The Effect of Al-Qur'an Al-Rahman Murottal Therapy on Reducing Blood Sugar Levels in Patients with Type 2 Diabetes Mellitus in the Working Area of the Telaga Biru Health Center

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ABSTRACT

This study aims to determine the effect of Al-Qur'an Al-Rahman murottal therapy on reducing blood sugar levels in patients with type 2 diabetes mellitus. This research uses the design of an experiment Pre-Post One Group. The sample was taken by simple random sampling technique with odd-numbered respondents (1,3,5,7,9 etc.) with a sample of 22 respondents. Data collection using observation sheets and data analysis using the Wilcoxon test with a meaning level of 95% (\(a = 0.05\)). The results of this study showed that blood sugar levels decreased from Pre-Test to Post-Test with Mean Ranks of 11.50 and statistical test results were obtained \(p = 0.000\) (\(p < 0.05\)) so that it can be concluded that there is an influence of Qur'an murottal therapy on reducing blood sugar levels in patients with type 2 diabetes mellitus.

INTRODUCTION

Elevated blood glucose levels above normal limits are a sign of metabolic disorders known as diabetes mellitus (DM). A decrease in insulin secretion by the pancreas gland leads to an increase in blood sugar in people with type 2 diabetes. Diabetes, one of the non-communicable diseases (NCDs), has become a major threat to public health around the world. Diabetes is 70% of global deaths, and more than half of the burden of disease is diabetes (Aliffia 2021).

The World Health Organization (WHO) reports that in 2020, the prevalence of diabetes in adults over 18 years worldwide increased from 4.7% in 2014 to 8.5%. This shows a faster increase in developed countries. Diabetes caused 1.6 million direct deaths in 2016 (Aliffia 2021).

In 2019, the International Diabetes Federation (IDF) reported that at least 483 million people aged 20 to 79, or 9.3% of the total population of the same age worldwide, had diabetes. With age, the prevalence of diabetes is estimated to increase to 111.2 million people or 19.9% of the population in the age range of 65 to 79 years. This figure is expected to continue to rise to 578 million by 2030 and 700 million by 2045 (Aliffia 2021).

Based on data from the Ministry of Health of the Republic of Indonesia (Kemenkes) in 2018, the prevalence of diabetes mellitus in Indonesia based on a doctor's diagnosis at the age of over 15 increased to 2%. DKI Jakarta Province has the highest prevalence of 3.4%, while Gorontalo Province ranks 6th out of 34

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Diabetes Mellitus is a disease related to glucose levels in the blood and is referred to as a silent killer and some control, and better metabolism resulting in decreased blood glucose levels (Mulia Sari, 2013). Type II diabetes is the most common, occurring between 90 percent and 95 percent (Habiburrahman, Hasneli, and Amir 2018).

Many factors can cause DM, including autoimmune diseases, lifestyle changes, obesity, diet, lack of physical activity, aging, smoking, and stress (Kurniadi & Nurrahmi, 2015). Most cases of type II DM are caused by a changing lifestyle, obesity, unhealthy diet, lack of physical activity, aging process, smoking, and stress (Habiburrahman, Hasneli, and Amir 2018).

Stress causes excessive production of the hormones glucagon and cortisol, which increase glucose production by the liver and inhibit the use of glucose in muscle and fat tissue by countering the action of insulin. There is a strong correlation between DM and stress (Habiburrahman, Hasneli, and Amir 2018).

Macrovascular and microvascular disorders are some of the many complications of diabetes mellitus that can arise as a result of ineffective treatment (Permama, 2008). Heart disease and stroke are examples of macrovascular disorders, while microvascular disorders such as nephropathy, retinopathy, and neuropathy can cause diabetic gangrene and result in amputation (Habiburrahman, Hasneli, and Amir 2018).

Diabetes mellitus, also known as "silent criminal" or "mother disease", is a disease related to the level of glucose in the blood. Another study showed that Quran murottal therapy can significantly reduce blood glucose levels of type 2 DM patients at Maos Health Center and Graha Amanah Maos Clinic. In addition, research shows that type 2 DM patients in Surabaya lower their blood glucose levels before and after listening to the Quran murottal (Wiwi, Meters, and Windra 2020).

Various experts, including Al-Qodi, Managing Director of the Islamic Medical Institute for Education and Research in Florida, have proven that Quranic murottal therapy, a religious relaxation technique, can speed healing. At the XVII annual conference of the American Association of Physicians, he presented the results of his study of the influence of the Quran on humans from the perspective of physiology and psychology (Syafyu Sari and Afnuhazi 2022)

Reading the Quran at a moderate rhythm, not too fast or too slow is called murottal. The voice of the person reading the Quran and the meaning it derives shapes the recitation of the Quran. Due to the perfect harmony in the repetition of words and letters, the balanced rhythm, the information in each verse, and the beautiful harmonization of the verses of the Quran listening to the Quran can cure many diseases.

To reduce stress, Qur'anic murottal therapy with a slow, harmonious rhythm can activate natural endorphins or serotonin. This mechanism can lower blood pressure, breathing, pulse, heart rate, and brainwave activity, as well as decrease feelings of fear, anxiety, and tension. In addition, they can improve the body's chemical system, which in turn lowers blood pressure, reducing tension, anxiety, and tension (Syafyu Sari and Afnuhazi 2022).

In a research study conducted by Abdurrochman, Perdana, and Andhika (2008), Qur'anic stimuli can cause delta waves of 63.11% in the frontal and central areas of the right and left brain. These delta waves showed that respondents' condition was better than music therapy stimuli. Surah Ar-Rahman, which consists of 78 verses and tells about God's merciful nature and compassion for His servants, was chosen as one of the suras in the Qur'an that has therapeutic effects. According to research conducted on Quranic murottal therapy, Surah Ar-Rahman is used for 11-15 minutes using verses that are repeated 31 times. (Syafyu Sari and Afnuhazi 2022).

Research Study conducted by Sri Mulia Sari (2020) Murottal is a recording of the sound of the Qur'an sung by a quiz (Qur'an reader). Sound stimulation in murottal will increase the release of endorphins. Such release will cause relaxation. So that levels of cortisol, epinephrine-norepinephrine, dopamine, and growth hormone in serum will decrease. This relaxed state results in a slower breathing rate, deeper thinking, emotional control, and better metabolism resulting in decreased blood glucose levels (Mulia Sari and Sajili 2020).

Based on a research study conducted by Wiwi Sartika, Metri Lidya, and Alsri Windra Doni (2020) Diabetes Mellitus is a disease related to glucose levels in the blood and is referred to as a silent killer and some also call it the mother of disease. Chronic complications of diabetes mellitus in Indonesia consist of neuropathy 60%, coronary heart disease 20.5%, diabetic ulcer 15%, retinopathy 10%, and nephropathy 7.1%. Another study showed that Quran murottal therapy can significantly reduce blood glucose levels in type 2 DM patients.
at Maos Health Center and Graha Amanah Maos Clinic. Likewise, the results of this study found differences in blood glucose levels before and after listening to Quran murottal in type 2 DM patients in Surabaya (Wiwi, Meters, and Windra 2020).

Hadi, Wahyuni & Purwaningsih in Zahrofi (2013) explained that Qur’an murottal therapy is Qur’an reading therapy which is religious therapy where a person has recited verses of the Qur’an for several minutes or hours to have a positive impact on one’s body. Based on research conducted on Qur’anic murottal therapy, it was obtained that the period of giving Qur’an murottal therapy was carried out for 11-15 minutes Surat Ar-Rahman using earphones that were installed in the patient’s ears (Fitriyatun Isi, & Handayani et al, 2014 in Syafyu Sari & Afnuhaizi, 2022).

Based on a study conducted by Farid Hajiri, Sri Endang Pujiastuti, and Joni Siswanto (2019) Murottal recitation of the Quran has a relaxing effect and can reduce anxiety and improve sleep quality if listened to at a murottal tempo between 60-70 dh constantly, there is no sudden change in rhythm, and in a soft tone. With murottal therapy, the quality of one's awareness of God will increase, whether or not the person knows the meaning of the Quran. In this case, awareness will increase one's submission to the power of Allah SWT, in this state the brain is on alpha waves, a brain wave at a frequency of 7-14 Hz, which is an optimal brain energy state that can reduce to relieve stress. In a calm brain state, a person can think clearly and can form positive coping or expectations about himself (Hajiri, Pujiastuti, and Siswanto 2019).

In Islamic Teachings the Qur’an is one of the antidotes and mercy for believers, Based on the Word of Allah SWT in QS. Al-Isra’s verse 82:

\[
\text{wa nunazilla minal-qur-ani maa becomes syifaa-uw of rohmatul lil-mu-miniina wa laa yaziiduzh-zhoolimiina illaa khosaaroo}
\]

It means: "And we derive from the Qur’an (something) which is the antidote and mercy for the believer, while for the unjust (the Qur’an) will only increase the loss". (QS. Al-Isra’Verse 82)

Based on preliminary studies that have been conducted by researchers, the application of murottal audio therapy has not been widely carried out in several health facilities in Gorontalo Province, one of which is at the Telaga Biru Health Center. In a preliminary study conducted by researchers at the Telaga Biru Health Center, it was found that 43 people with diabetes mellitus had diabetes. From the results of interviews conducted on 5 people with diabetes mellitus, it is known that the intervention was carried out only by taking drugs and diabetes gymnastics given by the puskesmas without any other intervention. In addition to interviewing people with diabetes mellitus, researchers also interviewed one of the health workers, it is known that murottal therapy is rarely done as an intervention in the management of diabetes mellitus. Based on the above background, researchers are interested in conducting a study "The Effect of Ar-Rahman Murottal Therapy on Reducing Current Blood Sugar Levels (GDS) in Type 2 Diabetes Mellitus Patients at Telaga Biru Health Center"

**METHOD**

This research uses the design of an experiment Pre-Post One Group. The sample was taken by simple random sampling technique with odd-numbered respondents (1,3,5,7,9 etc.) with a sample of 22 respondents. Data collection using observation sheets and data analysis using the Wilcoxon test with a meaning level of 95% (α = 0.05).
RESULT
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The results of this study aim to see the characteristics of respondents, frequency distribution of independent variables, and dependent variables which include: Age, Address, Religion, Ethnicity / Nation, Gender, Occupation, Last Education, Long Suffering from DM, and Oral Antidiabetic Drugs.

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Table 1. Frequency Distribution based on the age of respondents with DM in the Telaga Biru Health Center Work Area

<table>
<thead>
<tr>
<th>Respondent's Age</th>
<th>Frequency Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>46-50</td>
<td>22.7%</td>
</tr>
<tr>
<td>51-55</td>
<td>13.6%</td>
</tr>
<tr>
<td>56-60</td>
<td>31.8%</td>
</tr>
<tr>
<td>61-65</td>
<td>18.2%</td>
</tr>
<tr>
<td>66-70</td>
<td>9.1%</td>
</tr>
<tr>
<td>71-75</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Sumber: Data Primer 2023

Table 1. It shows that the highest age of respondents is found at the age of 56-60 years, which is 7 respondents (31.8%) and the lowest age of respondents is in the age range of 71-75 years, which is 1 respondent (4.5%).

Table 2 Frequency Distribution based on the address of respondents with DM in the Telaga Biru Health Center Working Area

<table>
<thead>
<tr>
<th>Respondent's Address</th>
<th>Frequency Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dumati</td>
<td>50%</td>
</tr>
<tr>
<td>Tuladenggi</td>
<td>18.2%</td>
</tr>
<tr>
<td>Ulapato B</td>
<td>13.6%</td>
</tr>
<tr>
<td>Pantadio Barat</td>
<td>4.5%</td>
</tr>
<tr>
<td>Pantungo</td>
<td>9.1%</td>
</tr>
<tr>
<td>Lupoyo</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Sumber: Data Primer 2023

Table 2 shows that the addresses of respondents with diabetes mellitus in the majority of Dumati Village were 11 respondents (50.0%), while the addresses of respondents with diabetes mellitus in West Pantadio Village were balanced with the addresses of people with diabetes mellitus in Lupoyo Village, which amounted to 1 respondent (4.5%).

Table 3 Frequency Distribution based on religion, ethnicity/nation of respondents with DM in the Telaga Biru Health Center Working Area

<table>
<thead>
<tr>
<th>Religion/Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Islam</td>
</tr>
<tr>
<td>Indonesia</td>
</tr>
</tbody>
</table>

Sumber: Data Primer 2023
Based on table 3, shows that the religion and ethnicity of respondents with diabetes mellitus are the majority of Muslims and Indonesian ethnicities/nations, namely 22 respondents (100%).

**Table 4 Frequency Distribution by gender, respondents with DM in the Telaga Biru Health Center Working Area**

![Gender Distribution Chart]

Sumber: Data Primer 2023

Based on Table 4 shows that the majority of respondents suffering from diabetes mellitus are female respondents totaling 16 respondents (72.7%), and male respondents totaling 6 respondents (27.3%).

**Table 5 Frequency Distribution based on the work of respondents with DM in the Telaga Biru Health Center Working Area**

![Occupation Distribution Chart]

Sumber: Data Primer 2023

In the characteristics of work, the majority of respondents are Housewives (IRT), namely 16 respondents (72.7%).

**Table 6 Frequency Distribution based on the last education of respondents with DM in the Telaga Biru Health Center Working Area**

![Education Distribution Chart]

Sumber: Data Primer 2023

In the latest education characteristics, respondents with diabetes mellitus in the majority of elementary schools (SD) amounted to 15 respondents (68.2%), and respondents whose last high school education amounted to 1 respondent (4.5%).

**Table 7 Frequency Distribution based on the length of suffering from DM respondents with DM in the Telaga Biru Health Center Working Area**

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Based on the characteristics of long-suffering from DM in the highest respondents, namely 2 and 4 years, 4 respondents each (18.2%), the lowest respondents who had long suffered from DM were 1 respondent (4.5%) with a long-suffering of 1.8 and 9 years.

Table 8 Frequency Distribution based on oral antidiabetic drugs of respondents with DM in the Working Area of Telaga Biru Health Center

<table>
<thead>
<tr>
<th>Oral Antidiabetic Drugs</th>
<th>Mean</th>
<th>Median</th>
<th>Hours Deviasi</th>
<th>Min-max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metformin</td>
<td>13 respondents (59.1%)</td>
<td>13 respondents (59.1%)</td>
<td>4.5%</td>
<td>59.1%</td>
</tr>
<tr>
<td>Gliquidone</td>
<td>1 respondent (4.5%)</td>
<td>1 respondent (4.5%)</td>
<td>1 respondent (4.5%)</td>
<td>36.4%</td>
</tr>
<tr>
<td>Glimipirode</td>
<td>1 respondent (4.5%)</td>
<td>1 respondent (4.5%)</td>
<td>1 respondent (4.5%)</td>
<td>36.4%</td>
</tr>
</tbody>
</table>

In the characteristics of Oral Antidiabetic Drugs, the majority of respondents took Metformin Drugs, which amounted to 13 respondents (59.1%) and the minority of respondents took Gliquidone 1 respondent (4.5%)

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Table 9 Distribution of blood sugar test results during pretest and posttest respondents

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Hours Deviasi</th>
<th>Min-max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>271.82</td>
<td>246.00</td>
<td>69.291</td>
<td>171 – 510</td>
</tr>
<tr>
<td>Posttest</td>
<td>168.77</td>
<td>158.00</td>
<td>52.236</td>
<td>108 – 310</td>
</tr>
</tbody>
</table>

Based on table 3.9 shows that the average blood sugar value during respondents before Qur'anic murottal therapy was 271.82, the median value was 246.00, the standard deviation was 69.291 with the blood sugar value when it was at least 171 mg/dl, and a maximum of 510 mg/dl. When compared, the average value of blood sugar after Qur'anic murottal therapy is 168.77, the median value is 158.00, the standard deviation is 52.236 with the blood sugar value when it is at least 108 mg/dl and the maximum value is 310 mg/dl.
Table 10 The Effect of Qur'an Murottal Therapy on Lowering Blood Sugar Levels in Type 2 Diabetes Mellitus Patients in the Working Area of Telaga Biru Health Center (N = 22)

<table>
<thead>
<tr>
<th>Ranks</th>
<th>N</th>
<th>Mean Ranks</th>
<th>Sum Of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postest Test Results (Mg/dL) -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest Test Results (Mg/dL)</td>
<td>22</td>
<td>11.50</td>
<td>253.00</td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>0</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>0</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Ties</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on table 10 data analysis shows that the value of Negative Ranks or the difference (Negative) between the pretest and posttest results is the value of N 22, Mean Rank 11.50, Sum of Ranks 253.00. This value indicates that there is a decrease from pretest to posttest scores. The value of Positive Ranks or the difference (Positive) between the pretest and post-test results is N 0, Mean Ranks 00, and Sum of Ranks 00 which means there is no increase between pretest to post-test values. Ties are the similarity of pretest and posttest values, here the ties value is 0, so it can be said that there is no equal value between the pretest and posttest.

Test Statistics

<table>
<thead>
<tr>
<th>Posttest Examination Results (Mg/dL) –Pretest Test Results (Mg/dL)</th>
<th>Asymp Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With</td>
<td>-4.107</td>
</tr>
<tr>
<td>Asymp Sig. (2-tailed)</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Based on Wilcoxon's hypothesis test using the second spss output, namely "Test Statistic", known as Asymp.Sig. (2-tailed) is worth 0.000 (= < 0.05), then it can be concluded that it is accepted. This means that there is an effect of Qur'an al-Rahman murottal therapy on reducing blood sugar levels in patients with type 2 Diabetes Mellitus in the Telaga Biru Health Center Work Area. $\alpha$H_a

DISCUSSION

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Age

Based on the results of the study, it is known that the age of respondents who suffer from DM is the most in the age range of 56-60 years, namely 7 respondents (31.8%). According to the assumption of researchers, at the age of 56-60 human organs will experience a decrease in organ function, one of which is the pancreas, especially in a state of stress can cause an increase in blood sugar levels.

According to Nainggolan et al (2013), a study shows that the older the tendency to suffer from diabetes the higher the. The age group most at risk is at the age of 55-64 years. Nevertheless, Trisnawati and Setyorogo (2013) showed that there is an association between age and the risk of type 2 DM and risk: the age group under 45 years has a 72 percent lower risk than the age group over 45 years. On the other hand, Nainggolan et al. (2013) stated that the age group of 55-64 years has a 14 times greater risk of suffering from diabetes than the age group of 25-34 years.

Tribes

Based on the results of the study, it is known that all respondents with DM at the Telaga Biru health center have Indonesian ethnicity. According to the researcher's assumption, the researcher came from Indonesia and the location of the research was in Indonesia, all respondents came from Indonesia.

According to Nadeau & Dabelea, (2017), The influence of race and ethnicity on the incidence of type 2 DM is very large at a young age. Asians are more at risk of developing type 2 DM than Europeans because Asians do less frequent activities than Europeans. Certain ethnic groups such as Indians, Chinese, and Malays are also more at risk of developing type 2 DM than Europeans.
Gender

Based on the results of the study, it shows that the distribution of respondents by gender consists of 6 male respondents (27.3%), and 16 female respondents (72.7%), which means that most respondents with DM are female. According to the researchers' assumptions, this is because women have higher stress levels compared to men. Stress in this case is thinking about everything in the family.

A study conducted by Soewondo & Pramono (2016) shows that women experience diabetes more often in Indonesia (61.6%), with housewives having the most jobs (27.3%). Similarly, in the study of Nainggolan et al. (2013), women developed diabetes more often, but there was no difference in risk between men and women.

Work

Based on the results of the study, showed that the distribution of respondents with DM at the Telaga Biru Health Center based on the work of most housewives was 16 respondents (72.7%). According to the researchers' assumption, the respondents they found were mostly female with the average being housewives or not working.

Soewondo and Pramono (2014), found that housewives (27.3%) and entrepreneurs or service providers (20.2%) are the most vulnerable to DM. However, Mongisidi's study (2014) found that patients who did not work more often experienced DM. A study conducted by Mongisidi (2014) showed a relationship between employment status and the incidence of diabetes, with a risk level of 1,544.

Recent Education

Based on the results of the study, showed that the distribution of respondents with DM at the Telaga Biru Health Center based on education was mostly elementary school graduates, namely 15 respondents (68.2%). According to the researcher's assumption respondents at that time did not continue to the next level due to family economic factors.

According to a research study conducted by Anderson (2014), Education contributes to the improvement of healthy mindsets and behaviors, to help a person understand the disease and its symptoms. Studies conducted show a significant relationship between education level and the incidence of type 2 DM.

The results of the pretest and post-test blood sugar levels of respondents with type 2 diabetes in the Telaga Biru Health Center Work Area

Based on the results of the study showed that the average blood sugar value during respondents before Qur'an murottal therapy was 271.82, the median value was 246.00, the standard deviation was 69.291 with the blood sugar value when it was at least 171 mg/dl, and the maximum of 510 mg/dl. According to the assumption of researchers, this is because, in patients with DM, there are abnormalities in the release and work of insulin whose function is to maintain the balance of glucose levels in the blood so that blood sugar levels increase.

According to Setiati, et al (2014), DM is a group of metabolic diseases with hyperglycemia characteristics that occur due to abnormalities in insulin secretion, insulin work, or both. DM is usually characterized by the results of plasma glucose examination during >200 mg/dl, (11.1 mmol / L) or fasting plasma glucose > 126 mg/dl (7.0 mmol / L).

When compared, the average value of blood sugar after Qur'anic murottal therapy is 168.77, the median value is 158.00, the standard deviation is 52.236 with the blood sugar value when it is at least 108 mg/dl and the maximum value is 310 mg/dl. According to the assumption of researchers, there is a change in blood sugar levels after doing Qur'anic murottal therapy that can calm the heart and mind.

Various experts, including Al-Qodi, Managing Director of the Islamic Medical Institute for Education and Research in Florida, have proven that Quranic murottal therapy, a religious relaxation technique, can speed healing. At the XVII annual conference of the American Association of Physicians, he presented the results of his study of the influence of the Quran on humans from the perspective of physiology and psychology (Syafyu Sari and Afnahazi 2022).

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The Effect of Qur'an Murottal Therapy on Reducing Blood Sugar Levels in Type 2 Diabetes Mellitus Patients in the Telaga Biru Health Center Work Area

Based on the results of data analysis, it shows that the value of Negative Ranks or the difference (Negative) between the pretest and posttest results is the value of N 22, Mean Rank 11.50, Sum of Ranks 253.00. This value indicates that there is a decrease from pretest to posttest scores. The value of Positive Ranks or the difference (Positive) between the pretest and post-test results is N 0, Mean Ranks 00, and Sum of Ranks 00 which means there is no increase between pretest to post-test values. Ties are the similarity of pretest and posttest values, here the value of the tie is 0, so it can be said that there is no equal value between pretest and posttest.

The hypothesis test used is based on the results of the data normality test seen from the results of Shapiro Wilk with sig values. Blood sugar during the pretest and post-test is 0.001 and 0.017 respectively (≤ <0.05) which means that the data is abnormally distributed, so the test used is the Wilcoxon test. Based on the Wilcoxon hypothesis test using spss output known to Asymp.Sig. (2-tailed) is worth 0.000 (<0.05) which means rejected and accepted". This means that there is an effect of Qur'an al-Rahman murottal therapy on reducing blood sugar levels in patients with type 2 Diabetes Mellitus in the Telaga Biru Health Center Work Area. α aH0 "H1

Many factors can cause DM, including autoimmune diseases, lifestyle changes, obesity, diet, lack of physical activity, aging, smoking, and stress (Kurniadi &; Nurrahmi, 2015). Most cases of type II DM are caused by a changing lifestyle, obesity, unhealthy diet, lack of physical activity, aging process, smoking, and stress (Habiburrahman, Hasneli, and Amir 2018).

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Reading the Quran at a moderate rhythm, not too fast or too slow is called murotal. The voice of the person reading the Quran and the meaning it derives shapes the recitation of the Quran. Due to the perfect harmony in the repetition of words and letters, the balanced rhythm, the information in each verse, and the beautiful harmonization of the verses of the Quran listening to the Quran can cure many diseases.

To reduce stress, Qur'anic murottal therapy with a slow, harmonious rhythm can activate natural endorphins or serotonin. This mechanism can lower blood pressure, breathing, pulse, heart rate, and brainwave activity, as well as decrease feelings of fear, anxiety, and tension. In addition, they can improve the body's chemical system, which in turn lowers blood pressure, reducing tension, anxiety, and tension. (Syafyu Sari and Afnuhazi 2022).

Hadi, Wahyunii & Purwaningsih in Zahrofi (2013) explained that Qur'an murottal therapy is Qur'an reading therapy which is religious therapy where a person has recited verses of the Qur'an for several minutes or hours to have a positive impact on one's body. Based on research conducted on Qur'anic murottal therapy, it was obtained that the period of giving Qur'an murottal therapy was carried out for 11-15 minutes Surat Ar-Rahman using earphones that were installed in the patient's ears (Fitriyatin Iis, & Handayani et al, 2014 in Syafyu Sari & Afnuhazi, 2022).

Based on a study conducted by Farid Hajiri, Sri Endang Pujiastuti, and Joni Siswanto (2019) Murottal recitation of the Quran has a relaxing effect and can reduce anxiety and improve sleep quality if listened to at a murottal tempo between 60-70 dh constantly, there is no sudden change in rhythm, and in a soft tone. With murottal therapy, the quality of one's awareness of God will increase, whether or not the person knows the meaning of the Quran. In this case, awareness will increase one's submission to the power of Allah SWT, in this state the brain is on alpha waves, a brain wave at a frequency of 7-14 Hz, which is an optimal brain energy state that can reduce to relieve stress. In a calm brain state, a person can think clearly and can form positive coping or expectations about himself (Hajiri, Pujiastuti, and Siswanto 2019).
CONCLUSION
1. The results showed that the average blood sugar value of respondents before Qur’an Ar-Rahman murottal therapy was 271.82.
2. The results showed that the average value of blood sugar after Qur’anic murottal therapy Ar Rahman was 168.77.
3. The results showed a value of p value 0.000 (<0.05) which means there is an effect of murottal therapy of the Qur’an Ar-Rahman on reducing blood sugar levels in patients with type 2 Diabetes Mellitus in the Telaga Biru Health Center Work Area. According to the theory of Purawsih et al., 2017 murottal recitation of the Qur'an stimulated by sound will increase the release of endorphins. Rilex will occur after discharge. So, the levels of cortisol, epinephrine-norepinephrine, dopamine, and growth hormone in serum will drop. In this rilex state, breathing rates become slower, thinking becomes deeper, emotions control, and metabolism gets better, all of which result in lower blood glucose levels.

REFERENCES