



**THE EFFECTIVENESS OF PSYCHORELIGIOUS INTERVENTION:
 MUROTTAL AL-QURAN ON PAIN AND STRESS LEVEL OF BONE CANCER
 PATIENT**

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ABSTRACT

Psychoreligious intervention of murottal Al-Qur'an is a therapy given to patients by listening to verses of the Qur'an for a few minutes to have a positive impact on the patient's physiological and psychological condition, thereby providing a relaxing effect to reduce pain and stress level. The purpose of this study was to determine the effectiveness of psychoreligious intervention of murottal Al-Quran on pain and stress level of bone cancer patients in Semarang Regency. This was a quasi-experimental study with pre and post-test through a control group design. The population of this study were patients with bone cancer who were undergoing outpatient care in Semarang Regency Hospital, living in the regency of Semarang. The sampling technique used was purposive sampling with the number of respondents obtained 36 patients. The data were collected through Numeric Rating Scale aiming to measure the pain scale and DASS 42 questionnaire consisting of 14 statements to measure the level of stress. The therapeutic action procedure of psychoreligious intervention of murottal Al-Quran used Ar-Rahman letter for 20 minutes which was in accordance with standard operating procedures. The data were analyzed using t-test. The results showed that there was a significant difference of pain and stress level before and after the intervention. Psychoreligious intervention of murottal Al-Qur'an was effective in reducing pain level in bone cancer patients ($p\text{-value}=0.001 < \alpha=0.05$). Psychoreligious intervention of murottal Al-Qur'an can effectively reduce stress level of bone cancer patients ($p\text{-value}=0.001 < \alpha=0.05$). Psychoreligious intervention of murottal Al-Quran can be used as a therapeutic modality to reduce the pain and stress level of bone cancer patients during home treatment period which brings positive impact to improve the patient's physiological and psychological well-being. This intervention will help the process of recovery of the patients from their cancer.

Keywords: bone cancer; murottal Al-Quran; pain; stress

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INTRODUCTION

Cancer is currently a serious world health problem, because it causes very significant morbidity, disability and death. Cancer is a disease that threatens public health in the world. Data from WHO (2008) states that cancer is a deadly disease which ranks second in the world after cardiovascular disease. The death rate in the world caused by cancer is 7.6 million people or 21% of the number of non-lethal diseases in the world (Dewi, 2017).

Cancer affects one in four Americans. The American Cancer Society defines cancer as "a large group of diseases that limit the uncontrolled growth and spread of abnormal

cells, one of them is bone cancers. Bone cancer is a relatively rare disease, affecting any bone in the body, but generally affecting the long bones on the arms and legs (Kamal, 2020). According to WHO, the most common bone cancer incidence which is in the form of osteosarcoma is around 4-5 per 1,000,000 population. Osteosarcoma is a malignant tumor that occurs in non-hemopoietic primary bone (Prabowo et al., 2020).

Bone cancer is the third most prevalent cancer in Indonesia (0.9 per 100,000) after blood cancer (2.8 per 100,000) and eye cancer (2.4 per 100,000). The estimation of bone cancer increases to 8-11 per 1,000,000 population per year at the age of 15-19 years old (Biermann et al., 2013; Kamal et al., 2018).

At Cipto Mangunkusumo Hospital, there were 219 cases (16.8 cases/year) over a period of 13 years (1995-2007) which was the highest number of all bone malignancies (70.59%) (Dewi, 2017; Prabowo et al., 2020). Bone cancer is more common in men than women with a ratio of 3: 2. It can be due to the bone growth period in men which takes longer than women (Heymann, 2014). Bone cancer is the most common in adolescents in the second decade of life, in which more than 60% of the patients are below 25 years old. Osteosarcoma incidence can increase again at the age of over 60 years old and has a bimodal distribution (Miwa et al., 2019).

