is no effect of carbohydrate intake on blood sugar levels in type 2 diabetes mellitus patients after being given treatment. This can happen because people with Type II DM consume foods that contain limited carbohydrates so that there is no excess intake of carbohydrates which can affect blood sugar levels. The reason for the difference in research results with theory is because blood glucose levels are not only influenced by carbohydrate intake, but are influenced by other factors such as lack of activity, digestive process, presence or absence of anti-absorption substances, diet, stress, hormonal influences and duration of illness. The duration of a person suffering from diabetes mellitus has the potential for complications in internal organs, one of which is the pancreas. If damage to the pancreas occurs, even though food intake is good, the pancreas no longer produces insulin, so blood glucose levels cannot be controlled.

Carbohydrates or carbohydrates are nutrients whose main function is to produce energy, where each gram produces 4 calories. These carbohydrates are more consumed daily as a staple food, especially in developing countries. This is because food sources that contain carbohydrates are cheaper in price than food sources that are rich in fat or protein. Carbohydrates are found in many cereals (rice, wheat, corn, potatoes and so on), as well as in grains (Putri & Isfandiari, 2013). Carbohydrates are the most abundant source of energy and carbohydrates provide the best energy for various functions of the human body (Purba et al., 2015). Carbohydrates play an important role in nature because they are the main source of energy. All types of carbohydrates come from plants. The products produced are mainly in the form of simple sugars which dissolve easily in water and are easily transported to all cells for energy supply. Excess calories that enter the body from carbohydrates will be converted into glucose in the blood. Glucose requires insulin to reach the tissue cells so that glucose in the blood increases if the consumption of carbohydrates is in the high category (> 60%) (Pertiwi et al., 2018). In the body, simple carbohydrates are converted into simple sugars or glucose which dissolve in the bloodstream, causing blood glucose levels to rise and fall rapidly. This situation is dangerous for people with type 2 diabetes mellitus (Nurgajayanti, 2017).

This study is in accordance with Kurniasari's research, entitled *The Relationship between Carbohydrate, Fat, and Fiber Intake with Blood Glucose and Triglyceride Levels in Type II DM Patients Hospitalized at H. Adam Malik General Hospital Medan*, in this study, data analysis was conducted between carbohydrate intake and glucose levels. Blood in patients with Type II DM, then $p = 0.091 > \alpha (0.05)$ means that H_a is rejected. In this study, it was stated that there was no close relationship between carbohydrate intake and blood glucose levels (Kurniasari, 2014).

The results of the correlation analysis between medication adherence and blood sugar levels obtained a p value of 0.927 ($p > 0.05$), which means that there was no effect between medication adherence on blood sugar levels in type 2 diabetes mellitus patients after being given treatment. This is because some respondents are obedient in taking the drug so that blood sugar is well controlled. Pharmacological therapy is one of the pillars of diabetes management and contributes to controlling blood glucose levels. Blood glucose levels can also be affected by the use of oral hypoglycemic drugs or with insulin. Mechanisms of drug action in lowering blood glucose levels include stimulating the pancreas gland to increase insulin production, reducing glucose production in the liver, inhibiting the digestion of carbohydrates so as to reduce glucose absorption and stimulating insulin receptors (Astari, 2016).

Compliance with taking medication in patients is the level of patient willingness to follow the actual use of the dosage rules. Indicators of adherence to taking medication include (a) Taking medication according to the recommended time, namely by not changing the prescribed time of taking medication. (b) Do not replace drugs with other drugs that are not recommended, namely by not substituting drugs with other drugs that are not recommended without the doctor's knowledge. (c) The amount of drug consumed is in accordance with the prescribed dose, namely by not reducing or increasing the number of doses consumed (Ningrum, 2020).

Diabetes is a lifelong disease that cannot be cured permanently so that many patients are bored and disobedient in treatment which causes uncontrolled blood sugar levels. The level of patient compliance in taking medication is one of the factors that determines the success of therapy, especially for chronic diseases such as diabetes mellitus. The barrier factors that affect patient adherence are length of therapy, complexity of regimens, poor communication between patients and health workers, lack of information, perceived benefits, safety, side effects, medical costs and psychological factors (Adikusuma & Qiyaam, 2017).

This study is in accordance with Qadrianty's study, entitled *The Relationship between Levels of Physical Activity and Compliance with Taking OHO (Oral Hypoglycemic Drugs) with Blood Glucose Levels in Type II Diabetes Mellitus Patients Outpatient at the Makassar City Health Center*, the results showed that there was no relationship between the level of adherence to drinking OHO (Oral Hypoglycemic Drugs) respondents with fasting blood glucose levels of respondents. This is indicated by the results of bivariate analysis based on Fisher's test obtained $p = 0.655$ ($p > 0.05$) (Nanda et al., 2018).

