# The Effect of Healing Touch-Dhikr Therapy on Quality Sleep of Patients With Diabetes Mellitus on The Work Area Kaliwungu Health Center

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***Abstract.***

*Poor sleep quality is a common problem in patients with diabetes mellitus which can negatively impact metabolic control and reduce the patient's quality of life. Therefore, this study is important to find alternative non-pharmacological therapies to improve the sleep quality of diabetic patients. The main purpose of this study is to determine the effect of healing touch-dhikr therapy on the sleep quality of patients with diabetes mellitus in the Kaliwungu Health Center Working Area. This study uses a quantitative method, namely quasi experimental with a pretest-posttest with control group design. The sample consisted of 78 respondents who were selected through purposive sampling and divided into two groups: the intervention group (n = 39) and the control group (n = 39). The healing touch-dhikr intervention was given for seven days with a duration of 15–30 minutes per session. The data collection instrument used the Pittsburgh Sleep Quality Index (PSQI). Data analysis was carried out by dependent t-test and independent t-test test. The results showed a significant decrease in PSQI scores in both groups (p<0.001). The average sleep quality score of the intervention group decreased from 11.92 to 6.00 (difference of 5.92), while in the control group it decreased from 12.10 to 10.05 (difference of 2.05). Although both showed significant changes, the larger decline in the intervention group showed that healing touch–dhikr therapy was more clinically and statistically effective in improving the sleep quality of patients with diabetes mellitus. This is supported by an independent t-test showing a significant difference between the two groups (p< 0.001), which indicates the effectiveness of the intervention. Thus, it can be concluded that healing touch-dhikr therapy has a significant and clinically effective effect in improving the quality of sleep in patients with diabetes mellitus. This research supports the application of spiritual-based non-pharmacological interventions in nursing practice as a holistic approach that pays attention to the physical, psychological, and spiritual aspects of patients.*

***Keywords:*** *Healing Therapy Touch-Zikir; Patient Sleep Quality and Diabetes Mellitus.*

## I. INTRODUCTION

Diabetes Mellitus is classified as a non-communicable degenerative disease, which requires significant attention in the health field. In the last 3 decades, the number of people with diabetes has continued to increase. Prevalence is increasing faster in low- and middle-income countries than in high-income countries. Since 2000, the death rate from diabetes has continued to rise. The prevalence of diabetes is expected to increase every year, thus making it a formidable challenge to global health and well-being (Haryati et al., 2023). Based on data from the World Health Organization, the number of people with diabetes has increased significantly, from 200 million in 1990 to 830 million in 2022 (WHO, 2024). According to the International Diabetes Federation (2021), the number of people with diabetes in the Southeast Asian region will increase by 68% to 152 million by 2045 and the prevalence of diabetes will increase by 30% to 11.3% by 2045. Indonesia is the fifth largest in the world with 19.465 million diabetes cases with a prevalence of 10.8% (IDF Indonesia, 2021). The prevalence of diabetes in the age group of 20 to 79 years reached 10.6%. This means that 1 in 9 people in this age range suffers from diabetes. In Indonesia, the death rate due to diabetes in this age group is estimated to reach 236,711 people. On the other hand, around 73.7% of diabetic patients in the age group of 20-79 years have not been diagnosed (Ministry of Health of the Republic of Indonesia, 2022).

According to the Ministry of Health's SKI in 2023, Central Java ranks 8th with the highest prevalence of diabetes in Indonesia, which is 1.8% (SKI, 2023). In the 2023 Central Java Provincial Health Profile Report, the estimated number of people with diabetes is 624,082 people and 101.6% have received

health services in accordance with standards. Kudus Regency itself has 17,933 people with diabetes and 17,476 people who receive services according to standards with a percentage of 93.9% (Central Java Health Office, 2023). In 2024, a report from the Kudus Regency Health Office shows that there are 18,032 people with diabetes and a total of 17,500 people have received services according to standards with a percentage of 97%. According to the results of the recapitulation, the health center with the first number of diabetics is in the working area of the Kaliwungu Health Center. There are 1,421 people with diabetes, and 1,404 people have received services with 750 female patients and 654 men (Kudus Regency Health Office, 2024). Diabetes Mellitus can cause a variety of complications in both small (microvascular) and large (macroascular) blood vessels. In microvascular complications, there are several conditions including, diabetic neuropathy which occurs in about 17.6% of patients. Meanwhile, macrovascular complications can lead to a risk of coronary heart disease and cerebrovascular disease with the same prevalence, which is 5.4% (Diabetes, 2021).

These complications generally increase after 10–15 years from diagnosis, mainly due to uncontrolled blood sugar levels (Tandra, 2017). Uncontrolled blood sugar can trigger sleep disorders. This is corroborated by a study conducted by (Shibabaw et al., 2023) which shows a two-way relationship between sleep disorders and diabetes management. Poorly controlled diabetes can lead to sleep disorders, while sleep deprivation can worsen blood sugar control problems. These interactions emphasized the need for a comprehensive management strategy that addresses sleep quality and diabetes care. Sleep disorders are a fairly common problem experienced by diabetic patients with an index score of severity, around 17% have clinical sleep disorders and another 54% have subthreshold sleep disorders (Arosemena et al., 2022). According to a study conducted by Koopman et al., (2020) reported that 39% of patients with type 2 diabetes experienced sleep disorders with a 95% confidence interval (34–44). Another study showed that respondents who experienced sleep disorders had a 1.82 times higher risk of developing metabolic complications (Guo et al., 2023). According to a study conducted by Ali Darraj (Darraj, 2023), poor sleep quality can have an impact on health, mood, and quality of life. A study conducted at the Family Physician Clinic, Faculty of Medicine, University of Muhammadiyah Palembang has found a significant relationship between sleep disorders and a decrease in the quality of life of patients with a value of p=0.028, which shows that the higher the level of sleep disorders experienced, the lower the quality of life felt by the patient (Badri et al., 2024).Previous research has shown that poor sleep quality in people with diabetes has an impact on quality of life, diabetes management, and increases the risk of complications.

Therefore, it is important to look for effective interventions to improve sleep quality. The management that can be done is by pharmacological and non-pharmacological means. Pharmacological treatments have a rapid reaction to overcome sleep disorders, but they are not recommended for long-term consumption. According to Andas et al., (2024) the administration of sleeping pills can pose a significant risk of side effects, such as cognitive impairment and dependence. Meanwhile, non-pharmacological treatments such as doing meditation therapy and touch therapy (touch therapy) can be done in the long term and are safer even though they must be done regularly. Touch therapy provides psychological benefits such as increasing a sense of comfort and providing emotional support for sufferers. Physiologically and biochemically, the healing touch mechanism works by stimulating the parasympathetic nervous system. This system has an important role in creating conditions of relaxation and recovery for the body. As a result, levels of stress hormones such as cortisol and epinephrine decrease. In addition, this mechanism also activates endorphins and enkephalins, which contribute to reducing anxiety and pain. At the same time, serotonin and dopamine levels increase, which play an important role in creating feelings of happiness and relaxation. These changes create physiological states that support relaxation as well as better sleep quality (Ntoumas et al., 2025). One form of touch therapy that will be applied is healing touch. Touch therapy has significant benefits, such as increasing relaxation, changing the perspective of pain, reducing anxiety, speeding up the healing process, and increasing comfort (Diligent, 2020).

Based on the results of the study, there was a significant improvement in sleep quality after the administration of Töre, F., & Yağmur, (2023) therapeutic touch for several sessions ($p < 0.001$). This is supported by the study conducted by the results that the sleep quality in the experimental group improved

significantly compared to the control group ($p < 0.001$). Similar research conducted in the UK has also shown that affective touch before bed can increase security and reduce stress through the release of oxytocin. Çalışkan, M., & Cerit, (2021) (Dueren et al., 2022) .Another nonpharmacological therapy that can be applied is dhikr therapy, which aims to stimulate the body's natural healing mechanisms through spiritual strength and inner calm. This is supported by research conducted by Zeta, Chaidir & Pambudi (2023), obtained results that there is an improvement in sleep quality (26.7%), sleep time (26.7%), feeling relaxed before and after sleep (23.3%), feeling relaxed when sleeping (23.4%), sleeping for a long time (16.6%), feeling fit when sleeping (16.7%), and increased sleep satisfaction (23.3%). when doing dhikr before bed. Based on the results of the research conducted by (Shidiq & Soleman, 2023), the pre-test results showed scores of 11 and 16 while the post-test results showed a decrease in scores, namely 7 and 10. The previous study was conducted by (Hastuti et al., 2019) involving 21 respondents, and obtained significant results with p-value = 0.000 ($\alpha<0.05$).

This shows that dhikr therapy is one of the effective ways to improve and improve poor sleep quality. The combination of healing touch and dhikr creates a holistic approach. By applying healing touches, sufferers can feel a higher level of relaxation, while dhikr can help calm the mind before going to bed.The preliminary study was carried out in the Kaliwungu Health Center Working Area, precisely at the Karangampel Village Posbindu on January 22, 2025. Based on a preliminary data survey of 13 DM patients, it was found that 7 of them had sleep disorders. Sleep disorders experienced include difficulty starting sleep, often waking up at night and not being able to fall back asleep, and poor sleep. There were 7 patients who had trouble sleeping, and all of them expressed dissatisfaction with their sleep. The results of interviews with the 7 patients showed that 3 of them felt restlessness at night that prevented them from starting sleep. Meanwhile, 2 other patients reported often waking up in the middle of the night because they wanted to urinate and felt thirsty, making it difficult for them to fall back asleep. Meanwhile, the last 2 patients revealed the stress they experienced due to thinking about their incurable illness, making it difficult for them to sleep well. Based on this background, the researcher is interested in conducting research on how to overcome sleep disorders, namely by applying touch-dhikr healing therapy. The purpose of this study is to determine the effect of touch-dhikr healing therapy on the sleep quality of patients with diabetes mellitus in the Kaliwungu Health Center Working Area.

## II. METHODS

The methods used are quasi-experimental with a plan Pretest-Posttest with Control Group Design. This research was carried out in the Kaliwungu Health Center Working Area with a research period of August-September 2025. The population in this study is diabetic patients with sleep disorders in the working area of the Kaliwungu Health Center, which is a total of 86 patients. The sample used in this study was 78 respondents divided into 39 intervention groups and 39 control groups. Of the 78 patients identified as potential respondents, all were willing to participate and sign informed consent. The sampling technique in this study uses the purposive sampling by selecting respondents based on inclusion and exclusion criteria.

Respondents were allocated into two groups sequentially according to the registration list, namely 39 respondents in the intervention group and 39 respondents in the control group. During the study, all respondents participated in interventions and measurements according to the schedule without any resignation (Drop out). All data from 78 respondents were used in the final analysis of the study. In this study, the data collection method used instruments, namely respondent characteristics questionnaire, blood sugar check tool, and sleep quality questionnaire (PSQI). Data processing techniques are methods or methods used to process data so that they can be analyzed and help answer hypotheses and research questions. Data processing consists of several stages including editing, coding and tabulation (Priadana & Sunarsi, 2021). The data analysis methods used were univariate analysis and bivariate analysis. In bivariate analysis using test T-test (dependent and independent).

## III. RESULT AND DISCUSSION

### Characteristics of Diabetes Mellitus (DM) Patients

**Table 1.** Characteristics of Diabetes Mellitus Patients Based on Age and GDS (n=78)

| | Age | | GDS | |
|---|---|---|---|---|
| | **Intervention** | **Control** | **Intervention** | **Control** |
| Mean | 59,23 | 57,08 | 310,69 | 305,9 |
| Median | 60,00 | 56,00 | 305,00 | 302,00 |
| Mood | 68 | 56 | 215 | 236 |
| Minimum | 45 | 45 | 203 | 205 |
| Maximum | 70 | 75 | 510 | 504 |
| SD | 8,359 | 7,300 | 90,258 | 67,252 |

Based on table 1, it shows that the average age of the intervention group respondents was 59.23 years with a median value of 60.00 years and a mode of 68 years. Minimum age of 45 years and maximum age of 70 years with a Standard Deviation (SD) of 8.359. In the control group respondents, the average score of the patient's age was 57.08 years with a median value of 56.00 years and the mode was 56 years. Minimum age of 45 years and maximum age of 75 years with a Standard Deviation (SD) of 7,300. Blood sugar levels showed that the average GDS level of diabetic patients in the intervention group was 310.69 mg/dL with a median value of 305.00 mg/dL and a mode of 215 mg/dL. GDS is at least 203 mg/dL and GDS is at least 510 mg/dL with a standard deviation (SD) of 90.258. In the control group, an average value of 305.9 mg/dL was obtained with a median value of 302.00 mg/dL and a mode value of 236 mg/dL. The minimum value was 205 mg/dL and the maximum value was 504 mg/dL with a standard deviation value (SD) of 67.252.

**Table 2.** Characteristics of Diabetes Mellitus Patients Based on Gender, Last Education, Occupation and Length of Illness (n=78)

| **Characteristic** | **Intervention Groups** | | **Control Group** | | **Total (%)** | |
|---|---|---|---|---|---|---|
| | **Frequency** | **%** | **Frequency** | **%** | | |
| **Gender** | | | | | | |
| Man | 17 | 43,6 | 18 | 46,2 | 35 | 35% |
| Woman | 22 | 56,4 | 21 | 53,8 | 43 | 43% |
| **Final Education** | | | | | | |
| SD | 21 | 53,8 | 15 | 38,5 | 36 | 36% |
| JUNIOR | 7 | 17,9 | 14 | 35,9 | 21 | 21% |
| SMA | 10 | 25,6 | 9 | 23,1 | 19 | 19% |
| College | 1 | 2,6 | 1 | 2,6 | 2 | 2% |
| **Work** | | | | | | |
| Not Working | 19 | 48,7 | 16 | 41,0 | 20 | 20% |
| IRT | 7 | 17,9 | 10 | 25,6 | 17 | 17% |
| Laborer | 9 | 23,1 | 9 | 23,1 | 18 | 18% |
| Pensioner | 1 | 2,6 | 1 | 2,6 | 2 | 2% |
| Farmer | 3 | 7,7 | 3 | 7,7 | 6 | 6% |
| **Long Illness** | | | | | | |
| 1-5 years | 16 | 41,0 | 15 | 38,5 | 31 | 31% |
| 6-10 years | 18 | 46,2 | 20 | 51,3 | 38 | 38% |
| 11-15 years | 5 | 12,8 | 4 | 10,3 | 9 | 9% |

Based on table 2, it shows that the majority of DM patients in the intervention group were women as many as 22 patients (56.4%) and in the control group 21 patients (53.8%). The final education was dominated by the elementary school level with 21 respondents (53.8%) in the intervention group and 15 respondents (38.5%) in the control group. Based on the work, the majority of respondents did not work with 19 respondents (48.7%) in the intervention group and 16 respondents (41.0%) in the control group. Based on the length of illness, the majority of respondents were in the range of 6-10 years with a total of 18 respondents (46.2%) in the intervention group and 20 respondents (51.3%) in the control group.

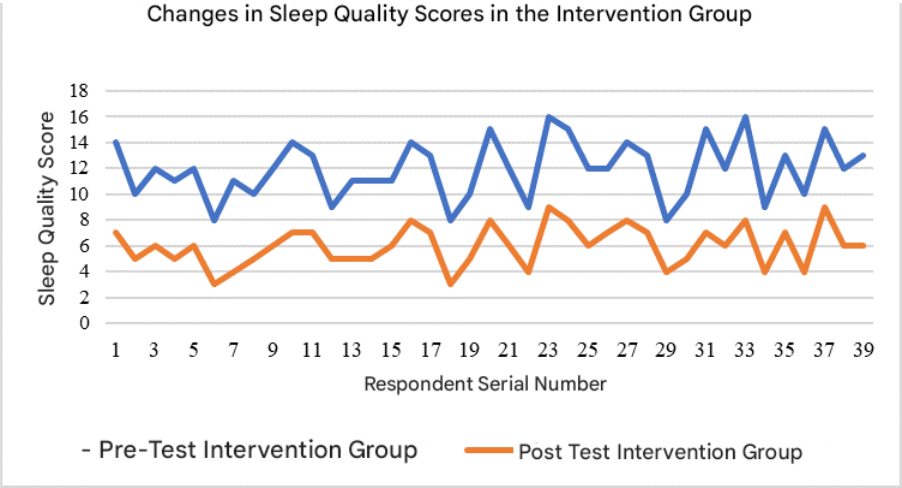
**Sleep Quality of Intervention Groups and Control Groups in DM Patients in the Working Area of Kaliwungu Health Center**

**Table 3.** Sleep Quality of the Intervention Group and Control Group in DM Patients in the Working Area of the Kaliwungu Health Center (n=78)

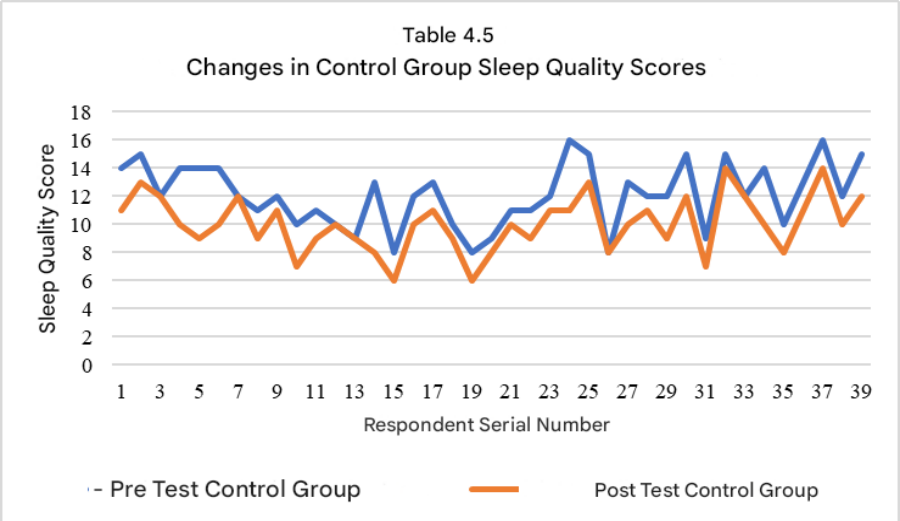
| Group | Sleep Quality | Mean | Median | Mood | Minimum | Maximum | SD |
|---|---|---|---|---|---|---|---|
| Intervention | Before | 11,92 | 12,00 | 12 | 8 | 16 | 2,229 |
| | After | 6,00 | 6,00 | 6 | 3 | 9 | 1,556 |
| Control | Before | 12,10 | 12,00 | 12 | 8 | 16 | 2,269 |
| | After | 10,05 | 10,00 | 10 | 6 | 14 | 1,986 |

Based on table 3, it shows that the average sleep quality score of the intervention group at the time of pre-test was 11.92 with a median of 12, mode 12, minimum score of 8, maximum score of 16, and Standard Deviation (SD) of 2.229. Meanwhile, the average sleep quality score at the time of the post test was 6.00 with a median of 6, mode 6, minimum score of 3, maximum score of 9, and Standard Deviation (SD) of 1.556. In the control group, Pre Test results were obtained with a mean of 12.10, a median value of 12.00, mode 12, a minimum value of 8, a maximum value of 16, and a Standard Deviation (SD) of 2.269. Meanwhile, the post test score obtained a mean value of 10.05, median of 10.00, mode 10, minimum score of 6, maximum score of 14 and Standard Deviation (SD) of 1.986.

**Changes in Sleep Quality Scores of Intervention Groups and Control Groups in DM Patients in the Working Area of Kaliwungu Health Center**




Based on the graph above, it shows that all respondents in the intervention group experienced significant changes in sleep quality scores at the pretest (before treatment) and post test (after treatment).




Based on the graph above, it shows that some respondents experienced changes in sleep quality scores during the pretest (before treatment) and post test (after treatment) but were not significant and some did not experience changes in sleep quality scores.

**The Effect of Healing Touch-Zikir Therapy on Sleep Quality in DM Patients in the Working Area of the Kaliwungu Health Center**

**Table 4.** Homogeneity Test

| Living Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 0,010 | 1 | 76 | 0,920 |

Based on table 4, the homogeneity test results were obtained of 0.920 which means that it is greater than 0.05 (p = 0.920 > 0.05) so that the results of the two variables are homogeneous.

**Table 7.** Normality Test

| Group | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistics | Df | Sig. | Statistics | Df | Sig. |
| Pre Test Intervention Group | 0,104 | 39 | 0,200 | 0,963 | 39 | 0,219 |
| Post Test Intervention Group | 0,124 | 39 | 0,132 | 0,957 | 39 | 0,139 |
| Pre Test Control Group | 0,123 | 39 | 0,142 | 0,955 | 39 | 0,124 |
| Post Test Control Group | 0,105 | 39 | 0,200 | 0,972 | 39 | 0,418 |

Based on table 7, the results of the normality test using Kolmogorov-Smirnov and Shapiro-Wilk obtained a significance value (Sig.) of all variables >0.05. Thus, the results were obtained that all data were distributed normally, both in the intervention group and the control group, before and after treatment. So that it can be concluded that the data meets the requirements of normality assumptions and can be continued to parametric statistical tests.

**Table 8.** Differences in sleep quality scores before and after touch-dhikr healing therapy in the intervention group and control group

| Variable | n | Average± Elementary | Average difference ± elementary school | 95% CI | t | p |
|---|---|---|---|---|---|---|
| Intervention | | | | | | |
| Quality of Sleep Before | 39 | 11.92 ± 2,229 | 5.92 ± 0.929 | 5,622–6,224 | 39,833 | <,001 |
| Quality of Sleep After | 39 | 6.00 ± 1,556 | | | | |
| Control | | | | | | |
| Quality of Sleep Before | 39 | 12.10 ± 2,269 | 2.05 ± 1,413 | 1,593–2,509 | 9,064 | <,001 |
| Quality of Sleep After | 39 | 10.05 ± 1,986 | | | | |

Based on table 8 in the intervention group, it was shown that there was a very significant difference between the quality of sleep before and after the intervention. The average sleep quality score before the intervention was 11.92 ± 2.229, decreasing to 6.00 ± 1.556 after the intervention. The score difference of 5.92 ± 0.929 was in the 95% confidence interval range between 5.622 to 6.224. The t-value obtained was 39.833 with a p-value = 0.001 (p < 0.05), which showed that the intervention had a very significant influence on improving the sleep quality of the respondents.In the control group, sleep quality also showed changes between before and after observation, but not as much as in the intervention group. The average sleep quality score before observation was 12.10 ± 2,269 and decreased to 10.05 ± 1,986 after observation. The score difference was 2.05 ± 1,413 with a 95% confidence interval between 1,593 and 2,509. A t-value of 9.064 with p < 0.001 indicated that the change was significant, but the increase was not as strong as that in the intervention group. This decrease showed a change in the control group, even without direct intervention. Although both groups showed significant results, overall a greater decline in before to after occurred in the intervention group compared to the control group.

**Table 9.** Differences in sleep quality after touch-dhikr healing therapy in the intervention group and control group (n=78)

| Variable | n | Average± Elementary | Average difference ± elementary school | 95% CI | t | p |
|---|---|---|---|---|---|---|
| Sleep Quality Intervention | 39 | 6.00 ± 1,556 | -4.051 ± 0.404 | -4,856 – -3,247 | -10,028 | <,001 |
| Sleep Quality Control | 39 | 10.05 ± 1,986 | | -4,857 – -3,246 | | |

Based on table 9, the results of the independent t-test showed that the average score of the intervention group was 6.00 with SD 1.556 while the control group had an average score of 10.05 with SD 1.986. The mean difference between the two groups was -4.051 with a standard error of 0.404. The 95% CI value of the intervention group was -4,856 – -3,247 and the control group was -4,857 – -3,246. The t-value of -10.028 so that p value = 0.001 ($p < 0.05$) showed that there was a significant difference between the intervention group and the control group. Thus, the therapy has a significant effect on improving the quality of sleep of DM patients.

**Discussion**

**Differences in Sleep Quality Scores Before and After Touch-Zikir Healing Therapy in the Intervention Group and the Control Group**

Based on the results of the study, it was shown that there was a significant difference between the sleep quality scores of patients with diabetes mellitus before and after being given touch-dhikr healing therapy. The results of the Paired Sample t-Test showed that both the intervention group and the control group experienced a decrease in sleep quality scores, with the same significance value of p-value 0.001 < 0.05. In the intervention group, the results were obtained from the pre-test score range of 8-16 and post test 3-9, the average pre-test score was 11.92 while the post test score decreased to 6.00 with a p-value obtained of 0.001 ($p < 0.05$). In the control group, the results of the pre-test score range were 8-16 and post test 6-14, the average pre-test score was 12.10 while the post-test score decreased to 10.05 with a p-value obtained of 0.001 ($p < 0.05$). Thus, although statistical tests in both groups produced significant values ($p < 0.001$), the rate of decline showed a significant difference between the intervention group and the control group. In the intervention group, the average pre-treatment score was 11.92 and decreased to 6.00 after therapy, with a mean difference of 5.92. Meanwhile, in the control group, the average initial score of 12.10 decreased to 10.05, with an average difference of only 2.05. This means that the intervention group showed almost three times greater a decrease in score than the control group. When viewed from the t-value, the intervention group showed a very high value of 39.833. This value illustrates that the difference between sleep quality scores before and after the intervention has a huge difference when compared to the variation in data among respondents.

Statistically, high t-values in the intervention group indicated a strong and consistent effect of the intervention, rather than coincidence or external factors. Thus, the changes that occur reflect the real effects of the interventions given. This high t-value is also in line with the p< value of 0.001, which suggests that the result is statistically significant. Therefore, it can be concluded that the intervention had a very strong and consistent impact on improving sleep quality in the intervention group.The control group had a smaller t-value of 9.064. Although this value was statistically significant, it was much smaller compared to the intervention group. The t-value showed that there was a difference in sleep quality scores between before and after observation in the control group, but the changes that occurred were not as large as the changes experienced by the intervention group. Thus, the improvement in sleep quality in the control group was smaller and less strong, so it can be said that the improvement that occurred was not as intense or as strong as the effect caused by the intervention in the intervention group. The changes that occurred in the control group were likely due to external factors while the changes in the intervention group reflected the apparent effectiveness of the therapy given. In other words, there was a decrease in sleep quality scores after being given touch-dhikr healing therapy. This indicates a significant improvement in sleep quality after the intervention is performed. Based on the score of each component, the most prominent component that improved was subjective sleep quality with a difference in pre and post mean values of 1.21. It can be concluded that respondents subjectively felt the greatest improvement in sleep quality.

Furthermore, there was daytime dysfunction with a mean value of 1.15 and sleep duration with an increase in sleep duration. The largest decrease in score on subjective sleep quality showed that the intervention provided could lower anxiety and increase calmness so that the perception of sleep quality improved. While an increase in sleep duration and a decrease in daytime dysfunction showed that the intervention not only accelerated the time to fall asleep, but also improved the quality of sleep which further restored the body and mind. Physiologically, this effect is in line with the relaxation or tactile mechanism

that activates the parasympathetic system and lowers stress, making it easier for the body to achieve a phase of deep sleep and optimal recovery. This is supported by a study by Ünal Aslan & Çetinkaya (2021) which shows that touch therapy can improve sleep quality and lower PSQI scores. Meanwhile, the components that experienced minor improvements, namely sleep disorders and the use of sleeping pills, did not change because respondents did not use sleeping pills. Sleep disorders experienced small improvements due to the physical factors experienced by the respondents due to the effects of the disease. Physical factors include polyuria (frequent urination), polydipsia (frequent thirst), and polyphagia (frequent eating) and itching (Bingga, 2021). In other words, the intervention can improve the quality of subjective sleep, but the physical factors that cause waking up at night still need their own clinical attention.

Based on the score of each component in the control group, each component did not experience a significant decrease in score. Overall, the results obtained showed that the control group did not experience significant changes in the various aspects measured. This suggests that the significant changes observed in the intervention group were affected by the intervention given. This could mean that without intervention there were no significant changes, so the control group had not experienced adequate improvements in their sleep quality. These results are in line with research conducted by Zhang et al., (2024) showed results that without the intervention there was no significant change in the sleep quality of the control group. This is supported by the results of the research Sugijantoro et al., (2022) Where in the control group whose sleep quality was only measured without any intervention, the results showed no significant change in the sleep quality score of the control group, which indicates that there was no improvement in sleep quality without intervention.The significant changes that occur in the control group can be caused by a variety of external factors beyond the study treatment. These factors include natural changes in sleep, environmental factors, temporary emotional states, Daily Fatigue Levels. A decrease in scores in the control group can also occur due to changes in the respondent's natural conditions (e.g., improvement in sleep routine, stress reduction, adaptation to the study environment). Even if the intervention is not given, these external-factors may affect the outcome. Based on the results of the study Shin et al., (2020) found that exposure to green spaces was associated with improved sleep quality.

This means that the living environment can affect the quality of sleep, including in the control group. This is supported by the results of the study which states that daily sleep quality scores are influenced by daily fatigue factors, but the change is only temporary (Pastier et al. 2021). Similar research suggests that sleep disorders due to emotional stress in the absence of certain interventions, will not really improve in the long term (Palagini et al., 2024). Those factors are not strong enough to produce a significant improvement in overall sleep quality. Thus, although the control group showed a decrease in sleep quality scores, the change was thought to be a temporary effect due to the influence of external factors experienced by respondents. Therefore, the intervention can still be considered clinically effective in improving sleep quality Non-pharmacological interventions in the form of therapy Healing touch-Dhikr can significantly improve sleep quality with a longer duration of time due to the creation of relaxation effects and a sense of security. This is supported by the research of Zeta, Chaidir & Pambudi (2023), which obtained the result that there was an improvement in sleep quality by 26.7% from before and after dhikr. The purpose of dhikr is to calm the mind, relieve anxiety, and increase self-control (Fatton, 2024). This effect can improve the quality of sleep of respondents. While in the research about A Touch on Spiritual Care done by Ünal Aslan & Çetinkaya (2021) it was found that there was a statistically significant difference between the intervention group and the control group with the PSQI result, namely Z=-7,292.

Affective touch before bed is thought to have a positive effect on sleep, with a longer span of time. It can affect sleep quality through neurobiological mechanisms such as the release of oxytocin, which can increase security and reduce stress (Dueren et al., 2022). The results of other studies show that spiritual practice (dhikr) is one of the main components in the model Islamic emotional resilience which contributes significantly to a decrease in emotional responses that impact blood pressure regulation. This intervention was shown to have a significant effect on reducing systolic ($p = 0.00$) and diastolic ($p = 0.00$) blood pressure, as well as improving spiritual well-being ($p = 0.00$) in the intervention group (Sukarmin et al., 2025). Spiritual stimulation through dhikr also plays a role in increasing the perception of healing in patients. The

findings show that dhikr therapy not only improves sleep quality, but also has a positive effect on patients' understanding of the healing process, so that they feel more optimistic, calm, and confident in dealing with their illness. This mechanism further confirms that spiritual intervention can be an effective and complementary approach in the management of patients with chronic diseases such as diabetes mellitus.

**The Effect of Healing Touch-Zikir Therapy on the Quality of Sleep of Patients with Diabetes Mellitus in the Intervention Group and Control Group**

Based on the graph of the results of the study in the intervention group, it was seen that all respondents experienced a significant decrease in sleep quality scores between pretest (before treatment) and posttest (after treatment). The pretest score was in the score range of 8–16 which indicates poor sleep quality (score>5). Meanwhile, after the intervention, there was a decrease in scores in the range of 3–9, where the acquisition of a score of 3 showed good sleep quality (<5). After the implementation of the intervention, the respondent felt calmer so that they could easily start sleeping and feel more satisfied with their sleep. According to the Foundation, (2024) the four characteristics that determine good sleep quality include easy sleep initiation, regular sleep for 7–9 hours every day, with a simple sleep duration of 15–20 minutes, and waking up feeling refreshed. This is what makes the respondents' sleep quality scores decrease. This decrease in score shows that the therapy applied has a significant impact on changes in sleep quality so that the sleep quality of the respondents becomes better. These results are in line with research conducted by Shidiq & Soleman, (2023) where the pre-test results obtained a score of 11-16 while the post-test results showed a decrease in scores, namely 7-10. So it can be concluded that the dhikr therapy applied can help improve sleep quality. This is supported by previous research conducted by Bağcı, H., & Yücel, (2019) by applying therapeutic touch for 10 minutes on 3 consecutive days before bedtime. The results obtained were found to be significant differences in PSQI scores before and after the intervention. Thus, the provision of appropriate interventions can help patients to get better quality of sleep.

Based on the graph of the results of the study in the control group, it was seen that some respondents experienced a slight change in sleep quality scores between the pre-test and post-test periods without any intervention. However, the change did not show a significant difference. There are still many respondents who do not experience a decrease in score and there are also those who experience a slight decrease in sleep quality score. The pretest score is in the range of 8–16, while the posttest score is in the range of 6–14. Based on these results, both during the pre-test and post-test, all respondents were still categorized as experiencing poor sleep quality (score >5). These results show that in the absence of special interventions or treatments, the quality of respondents' sleep did not experience a significant improvement. Small changes that occur are likely due to external factors such as temporary emotional states and daily levels of fatigue. This is supported by the results of the study which states that daily sleep quality scores are influenced by daily fatigue factors, but the change is only temporary (Pastier et al. 2021). Similar research suggests that sleep disorders due to emotional stress in the absence of certain interventions, will not really improve in the long term (Palagini et al., 2024). Those factors are not strong enough to produce a significant improvement in overall sleep quality. This is supported by research conducted by Wang & Chen (2025) Elderly people with poor sleep quality also reported that the control group without the intervention did not experience significant improvements in sleep quality, in contrast to the intervention group that showed a noticeable improvement.

Based on the results of research on the intervention and control groups, it can be concluded that touch-dhikr healing therapy is effective in improving the quality of sleep of patients with diabetes mellitus. This is evidenced by a significant decrease in sleep quality scores in the intervention group. The decrease in score indicates an improvement in sleep quality. Meanwhile, in the control group that did not receive the intervention, the change in sleep quality scores between pretest and posttest showed no significant difference. The sleep quality scores of all respondents remained in the poor sleep quality category (score > 5). This shows that without special interventions, respondents' sleep quality did not experience a significant improvement. This is supported by a study (Ünal Aslan & Çetinkaya, 2021) located in the USA involving 73 respondents with 36 intervention group respondents and 37 control group respondents, found a statistically significant difference between the intervention group and the control group.

Based on the results of the study, it was shown that there was a significant difference between the intervention group and the control group on the sleep quality of patients with diabetes mellitus after being given touch-dhikr healing therapy. In the Independent Sample T-Test, the average score of the sleep quality post test score in the intervention group after being given therapy was 6.00 while in the control group the average sleep quality post test score without any therapy was 10.05. These results indicate that there is a significant difference in average sleep quality between the two groups. The p-value obtained was 0.001 ($p < 0.05$), which indicates a significant difference between the two groups. Based on the results of the study, it can be concluded that the group that was given intervention in the form of touch-dhikr healing therapy had a better (lower) sleep quality score than the control group that did not receive any intervention.Thus, the results of this study strengthen the evidence that touch-dhikr healing therapy is an effective and safe non-pharmacological intervention to improve the sleep quality of patients with diabetes mellitus. In healing touch, sufferers can feel a higher level of relaxation, while dhikr can help calm the mind before going to bed. Combining these two therapies is considered more effective to create a holistic approach, covering physical, mental, emotional, and spiritual aspects. In the end, this will have a positive impact on the overall quality of life so that the quality of the patient's sleep will be better.

## IV. CONCLUSION

The level of sleep quality before and after therapy in the intervention group showed significant changes. Before being given Healing Touch-Zikir therapy, the average sleep quality score of the respondents was 11.92, while after the intervention it decreased to 6.00 which showed a significant improvement in sleep quality ($p < 0.001$).The level of sleep quality in the control groups before and after the study did not experience significant changes. Although there was a slight statistical decrease in scores from 12.10 to 10.05 ($p < 0.001$), both were still in the poor sleep quality category. This means that without special interventions, the sleep quality of DM patients is less likely to experience a meaningful improvement.

Although both groups showed the same significance value ($p < 0.001$), the meaning of the changes that occurred was clinically different. The intervention group experienced almost three times greater scoring declines than the control group (5.92 to 2.05 differences). This suggests that the changes that occurred in the control group were likely due to external factors, while the decrease in scores in the intervention group was a real impact of the therapy given.Based on the comparison test between groups, there was a significant difference between the intervention group and the control group after the intervention (p-value = $0.001 < 0.05$). The intervention group that received touch-dhikr healing therapy had a better average sleep quality score than the control group that did not receive the treatment. This proves that touch-dhikr healing therapy is effective in improving the sleep quality of patients with diabetes mellitus.

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