

# The Influence of Murottal Al-Qur'an Therapy on Chest Pain Intensity in STEMI Patients in the ICU Room of Sunan Kudus Islamic Hospital

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**Abstract.** STEMI is a feeling of chest discomfort (pain), which usually spreads to the back, neck, shoulders and epigastrium, where the quality of the pain is like being stabbed, squeezed, pressed or even crushed. *The American Heart Association* (AHA) predicts that every year there are 17.3 million deaths due to heart disease and these deaths are expected to continue to increase until 2030. The prevalence of heart disease in 2018 in Central Java was ranked fourth with the number of cases at 4.54 %. The high prevalence rate in STEMI cases means immediate treatment is needed to prevent more serious complications. The clinical manifestation of STEMI is that the sufferer feels pain and discomfort that is not specific in the left chest, spreading to the neck, shoulders, hands and back. The aim of this study was to determine the effect of Al-Qur'an murottal therapy on the intensity of chest pain in STEMI patients in the ICU at RSI Sunan Kudus. The type of research used was quasi-experimental with a pre and post test design. The sample used was 36 respondents. This research uses the Wilcoxon test. The results of data analysis obtained a p value = 0.000. The conclusion is that Al Qur'an murottal therapy has a significant effect on the intensity of chest pain in STEMI patients in the ICU at Sunan Kudus Islamic Hospital.

**Key words:** Murottal Al Qur'an Therapy, Pain Intensity, STEMI

## INTRODUCTION

STEMI is a type of heart attack in the form of total blockage of the coronary arteries so that the heart muscles do not receive an oxygen supply and causes the heart's coronary blood vessels to become necrotic (Xiang *et al.*, 2020). In 2019, 17.9 million people died from cardiovascular disease, this is equivalent to 32% of the global death rate. In the first year, 19% of men and 26% of women die due to myocardial infarction, more than three-quarters of deaths from cardiovascular disease are experienced by developing countries with low and middle income (WHO 2021).

*The American Heart Association* (AHA) predicts that every year there are 17.3 million deaths due to heart disease and this death is expected to continue to increase until 2030. Cardiovascular disease in the United States causes the most deaths, namely 836,456 deaths and is caused by coronary heart disease of 43.8% (Association 2021). In 2018, Basic Health Research data evaluated that in Indonesia the prevalence of heart disease continues to increase every year, in acute CHD sufferers, namely 2,784,064 people (Risksdas, 2018) Based on Health data Central Java province had 42,854 cases of heart disease (4.54%) ranked fourth (Central Java, 2017).

STEMI is caused by atherosclerosis in the coronary arteries or other causes that can cause an imbalance between myocardial oxygen supply and demand (Andrayani, 2016). In the initial condition, myocardial ischemia will occur, but if immediate reperfusion measures are not taken it will cause irreversible myocardial necrosis. Complications that commonly occur in Stemi sufferers are ventricular remodeling which will ultimately result in cardiogenic shock, congestive heart failure, and ventricular dysrhythmias which are lethal arrhythmias (Wahidah and Harahap, 2021).

Pain is an uncomfortable feeling or experience both sensory and emotional which can be characterized by tissue damage or not ( *association for the study of pain* ). Pain is an unpleasant feeling and emotional experience associated with actual or potential damage to body tissue (Syamsiah, N., & Musunjung, 2015) also does not escape heart attacks such as STEMI.

Apart from abnormalities in EKG and laboratory results, complaints that often arise in STEMI are chest discomfort (pain), which usually spreads to the back, neck, shoulders and epigastrium, where the quality of the pain is like being stabbed or squeezed pressed or even crushed. Usually the pain felt lasts longer. Apart from feelings of pain, clients will usually complain of nausea, vomiting, shortness of breath or dyspea, headaches, palpitations, anxiety and even cold sweats. When clients with STEMI come

to the hospital, they are usually found with symptoms of very strong chest pain and shortness of breath (Aspaiani, 2016).

Management of chest pain through non-pharmacological therapy includes several therapies such as deep breathing relaxation, massage, distraction and Al-Qur'an Murottal Therapy. Murottal therapy is a sound recording of the Koran sung by a Qori' (reader of the Koran). Chanting the Qur'an contains the human voice, while the human voice is an amazing healing instrument and the easiest tool to reach. Sound can reduce stress hormones by activating natural endorphins, increasing feelings of relaxation and diverting attention from fear, anxiety and tension, lowers blood pressure, and slows breathing, heart rate, pulse, and brain wave activity (Pratiwi, L., Hasneli, Y., & Ernawaty, 2016).

In this research, researchers used the Makiyyah letter in the Al-Qur'an, namely QS Ar-Rahman, which is the 55th letter and has 78 verses. This letter explains the generosity of Allah SWT to His servants, namely by providing unlimited blessings both in this world and in the hereafter. Ar Rahman has the character of short verses so this verse is comfortable to listen to and can have a relaxing effect even for lay listeners (Pratiwi, L., Hasneli, Y., & Ernawaty, 2016).

The results of a preliminary survey at RSI Sunan Kudus showed that in 2022 data on STEMI patients was obtained, namely 180 respondents and from January to July 2023 there were 98 respondents who experienced STEMI, the researchers took 10 respondents, of the 10 respondents patients experienced an average of 6-8 patients experienced pain on a scale of 3-6. So researchers are interested in conducting research on the Effect of Murottal Al-Qur'an Therapy on Chest Pain Intensity in STEMI Patients in Room ICU RSI Sunan Kudus.