The results of the analysis showed that in the intervention group who took part in diabetes exercise and were given Islamic spiritual guidance, the average blood sugar level before being given treatment was 210.77 and the average blood sugar level after being given treatment was 192.81 with different test results obtained a p value of 0.000 ($p < 0.05$) means that there is an influence of Islamic spiritual guidance on changes in blood sugar levels. In the control group who took part in diabetes exercise and were not given treatment of Islamic spiritual guidance, the average blood sugar level before being given treatment was 216.22 and the average blood sugar level after being given treatment was 218.77 with different test results obtained a p value of 0.292 ($p > 0.05$) means that there is no effect of changes in blood sugar levels that are not given treatment of Islamic spiritual guidance.

The results of different test blood sugar levels before being given treatment between the intervention group and the control group obtained a p value of 0.615 ($p > 0.05$) or there was no difference in blood sugar levels between the intervention group and the control group before being given treatment. The results of different test blood sugar levels after being given treatment between the intervention group and the control group obtained a p value of 0.157 ($p > 0.05$) or there was no difference in blood sugar levels between the intervention group and the control group after being given treatment. This can be caused by the regularity of type 2 diabetes mellitus patients in managing their blood sugar levels.

Patients with diabetes mellitus have high blood sugar levels due to impaired sensitivity of pancreatic β cells to produce the hormone insulin which acts as a controller of blood sugar levels in the body. One of the causes of diabetes mellitus is damage to the pancreas gland (no longer produces the hormone insulin or produces little of the hormone) (Hastuti et al., 2017). Regulating blood sugar levels in DM sufferers needs to be managed properly so as not to cause various complications. Treatment that is comprehensive and builds awareness and forms good habits must be carried out so that various complications do not occur.

Patients who experience increased blood sugar levels can be caused by stress levels, stress and diabetes mellitus have a very close relationship, especially in urban residents. Stress in people with Diabetes Mellitus can result in disturbances in controlling blood sugar levels, in stressful situations there will be an increase in the excretion of catecholamine hormones, glucagon, glucocorticoids, β -endorphins and growth hormone. So that what is needed is not only physical exercise provided by health workers to patients. The need for support and encouragement from the family is also very necessary to control stress. Apart from family, the patient also needs the presence of a spiritual guide who can convince the patient to be optimistic about the recovery of his illness. Invites patients to be calm, patient, sincere, and reminds patients to continue to pray and worship Allah according to the patient's abilities.

Spiritual guidance is all activities carried out by a person in order to provide assistance to other people who experience spiritual difficulties in their environment, so that person is able to overcome them on their own because there is a hope for happiness in life now and in the future. Islamic spiritual guidance for patients is a service that provides spiritual assistance to patients and their families in the form of providing motivation to be steadfast and patient in facing trials, by providing guidance on prayer, how to purify, pray, and other religious practices that are carried out in sickness (Maulana, 2016).

Islamic spiritual guidance is a form of Islamic da'wah, namely the form of Islamic Ersyad da'wah. Islamic Ersyad is a process of providing assistance to oneself, individuals or small groups so that they can get out of various difficulties in order to realize a good personal life and gain the pleasure of Allah in this world and the hereafter. So spiritual guidance plays a role in strengthening the patient's mentality. One way is to motivate patients to remain sincere, accept themselves, be patient, and remain grateful, worship, pray, and endeavor in dealing with their illness (Harahap et al., 2020).

Islamic spiritual guidance can make the minds of patients with diabetes mellitus calm, so that blood sugar levels in patients with diabetes mellitus can be controlled without any burden that makes blood sugar levels increase.

This study is in accordance with the research entitled Giving Meditation Against Changes in Blood Sugar Levels in Patients with Diabetes Mellitus, the Wilcoxon test results obtained P value = 0.005, then the P value $< \alpha$ ($0.005 < 0.05$), this means H_0 is rejected and H_1 accepted. So in conclusion there is the effectiveness of giving meditation on changes in blood sugar levels in people with Diabetes Mellitus in the Working Area of the Panggul Health Center, Trenggalek Regency in 2014. In this study using meditation therapy while in research conducted using Islamic spiritual guidance but the second relaxation therapy has the same goal for emptying the mind of all things that are interesting, burdensome, or worrying in our daily lives (Vernanda et al., 2015).

D. CONCLUSION AND SUGGESTIONS

Based on the research conducted, it was found that Islamic spiritual guidance can reduce blood sugar levels in patients with DM. Diabetes Mellitus sufferers are expected to control stress by applying Islamic spiritual guidance therapy in order to be able to control blood sugar levels at any time.

E. ACKNOWLEDGEMENT

The researcher would like to thank the officers of the Rensing Public Health Center in East Lombok Regency who were willing to participate in the research and other parties who have assisted in the course of this research.

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