WHO data (2002) shows that the incidence of bone cancer is only 0.2% of all cancers or tumors in humans, but from year to year it has increased. According to the Cancer Registration Agency in 2003 there were 257 cases of malignant tumors in the bones in Indonesia. The incidence of malignant tumors or bone cancer in Indonesia is 1.6% of all types of cancer (Mantyh, 2013).

Although bone cancer is still classified as rare, it is not an easily curable disease. Bone cancer is classified as an active and aggressive type of cancer. The further impact affects physical and psychological stress conditions, because the patient experiences fear of amputation and anxiety of losing body parts (Sinclair et al., 2016). If it is not treated, stress will worsen the health conditions and reduce the well-being of cancer patients. Pain and stress are experienced due to unpleasant thoughts and feelings in dealing with life stressors, which will have an influence on physiological and psychological adjustments in life changes. One of the changes in life, the inability to deal with pain and stress will actually result in the development of a disease. Cancer patients undergo various therapies experience side effects in terms of physiological and psychological.

Psychological side effects in the form of feelings include pain (discomfort), helpless, lost hope, perceive disease as a punishment, and consider themselves as a burden to others. The patient experiences pain and stress with symptoms of fatigue, nausea and vomiting, dyspnea, insomnia and loss appetite (Frantellizzi, Lazri, Pontico, Pani, & De Vincentis, 2020). One of the negative impacts of pain and stress experienced continuously becomes an obstacle to the success of healing, so that pain and stress in cancer patients need special attention. One of the management to deal with pain and stress is by using psycho-religious intervention (Eilami, Moslemirad, Naimi, Babuei, & Rezaei, 2019; Li, Liu, Ren, Qu, & Liu, 2020). Some cancer patients have thought and felt more realistic and fully trust the health team for the continuation of treatment and

care. Along with the people's need to see life more positively and optimistically, efforts are needed to improve positive physiological and psychological well-being through nursing actions with an integrative psycho-religious approach (Grant et al., 2019; Sagar, 2016). One of them is the psycho-religious intervention of murottal Al-Qur'an as an effort that nurses can do to reduce the pain and stress level of bone cancer patients. The purpose of this study was to determine the effectiveness of psychoreligious intervention of murrotal Al-Quran on pain and stress level of bone cancer patients in Semarang Regency.

METHOD

The type of this research was a quasi-experimental with pre and post-test through a control group design. The population of this study were patients with bone cancer who were undergoing outpatient care at the Ungaran and Ambarawa General Hospital and resided in Semarang Regency. The sampling technique used was purposive sampling with 36 patients as the respondents. The data were collected using the Numeric Rating Scale to measure the pain scale and DASS 42 questionnaire consisting of 14 statements to measure the level of stress. The procedure of Murrotal Al-Qur'an therapeutic action used Ar-Rahman surah was in accordance with the Standard Operating Procedure. Data were analyzed by using t-test.

RESULTS

Table 1.
 Characteristics of Bone Cancer Patients (n=36)

| Characteristics of Respondents | | f | (%) |
|--------------------------------|--------------------|----|------|
| Age | <20 years old | 14 | 38.9 |
| | 21-40 years old | 12 | 33.3 |
| | 41-60 years old | 4 | 11.1 |
| | >60 years old | 6 | 16.7 |
| Education | Primary School | 6 | 16.7 |
| | Junior High School | 12 | 33.3 |
| | Senior High School | 12 | 33.3 |
| | Bachelor degree | 6 | 16.7 |
| Profession | Student | 14 | 38.9 |
| | Farmer | 8 | 22.2 |
| | Entrepreneur | 6 | 16.7 |
| | Private | 8 | 22.2 |
| Sex | Man | 24 | 66.7 |
| | Woman | 12 | 33.3 |

Table 2.
 The Pain Level in Bone Cancer Patients before Giving Murottal Al-Qur'an (n=36)

| Pain Level | Intervention | | Control | |
|---------------|--------------|------|---------|------|
| | f | % | f | % |
| No pain | 0 | 0 | 0 | 0 |
| Mild pain | 8 | 44.4 | 8 | 44.4 |
| Moderate pain | 10 | 55.6 | 10 | 55.6 |
| Severe pain | 0 | 0 | 0 | 0 |

