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Stabilizing Blood Sugar Levels in Type 2 DM Patients by Providing Benson Relaxation Therapy Combined with Dhikr Based on Self-Care Orem

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ABSTRACT

Background: People with diabetes mellitus experience hyperglycemia, the higher the likelihood of complications if do not get the right treatment immediately. In addition, people with diabetes mellitus are prone to stress because the disease is difficult to cure and patients must take medications every day. Therefore, proper management is needed.
Purpose: The purpose of this study is to determine the effect of self-care orem-based dhikr combination benson relaxation therapy on blood sugar levels in type 2 diabetes mellitus patients in the Ujungpangkah Gresik Health Center Working Area.
Method: This type of research uses Quasy Experiment with Pretest Posttest Control Group Design. The sample in this study was 46 respondents, which were divided into 2 groups, namely 23 respondents for the control group and 23 respondents for the intervention group. The independent variable of this study was benson relaxation therapy combined with dhikr, while the dependent variable was blood sugar levels. The data were analyzed using paired T-Test and Independent T-test tests on blood sugar level variables with kemaknaan α=0,05.
Results: The results of the independent t-test on the variable of blood sugar levels with a significant level of $0.000 < \alpha = 0.05$, showed that there was an effect of the administration of benson relaxation therapy combined with dhikr on blood sugar levels in type 2 DM patients.
Conclusion: The conclusion of this study is that benson relaxation therapy combined with dhikr has an effect on blood sugar levels in patients with type 2 diabetes mellitus. In the future, it is hoped that health workers can increase the provision of information and education evenly to health service places.

Keywords: benson relaxation, blood sugar levels, dhikr, orem self care, type 2 diabetes mellitus

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BACKGROUND

Treatment of type 2 diabetes mellitus requires lifelong treatment to reduce symptoms, prevent disease progression, and prevent complications from developing. Long-term treatment often fails because type 2 diabetes mellitus patients often experience boredom in carrying out the therapy recommended by health workers. There are several types of pharmacological treatments available for the treatment of type 2 diabetes mellitus, such as biquanides, sulfonylureas, non-sulfonylureas, alpha-glucosidase, inhibitors, etc. The type of oral medication that is often used in the treatment of type 2 diabetes mellitus is the biquanid class, namely metformin (Sumiati et al., 2021). Metformin has side effects on the human body such as digestive problems (nausea, vomiting, diarrhea, and abdominal pain) just like other types of drugs have side effects from consuming these drugs which can cause the level of adherence to taking medication in people with diabetes mellitus to decrease.

Non-pharmacological therapy is an alternative in lowering sugar levels in patients with type 2 diabetes mellitus, namely by providing education about benson relaxation combined with dhikr. In addition to this therapy being beneficial to the patient's health, this therapy does not have side effects that are harmful to health, this type of treatment tends not to be expensive and can be done at home.(Dewi et al., 2022).

The prevalence of diabetes mellitus in Indonesia has increased from 8.5% in 2018 to 9.3% in 2021. East Java Province is included in the top 10 prevalence of diabetes mellitus in Indonesia or ranks ninth with a prevalence rate of 2.6% in 2018 to 6.8% in 2021(East Java Health Office, 2021). The highest prevalence of diabetes mellitus cases occurred in Madiun at 4.22%, Mojokerto at 3.8%, Surabaya at 3.5% and Malang at 1.4%. It was found that the prevalence of smoking among residents over 15 years increased from (27.78%) in 2018 to (28.51%) in 2021. The prevalence of less physical activity among residents over 10 years (33.5%) in in 2018 from (35.2%) in 2021. The prevalence of low consumption of vegetables and fruit is still high among residents over 10 years in 2018 (93.5%) and in 2021 (98.5%), consumption excess fat (26.1%) in 2021 (Kemenkes RI, 2021).

One of the factors that influence the non-adherence of diabetes mellitus patients in undergoing treatment is due to the lack of knowledge that the patient has. Providing education is able to increase the knowledge of diabetes mellitus patients by providing an understanding of the course of Diabetes Mellitus, controlling diabetes mellitus, the importance of knowing complications and risks and pharmacological and non-pharmacological management of diabetes mellitus (Tamrin et al., 2020). Providing education is one of the pillars of managing diabetes mellitus which is included in self-care actions.

Self-care is an action taken to care for oneself independently by increasing knowledge, skills and awareness of disease in order to be able to control blood glucose levels properly, prevent complications and improve quality of life(Esau Katuuk et al., 2020).Self-care can help achieve the target HbA1c and shorten the length of stay in the hospital and improve the quality of life for people with diabetes. The supportive educative system is part of the nursing system theory of Self Care which aims to increase patient knowledge in an effort to minimize side effects from the use of pharmacological therapy by applying non-pharmacological therapy, namely the Benson relaxation technique in combination with Dhikr therapy. Which both of these therapies are part of the theory of self care(Munira et al., 2020). Self care explains that self-care and dependence on self-care is a behavior that is learned by each individual to maintain life, health and a better life (Juwita et al., 2016). Benson's relaxation aims to help a person reduce stress by training the body to be more relaxed. The trick is to take a deep breath, focus your mind on a soothing word or phrase, and try to free your mind from worry for a few minutes. This technique is easy to do and can help lower

blood pressure, reduce anxiety, and increase feelings of calm. Orem Self-Care emphasizes the importance of everyone to actively take care of themselves to stay healthy. According to this theory, self-care includes daily activities such as eating healthy, exercising, getting enough sleep, and maintaining personal hygiene. If a person is able to do these things well, their health is likely to be maintained (Munira et al., 2020).

Benson relaxation is able to inhibit the production of epinephrine and cortisol, and provide a feeling of pleasure so that an increase in blood glucose does not occur. This can be proven from the results of studies(Ratnawati et al., 2018)showed that there was a decrease in blood glucose levels between before and after being given benson relaxation with an average blood glucose value before the intervention of 279.6 gr/dl and after the intervention of 165.8 gr/dl. Dhikr therapy exercises can inhibit the effects of stress by lowering cortisol levels. Psychologically, dhikr provides a feeling of comfort and spiritually creates a feeling of being closer to God Almighty (Syifa et al., 2019).

OBJECTIVE

The purpose of this study was to analyze the Effect of Giving Benson Relaxation Therapy in combination with Orem Self Care-based Recitation on Blood Sugar Levels in Type 2 Diabetes Mellitus Patients.

METHOD

This research is a quantitative research that uses a quasy experimental research design with a pretest - posttest control group design, the technique uses Simple Random Sampling (Nursalam, 2020). The inclusion criteria of the respondents in this study; Muslims, patients aged > 30 years, cooperative in complying with regulations regarding the implementation of the therapy provided to smooth the research process, patients who do not use additional complementary treatments such as herbs, acupuncture, cupping and so on, diabetes mellitus patients who regularly consume drugs from the puskesmas. The number of respondents was 46 divided into the intervention group and the control group. In the intervention group respondents were given Benson Relaxation Therapy a combination of Dhikr based on Orem's Self Care. The results obtained are to see changes inblood sugar levels in patients with diabetes mellitus. Prior to conducting the research the protocol had been carried out as ethically feasible and declared ethically feasible with number 038/018/V/EC/KEP/LCBL/2023. The research was carried out from 21 May 2023 to 27 May 2023 at the Working Area of the Ujungpangkah Health Center, Gresik Regency. The statistical test of the research results used theindependent t-test statistical test.

RESULTS

The research results obtained by the researchers are as follows:

Table 1. Frequency distribution of respondents based on gender, age, and drug consumption in the experimental group and the control group

Characteristic Data	Experiment		Control	
	Frequency	%	Frequency	%
Gender				
Man	0	0	0	0
Woman	23	100	23	100
Amount	23	100	23	100
Age				
Middle age (45-59)	10	43.5	15	65,2
Elderly (60-74)	7	30,4	8	34,8

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Old (75-90)	6	26,1	0	0
Amount	23	100	23	100
Drug consumption				
Yes	23	100	23	100
No	0	0	0	0
Amount	23	100	23	100

Table 2. Data analysis of blood sugar levels before being given the intervention of benson relaxation therapy combined with dhikr in the experimental group and the control group.

Group	Pre Test		Independent t-test p-value
	Mean±SD	Min-Max	
Experiment	210.09±47.404	143-300	0.747
Control	206.13±33.958	149-293	

Table 3. Data analysis of blood sugar levels after being given the intervention of benson relaxation therapy combined with dhikr in the experimental group and the control group.

Group	Posttest		Independent t-test p-value
	Mean±SD	Min-Max	
Experiment	138.22±11.552	115-167	0.000
Control	170.61±37.274	98-234	

Table 4. Data analysis of blood sugar levels before and after being given the benson relaxation intervention combined with dhikr in the experimental group and the control group.

Group	Pre Test		Posttest		P-value
	Mean±SD	Min-Max	Mean±SD	Min-Max	
Experiment	210.09±47.404	143-300	138.22±11.552	115-167	0.000
Control	206.13±33.958	149-293	170.61±37.274	98-234	0.001
Independent T-test Statistical Analysis					

The results of the analysis based on table 4 above explain that the experimental group has an average value of blood sugar levels after being given the combination intervention of benson relaxation therapy combination of Dhikr 138 (normal), meaning that the value is lower or has decreased from the value before the combination intervention of benson relaxation therapy. the combination of dhikr is 210 (above normal). Whereas in the control group, which was only given therapy according to the Ujungpangkah Gresik Health Center standard, the average blood sugar level was 170 (above normal), meaning that the value was lower or decreased from the previous value, which was 206 (above normal).

The values of blood sugar levels in the experimental group and the control group were analyzed using the independent t-test statistical test. It was found that the p value was 0.000 in the experimental group, there were 23 respondents who experienced a decrease and the p value was 0.001 in the control group, there were 7 respondents who experienced a decrease. This means that there is a significant effect on giving benson relaxation interventions in combination with Dhikr.

DISCUSSION

Blood Sugar Levels Before and After Given Benson Relaxation Therapy Intervention Combination of Dhikr in Type 2 Diabetes Mellitus Patients

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The results of research conducted in the Working Area of the Ujungpangkah Gresik Health Center based on table 2 showed that the average blood sugar level in the intervention group had an average value of blood sugar levels after being given a combination therapy intervention of benson and dhikr 138 (normal) meaning that the value is lower or has decreased the value before the combined benson relaxation and dhikr intervention was 210 (above normal) whereas in the control group which was only given intervention according to the Puskesmas procedure by consuming pharmacological drugs had a blood sugar level value of 170 (above normal) meaning the value was lower or decreased from the value before the intervention was carried out according to the Puskesmas procedure, namely 206 (above normal).

Values of blood sugar levels in the intervention group and the control group were analyzed using the paired t-test obtained a p-value of 0.000. So it can be concluded that the average blood sugar levels in the intervention group before being given benson relaxation therapy combined with dhikr obtained an average blood sugar level that was high above normal while after being given benson relaxation therapy combined with dhikr the average decrease in blood sugar levels towards normal. This shows that benson relaxation therapy combined with Dhikr can reduce blood sugar levels.

The results of this study indicate that type 2 diabetes mellitus patients who were given benzon relaxation therapy combined with dhikr for 7 consecutive days showed a significant decrease in blood sugar levels before and after doing benzoin relaxation therapy combined with dhikr can control cortisol secretion, reduce ACTH and cortisol levels(Ernawati et al., 2019). causes stress so that anxiety can decrease, patients feel calm and relaxed and there is a decrease in glucose which causes blood sugar levels in people with diabetes mellitus to decrease (Nisbah et al., 2020).

This fact is also supported by research results which prove that there is a significant decrease in blood sugar levels after being given a combination intervention of Benson relaxation therapy and Dhikr.. This is supported by research (Yanti, 2012) showed that benson and dhikr therapy were effective in reducing blood sugar levels in diabetes mellitus patientswith p-values(p=0.00). Also supported by research(Septimar et al., 2021)can also reduce blood sugar levels by showing the results of statistical tests obtained a p-value of 0.001.

Obtained differences in blood sugar levels of each respondent because there are several factors that affect the value of blood sugar levels in each person. This is in accordance with the theory which states that there are several factors that affect a person's blood sugar levels consisting of risk factors that cannot be controlled such as age, gender, heredity while risk factors that can be controlled such as obesity, stress, smoking, lack of exercise, alcohol consumption , cholesterol, excess salt consumption (Kemenkes RI, 2021).

The age of the respondents in this study was the age of the intervention group (43.5%) aged between 45-59 years and the control group (65.2%) also aged between 45-59 years. This is in accordance with the theory which states that one of the factors that causes type 2 DM is age. Changes in age are closely related to the aging process which starts from 30 years old, changes that occur starting from cells, continuing in tissues to organs that can affect homeostasis, one of which is experiencing changes in the pancreas organ with beta cells that produce insulin, target tissue cells that produce sugar hormones, nervous system, and other hormones that affect blood sugar levels. Type 2 DM occurs after the age of 30 years and increases with age. around 6% of individuals aged 45-64 years suffer from type 2 DM (Ernawati et al., 2019).

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The next factor is gender. In this study, all 46 respondents were female. The incidence of DM is generally caused by menopause, besides that women have a tendency to be obese, the occurrence of menopause in women causes a decrease in estrogen and progesterone levels so that it will have an impact on fluctuations in blood sugar levels. The decrease in the hormone estrogen and growth hormone in menopause can increase body fat so that it results in obesity.

The hormone estrogen in women can cause an increase in fat deposition in the subchasic tissue so that women are at risk of obesity (Anjastya & Yuniartika, 2022). The amount of body fat in women (> 35%) is more than body fat in men (<35%) , besides that pregnant women are also at risk of getting Gestational Diabetes Mellitus (GDM) (Nisbah et al., 2020).

Based on data from respondents and existing theories, the researchers argue that age and gender can affect a person's blood sugar levels. This is because the average age of most respondents is 45-59 years old, the older a person gets, the function of human organs will weaken. and susceptible to disease. Likewise, the gender factor indicates that women are more at risk of developing DM than men because women have a greater chance of having a body mass index for monthly cycle syndrome. It is also supported by the lifestyle of women who are much unhealthy compared to men and due to an imbalance in the hormones estrogen and progesterone in women.

Comparison of Blood Sugar Levels After Intervention Given Benson Relaxation Therapy Combination of Dhikr in the Intervention and Control Groups

Based on table 3, the results of the research conducted in the Working Area of the Ujungpangkah Gresik Health Center explained that the intervention group had an average blood sugar level after being given a combination of benzon relaxation therapy combined with Dhikr of 138 (normal). The results of the analysis using the independent t-test statistical test obtained a p value of 0.000 on the value of blood sugar levels after being given the intervention, which means there were differences in blood sugar levels after being given the benson relaxation therapy combined with Dhikr in the intervention and control groups. As for the analysis of the difference in average blood sugar levels, p = 0.001, which means that there is a difference in blood sugar levels after being given combination therapy in the intervention and control groups.

This can be seen from the results of the difference in the calculation of the N-gain score test showing that the average value of the N-Gain score (difference) for the intervention group is 58% included in the quite effective category. Meanwhile, the N-gain score (difference) for the control group is 31%, which is included in the less effective category. So it can be concluded that giving benson relaxation therapy a combination of Dhikr and following the procedures of the Puskesmas in consuming drugs is quite effective in reducing blood sugar levels within 7 days of implementation. Meanwhile, in the control group, the results were found to be less effective in reducing blood sugar levels by only consuming drugs within 7 days.

The above is also in line with the study of (Smeltzer & Bare, 2014)which stated that the effect of relaxation on blood glucose levels is to suppress the production of stress hormones such as epinephrine and cortisol so as to prevent an increase in blood glucose levels. Whereas dhikr therapy that combines relaxation techniques and faith factors can reducestressed. In addition to causing a relaxation response, this therapy also creates a feeling of always being close to God, causing calm. In accordance with the word of Allah SWT, which guarantees peace and tranquility to those who always remember it (dhikr) in Al-Matsurat (Permatasari et al., 2022).

The value of blood sugar levels is influenced by many factors, including a person's ability to carry out activities, ability to fulfill nutritional intake and adherence to taking anti-diabetic drugs. Therefore, people with diabetes mellitus must be able to manage their disease and adopt a good and regular lifestyle, so that blood sugar levels can be controlled. (Sumiati et al., 2021).

Based on the results of this study, researchers can conclude that benson relaxation therapy combined with dhikr can reduce blood sugar levels if done properly and correctly will have an effect on blood sugar levels in people with diabetes mellitus. The results of the interview respondents also said that they know how to lower blood sugar levels by taking medication. However, they do not know widely about the side effects and complications if the drugs are stopped or taken irregularly. Obstacles in this study were that researchers could not monitor the lifestyle of respondents and researchers did not monitor or control the patient's daily activities and patient adherence in taking medicines for 24 hours.

CONCLUSION

The combination of benson relaxation therapy and dhikr has been shown to affect blood sugar levels. This can be seen from the significant difference in the results of reducing blood sugar levels. In the experimental group the average blood sugar level before the intervention was carried out was 210 (above normal) and after being given the intervention the blood sugar level was 138 (normal), while in the control group before the intervention the blood sugar level was 206 (above normal) after intervention was given according to the standard of the Ujungpangkah Health Center, the blood sugar level was 170 (above normal).

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CONFLICTS OF INTEREST

All research teams agree with the final results of this study and there is no conflict in conducting this research.

REFERENCES

Anjastya, H. A., & Yuniartika, W. (2022). Spiritual Therapy (Dhikr) Decrease Blood Sugar Levels in Diabetes Mellitus Patients in the Intensive Care Unit (ICU): A Study Literature. Kendari Journal of Maritime and Holistic Nursing. https://stikesks-kendari.e-journal.id/K.

Dewi, N. K. S. M., Surasta, I. W., & Suardana, I. K. (2022). Intervensi Relaksasi Benson Pada Pasien Diabetes Mellitus Tipe Ii Dengan Masalah Ketidakstabilan Gula Darah: Studi Kasus. Jurnal Gema Keperawatan.

Dinkes Jawa Timur. (2021). Profil Kesehatan 2021 Dinas Kesehatan Provinsi Jawa Timur. Dinas Kesehatan Provinsi Jawa Timur.

Ernawati, Sustiyono, A., & Mulyati. (2019). 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. KnE Life Sciences. https://doi.org/10.18502/kls.v4i13.5272.

Esau Katuuk, M., Sitorus, R., & Sukmarini, L. (2020). Penerapan Teori Self Care Orem Dalam Asuhan Keperawatan Pasien Diabetes Melitus. Jurnal Keperawatan.

Juwita, L., Ayu Prabasari, N., & Manungkalit, M. (2016). The Effect of Benson Relaxation Therapy towards Blood Glucose Level in Elderly with Diabetes. Jurnal Ners LENTERA, 4(1).

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.8 No.1. October 2024. Page.207-214

Kemenkes RI. (2021). Profil Kesehatan Indonesia 2021. Kementerian Kesehatan Republik Indonesia.

Munira, S., Hasneli, Y., & Annis Nauli, F. (2020). Effect Of Progressive Muscle Relaxation And Zikir Therapy On Blood Sugar Among Patients With Diabetes Mellitus: A Literature Review. Jurnal Ilmu Keperawatan, 8, 1.

Nisbah, N. Q., Harmayetty, H., & Dewi, L. C. (2020). The Effect of Dzikir on Stress and Random Blood Sugar in Patients with Diabetes Mellitus. Psychiatry Nursing Journal, 2(1). https://doi.org/10.20473/pnj.v1i1.19475.

Nursalam. (2020). Metodologi Penelitian Ilmu Keperawatan (Edisi 5). Salemba Medika.

Permatasari, W., Aprelia, V., Putri, R. N., Novianti, T. R., Hidayat, N., & Hamdani, D. (2022). Relaksasi Otot Progresif Dan Dzikir Al-Matsurat Dapat Menurunkan Gula Darah Pada Penderita Diabetes Melitus: Literature Review. Indogenius.

Ratnawati, D., Siregar, T., & Wahyudi, C. T. (2018). Terapi Relaksasi Benson Termodifikasi Efektif Mengontrol Gula Darah pada Lansia dengan Diabetes Mellitus. Jurnal Kedokteran Dan Kesehatan. https://jurnal.umj.ac.id/index.php/JKK.

Septimar, Z. M., Priatna, H., & Tomi, S. Y. (2021). Effect of Benson's relaxation techniques on blood glucose levels in patients with diabetes mellitus. Enfermeria Clinica, 31, S454–S456. https://doi.org/10.1016/j.enfcli.2020.09.044.

Smeltzer, S. C., & Bare, B. G. (2014). Keperawatan Medikal Bedah Brunner and Suddarth's. EGC.

Sumiati, Jumar, & Purnama, A. (2021). Benson Relaxation Therapy May Lower Blood Sugar Levels Patients with DM Tipe II. Journal Of Complementary Nursing. http://journals.sagamediaindo.org/index.php/JCN.

Syifa, A., Khairiyah, M., & Asyanti, S. (2019). Relaksasi pernafasan dengan zikir untuk mengurangi kecemasan mahasiswa. Jurnal Intervensi Psikologi, 11, 1–8.

Tamrin, Widyaningsih, T. S., & Windiyastuti. (2020). Pengaruh Terapi Dzikir terhadap Kadar Gula Darah Sewaktu pada Lansia Diabetesi di Wilayah Kerja Puskesmas Lebdosari Semarang. Jurnal Manajemen Asuhan Keperawatan, 4(1).