## METHODS

The research method used was quasi-experimental with a one group pretest posttest design. The population in this study were 56 STEMI patients in the ICU at RSI Kudus. The sampling technique uses *consecutive sampling*. Based on calculations, it can be seen that the sample was 36 respondents. The data obtained was tabulated and statistically processed using the SPSS program. Data analysis in this study used *Wilcoxon analysis*.

## RESULTS AND DISCUSSION

### 1. Univariate Analysis

Pain intensity in stemi patients in the ICU at RSI Sunan Kudus before and after being given murottal Al-Qur'an therapy.

Painful	Before		After	
	F	%	F	%
Light	8	22.2	25	69.4
Currently	28	77.8	11	30.6
Heavy	0	0.0	0	0.0
<b>Total</b>	<b>36</b>	<b>100.0</b>	<b>36</b>	<b>100.0</b>

Based on table The frequency distribution of pain can be known before it is administered murottal al-Qur'an namely moderate pain 28 respondents (77.8%) and mild pain 8 respondents (22.2%), after being given murottal Al-Qur'an, namely moderate pain for 11 respondents (30.6%) and mild pain for 25 respondents (69.4%).

### 2. Bivariate Analysis

Research result	N	P Value
Analysis of the influence of murottal al-Qur'an on pain intensity in stemi patients in the ICU at RSI Sunan Kudus	36	0,000
<i>Wilcoxon test results</i>		

*Wilcoxon* test statistical analysis show that *p value* = 0.000 is greater than the significance level value  $\alpha < 0.05$ . then  $H_0$  is rejected and  $H_a$  is accepted. It can be concluded that there is an influence of murottal al-Qur'an therapy on the intensity of chest pain in stemi patients in the ICU at RSI Sunan Kudus.

The results of the statistical analysis of the *Wilcoxon test* showed that  $p\text{ value} = 0.000$  was greater than the significance level value  $\alpha < 0.05$ . then  $H_0$  is rejected and  $H_a$  is accepted. Murottal therapy is a sound recording of the Koran sung by a Qori' (reader of the Koran). Chanting the Qur'an contains the human voice, while the human voice is an amazing healing instrument and the easiest tool to reach. Sound can reduce stress hormones by activating natural endorphins, increasing feelings of relaxation and diverting attention from fear, anxiety and tension, lowers blood pressure, and slows breathing, heart rate, pulse, and brain wave activity (Pratiwi, L., Hasneli, Y., & Ernawaty, 2016).

Management of chest pain through non-pharmacological therapy, namely Murottal Al-Qur'an Therapy. Results after delivery murottal Al-Qur'an, namely with moderate pain 11 respondents (30.6%) and mild pain 25 respondents (69.4%). Murottal is a recording of the sound of the Koran sung by a qori (reader of the Koran). Murottal can also be interpreted as the chanting of the holy verses of the Qur'an sung by a qori (reader of the Qur'an), recorded and played with a slow and harmonious tempo. Murottal is a type of music that has a positive influence on listeners. (Ramdaniati *et al.*, 2018). The Qur'an is a noble holy book. In it there are instructions, advice and examples for people who think. Every Muslim should maintain closeness to the Qur'an by reading it, interpreting it, understanding it, and continuing to interact with it (Cholil *et al.*, 2014).

The benefits of reading the Qur'an include reducing the intensity of pain. Reading the Qur'an will vibrate the tympanic membrane, which will be transmitted to the organ of Corti in the cochlea which will be converted from the conduction system to the nervous system via Nervus VIII (auditory nerve) and transmitted to the auditory cortex in the cerebral cortex to the limbic system which is the main target of the receptors. opiates which regulate homeostasis through the limbic cortex, thereby causing a feeling of comfort. When someone listens to murottal therapy, it will provide stimulation to the hypothalamus resulting in the production of CRF (Corticotrophin Releasing Factor) which will stimulate the anterior pituitary gland to produce ACTH (Adeno Corticotropin Hormone) and stimulate endorphins (Anam, 2017). According to (Azis *et al.*, 2015). Murottal Al Qur'an which is played in a slow voice can increase  $\beta$ -endorphin levels which have a morphine-like effect. One therapy to reduce pain in coronary heart disease is by administering morphine.

Other research that is in line with this research is research from (Safitri *et al.*, 2018) regarding the effectiveness of *Head Massage* and Murottal Al Quran Surah Ar Rahman on the intensity of headaches in students of Ma'had Syaikh Jamilurrahman As-Salafy Yogyakarta. The results were found to be head massage therapy and murottal Al Quran can be used as complementary therapy for pain intensity with the mean level before the intervention was given was 6.11 and after the intervention was given it was 2.50 and the  $p\text{ value}$  was 0.000 with 36 respondents who were divided into 2 parts into a control group and an intervention group. This study experienced a significant reduction in pain intensity due to murottal intervention, whereas the research conducted by researchers only used murottal intervention (Safitri *et al.*, 2018).

## CONCLUSION

The conclusion of this research is that by listening to murottal Al-Qur'an to coronary heart patients the patient will feel more relaxed so that it can reduce the intensity of pain. It can be concluded that there is an influence of murottal Al-Qur'an therapy on the intensity of chest pain in stemi di ICU room at RSI Sunan Kudus.

## SUGGESTION

1. Next researcher  
The results of the research can be used as a reference for further research such as murottal Al-Qur'an therapy for anxiety in STEMI patients.
2. For ITEKES Main Scholars holy  
So that the results of this research are included in the library so that it can become a library study for the campus to develop knowledge and expand the results of research that has been carried out previously.
3. Benefits for patients (society)  
murottal Al-Qur'an therapy can be applied by patients and the public to reduce pain, especially stem pain.
4. For RSI Sunan Kudus

The results of this research can be proposed as a new SOP for treating pain, especially for stem pain.

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