Table 3.
The Stress Level in Bone Cancer Patients before Giving Murottal Al-Qur'an (n=36)

| Stress Level | Intervention | | Control | |
|-----------------|--------------|------|---------|------|
| | f | % | f | % |
| No stress | 0 | 0 | 0 | 0 |
| Mild stress | 0 | 0 | 0 | 0 |
| Moderate stress | 15 | 83.3 | 14 | 77.8 |
| Severe Stress | 3 | 16.7 | 4 | 22.2 |

Table 4.
The Pain Levels of Bone Cancer Patients after Giving Murottal Al-Qur'an (n=36)

| Pain Level | Intervention | | Control | |
|---------------|--------------|------|---------|----|
| | f | % | f | % |
| No pain | 4 | 22.2 | 0 | 0 |
| Mild pain | 12 | 66.7 | 9 | 50 |
| Moderate pain | 2 | 11.1 | 9 | 50 |
| Severe pain | 0 | 0 | 0 | 0 |

Table 5.
The Stress Level of Bone Cancer Patients after Giving Murottal Al-Qur'an (n=36)

| Stress Level | Intervention | | Control | |
|-----------------|--------------|------|---------|------|
| | f | % | f | % |
| No stress | 0 | 0 | 0 | 0 |
| Mild stress | 11 | 61.1 | 0 | 0 |
| Moderate stress | 7 | 28.9 | 17 | 94.4 |
| Severe Stress | 0 | 0 | 1 | 5.6 |

Table 6.
The Effect of Pain Levels in Bone Cancer Patients before and after being given Murottal Al-Quran (n=36)

| Group | Stres score | | | | Mean | Difference | P value |
|--------------|-------------|-----------|---------------|-------------|------|------------|---------|
| | No pain | Mild pain | Moderate pain | Severe pain | | | |
| Intervention | 4 | 12 | 2 | 0 | 2.10 | 1.50 | 0.001 |
| Control | 0 | 9 | 9 | 0 | 3.60 | | |

Table 7.
The Effect of Stress Levels in Bone Cancer Patients before and after being given Murottal Al-Quran Therapy (n=36)

| Group | Stres score | | | | Mean | Differenece | p value |
|--------------|-------------|-------------|-----------------|---------------|-------|-------------|---------|
| | No Stress | Mild stress | Moderate Stress | Severe stress | | | |
| Intervention | 0 | 11 | 7 | 0 | 20.05 | 2.72 | 0.001 |
| Control | 0 | 0 | 17 | 1 | 22,77 | | |

DISCUSSION

The results of this study are supported by the results of research conducted by Rilla, Ropi, and Sriati (2014) on effective murottal Al Quran in reducing pain levels compared to music therapy in post-surgical patients. Based on the research, the music and murottal therapies had an effect on reducing pain levels but did not have a significant effect on the stability of vital signs in postoperative patients. The results of a study done by Siswanti and Kulsum (2017) on the effect of murottal therapy on pain in post-cesarean section patients at Sunan Kudus Islamic Hospital showed that the samples tested had a significant effect.

Murottal Al-Qur'an is therapy by listening a recorded voice of the al-Qur'an that is recite by an al-Qur'an reader (Siswanti & Kulsum, 2017). The murottal recitation of the Qur'an has a constant, regular rhythm and does not change suddenly. The tempo of the murottal al-Qur'an is short, and the tone is low so that it has a relaxing effect and can reduce pain. The decrease in pain intensity in this study was due to the relaxing effect of murottal therapy.

According to the opinion stated by Kaheel (2012), Qur'an that is heard will provide a relaxing effect by 65%. The Qur'an recitation therapy has been shown to activate body cells by converting sound vibrations into waves captured by the body, reducing pain receptor stimuli and stimulating the brain to release endogenous natural opioid analgesics. These opioids are permanent to block pain nociceptors.

Physiologically, the sound vibrations of the Al-Quran recitation will be captured by the earlobe which will be diverted to the ear hole and hit the tympanic membrane (membrane that is in the ear) so that it makes it vibrates. These vibrations will be transmitted to the hearing bones which are linked to one another. This physical stimulation is converted by the difference from potassium ions and sodium ions into electricity through the cranial nerves VII (vestibule cochlearis) nerves to the brain, precisely in the auditory area. This area is responsible for analyzing complex sounds of short-term memory, pitch comparison, inhibiting desired motor responses, serious hearing and so on (Potter & Perry, 2010).

From the secondary listening area (auditory interpretation area), the Al-Quran reading signal will be transmitted to the posterotemporalis part of the temporal lobe of the brain known as the Wernicke's area. This is where the signals from the somatic, visual, and auditory association areas meet one another (Babaii, Abbasinia, Hejazi, Seyyed Tabaei, & Dehghani, 2015). This area is often referred to various names which indicate that this area has overall importance, the area of general interpretation, the diagnostic, knowledge and the tertiary association area. Wernicke's area is an area for interpretation (interpreting or giving an impression) of language and is very closely related to the primary and secondary listening area (Rilla et al., 2014; Siswanti & Kulsum, 2017).

Such close relationship may be due to hearing-initiated language recognition events. After being processed in the Wernicke's area, through a file that connects to the prefrontal association area (meaning of events), the signals in the Wernicke's area are sent to the prefrontal association area. Meanwhile, besides being delivered to the primary auditory cortex of the thalamus, the thalamus as the transmitter of pain

impulses will continue the stimulation to the spinal cord to the brain to continue running so as to produce natural opioids. This opioid is permanent to block pain nociceptors (Sherwood & Pendit, 2019).

There are many psychological changes in cancer patients, especially bone cancer patients in stress conditions due to dealing with the disease. Stress in bone cancer patients can be caused by several things, including the sad, hopeless, loss of hope and worried about amputation and organ disorders. Stress is an individual adaptive response and/or psychological process, as a consequence of any activity (environment), situation or external event that imposes excessive psychological or physical demands on a person (Abubakar, 2010).

Sources of stress or causes of stress are recognized as stressors, such as factors: physical, psychological, and social (Brandt, Gonzalez, Grover, & Zvolensky, 2013). Physical stressors come from outside the individual such as noise, pollution, radiation, air temperature, food, chemicals, trauma, and forced physical exercise. In psychological stressors, pressure from the individual inside is usually negative, such as frustration, stress, guilt, excessive worry, anger, hatred, sadness, jealousy, self-pity, and feelings of inferiority. Meanwhile, social stressors are external pressures caused by individual interactions with their environment. Many social stressors are traumatic and cannot be avoided, such as the loss of loved ones, loss of work, retirement, divorce, financial problems, moving house and others (Lovibond & Lovibond 2nd).

Murottal therapy can affect physical, psychological and spiritual aspects of the respondents. Murottal therapy with Surat Ar-Rahman can provide comfort because the beautiful chanting of the holy Qur'an can calm the heart and mind. This is in accordance with Alatas (2017) who stated that murottal can be defined as a sound recording of the Qur'an that is recite by a reciter or a reader of the Qur'an. By listening to the holy verses of the Qur'an, one can feel enormous physiological changes. In general, they felt a decrease in depression, sadness and mental peace (Stuart, 2016).

Giving murottal Al-Qur'an is one way to reduce the stress level of bone cancer patients, because murottal Al-Qur'an therapy can create a peaceful and calming atmosphere (relaxation). This is in accordance with Rahmayani, Rohmatin, and Wulandara (2018), who stated that the Qur'an provides benefits and effective medicine for someone who is experiencing anxiety, despair, and stress. