Conference Paper

The Effectiveness of Ma'tsurat Dhikr in Reducing Blood Sugar Levels in Type 2 Diabetes Mellitus Patients at Dr. Dradjat Prawiranegara Hospital Serang in 2018

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Abstract

Background: DM (Diabetes Mellitus) is a chronic/chronic metabolic disorder characterized by an increase in blood glucose levels (hyperglycemia) caused by insufficient amounts of insulin or insufficient amounts of insulin, sometimes even more effective, this condition is called insulin resistence. **Objective:** This study aims to determine the effectiveness of *ma'tsurat* dhikr therapy in reducing blood sugar levels in type 2 diabetes mellitus patients at dr. Dradjat Prawiranegara Hospital Serang in 2018. **Methods:** The number of samples of this study was 34 respondents and the method was quasi-experimental. The data was analyzed by independent T-Test. The respondents of experimental group received DM exercise and morning-evening dhikr intervention, while the control group only received DM exercise intervention. **Results:** The results of the study showed that *ma'tsurat* dhikr affects significantly on the decrease of blood sugar levels in patiennts with type 2 DM at dr. Dradjat Prawiranegara Hospital Serang with p value <0.005. **Conclusion:** Intervention of *ma'tsurat* dhikr can be recommended for type 2 DM patients with elevated blood sugar levels in patients.

Keywords: ma'tsurat dhikr, blood sugar levels, type 2 dm

1. Introduction

Diabetes Mellitus is a disease whose prevalence continues to increase in the world both in developed and developing countries, so it is said that DM has become a global health problem or disease in society. The WHO world health organization estimates that more than 346 million people worldwide have diabetes. This number is likely to more than double by 2030 without intervention. Nearly 80% of DM deaths occur in low and middle income countries (Suirako, 2012 in Amalia, Sutikno, Nugraheni, 2018)

Indonesia is included in the 10 biggest countries with diabetes. In 2013, diabetics in Indonesia were estimated to reach around 8.5 million people aged 20-79 years (quoted from the International Diabetes Federation). The prevalence of age-related diabetes

keeps pace from 5.9% to 7.1% (246-380 million people) worldwide in the age group of 20-79 years, of which 55% increase (Belous and Doelly, 2014)

In 2015, diabetics in Indonesia reached 10 million people with an age range of 20-79 years (International Diabetes Federation). However, only about half of them were aware of their condition. The results of the Riskesdas (Basic Health Research) study from the Indonesian Ministry of Health in 2013 showed that around 12 million Indonesians over the age of 15 suffered from type 2 diabetes. 6.9 percent of the total population were over the age of 15 years. Only 26 percent had been diagnosed, while the rest were not aware of themselves as type 2 diabetics.

The goal of treating diabetes is to maintain a balance of blood sugar levels and control the symptoms to prevent complications that might occur. Changing lifestyle can also control the symptoms of type 2 diabetes, for example by applying a healthy diet, regular exercise, limiting consumption of alcoholic beverages, and quitting smoking (Bilous and Donelly, 2014). One of sports that has been a reference for people with diabetes mellitus is DM exercise.It is often witnessed that there is a considerable change towards healing in patients who are often devoted to thicker compared to other patients

2. Methods

2.1. Study Design

The research design used in this study was quasi-experimental with pre-test. There were two groups of respondents; the experimental group was given treatment, while another group became the control group. This study is an attempt to find out the effects that arise after giving certain treatments. In this study, the dependent variable is glucose level in patients with type 2 diabetes, while the independent variables are DM exercise and *ma'tsurat* dhikr.

2.1.1. Intervention

The research respondents were the diabetes gymnastic community of Dr. dr. Dradjat Prawiranegara Serang. Previously, all patients who took diabetics had blood sugar measurements taken, at a later time patients were divided into two groups, the first group was the group of patients who were given the intervention of dzikir ma'tsurat for 1 week. dzikir read by patients in the morning and evening. Then the patient is asked to fill in the check list sheet that has been given witnessed by the family who accompanied

the patient during therapy. After 1 week the intervention process is then carried out a blood sugar check while the control group is a group that performs diabetics but is not given the dhikr intervention.

2.2. Samples

The sampling technique is purposive; which determines the samples as desired, so they can represent the required characteristics (Nursalam, 2008). The samples of the study were taken based on the inclusion criteria, namely suffering from DM based on medical records, being able to communicate well, Muslims, being able to read and write, age of $\geq$ 35 years, and willing to be respondent. The exclusion criteria are: DM patients with chronic diseases, not intervening 5 times in a row, and resignation.

2.3. Instruments

The instrument in this study was a research questionnaire containing demographic data on respondent numbers, gender, education, duration of DM. On the observation sheet written glucose levels before the intervention and contains a checklist of the implementation of the remembrance of remembrance in 2 columns containing the statement of yes and no, checklist yes if on that day the patient did the dhikr, and the checklist was not if on that day the patient did not perform the dhikr. At the end of the observation sheet contains the value of glucose levels after the intervention was carried out. Blood glucose examination is done when the patient is about to do DM exerciseshe

In this study no validity and reliability tests were carried out, because the instrument used in this study was the research instrument used by Nurjanah in a study entitled "The Effect of the Ma'tsurat Dhikr and its translation on the Reduction of Student Anxiety in the National Examination at SDIT 2017, conducted validity and reliability test in elementary school against 54 respondents with SPSS in Banjarmasin IT Junior High School which showed a scale of 0.919. So that the observation instrument used in the study was declared valid and reliable.

2.4. Data Analysis

The study used univariate analysis and bivariate analysis which serve to determine the effects of *ma'tsurat* dhikr and DM exercise on the stability of glucose levels in

patients with type 2 diabetes at dr. Dradjat Prawiranegara Hospital, Serang, Banten. Some statistical tests to identify the homogeneity of the respondents' characteristics were used, namely independent sample t-test to test age characteristics and chi-square to test the education level. The statistical analysis of the research was based on the normality distribution of data or the normality test, namely pre and post-test for the control group and paired sample t-test for the experimental group.

3. Results

Table 1 shows the distribution and frequency of blood sugar of the respondents during the research.

TABLE 1: Frequency of Blood Sugar Distribution of the Experimental Group.

Blood Sugar	n	%t
Medium	9	52.9
High	8	47.1
Total	17	100.0

It can be seen that the largest frequency distribution is medium criteria in which the blood glucose is 52.9%.

TABLE 2: Frequency of Blood Sugar of the Countrol Group.

Blood Sugar	n	%t
Medium	16	94.1
High	1	5.9
Total	17	100.0

From the table above, it can be seen that the largest percentage of the frequency of blood sugar is in the range of medium blood sugar, namely 94.1%.

Distribution and frequency of blood sugar before and after treatment in the control group

TABLE 3: Results of Before and After Glucose Examination in the Control Group.

Variabel	N	Mean	SD	SE	P Value
Kadar Glukosa	17				
BSL 1- BSL 2		2.29412	3.42353	0.83033	0.014

From table 3 above, there is a standard deviation of 3.4. The results of the statistical test show p value 0.14 which means that at the rate of 5%, it can be concluded that, there is no effect of DM exercise on decreasing blood sugar level (BSL) of the respondents in the control group.

Distribution and frequency of blood sugar during and before treatment in the experimental group

Table 4: Results of Glucose Examination Before and After the Treatment in Research Respondents.

Variabel	N	Mean	SD	SE	P Value
Kadar Glukosa	32				
BSL 1- BSL 2		1.9941	26.20227	6.35498	0.006

From the table 4 above, the standard deviation obtained 26.2%. The results of the statistical test show p value 0.006 at alpha 5%. It can be concluded that *ma'tsurat* dhikr therapy is very effective in reducing blood sugar levels in patients with type 2 diabetes mellitus.

Comparison of the Effectiveness of DM Exercise and *Ma'tsurat* Dhikr on Blood Sugar Levels of the Experimental Group

Table 5: Comparison of Blood Sugar Examination Results in the Control Group and the Experimental Group.

Variabel	N	Mean	SD	SE	P Value
Blood Suger	32				
BSL of Experimental Group BSL of Control Group		1.73529E1	26.41482	6.40653	0.015

From the table 5, a standard deviation of 26.4% was obtained. The results of statistical tests showed p value 0.015 at a rate of 5%. Thus, it could be concluded that the decrease in blood sugar levels was more significant in the respondents who did DM exercise and *ma'tsurat* dhikr therapy.

4. Discussions

Respondents who were selected in this study were DM patients who routinely did DM exercises at dr. Dradjat Prawiranegara Hospital Serang. The total respondents taken were 34 patients with type 2 DM, consisting of 17 respondents as the control group and 17 patients as the experimental group. The results showed that the average age of the respondents was > 46 years old. This is consistent with the data from IDF which noted that 90-95% of type 2 diabetes mellitus cases happened in adults.

DM exercise was done both in the control group and in the experimental group. However, The BSL reduction was less significant in the control group. This is contrary to the results of a study conducted by Sahroh (2017) who stated that DM exercise is very

effective in maintaining the stability of BSL of type 2 DM patients. It can be influenced by several things including the sincerity of respondents doing DM exercise

The results of the data analysis show that the combination of DM exercise and *ma'tsurat* dhikr is very effective in reducing BSL of patients with type 2 DM. It is in line with the research conducted by Sahroh (2017) and the research conducted by Kholid that dhikr is very influential on decreasing BSL of type 2 DM patients.

5. Conslusions

To conclude, the average age of patients who have type 2 DM in the Gymnastic Group of dr. Dradjat Prawiranegara Hospital is >46 years old. In addition, the majority of the respondents' sex were women. The results of the data analysis in the control group and the experimental group show that the combination of DM exercise and *ma'tsurat* dhikr is very effective in reducing blood sugar level (BSL) with a mean decrease of 26.4%.

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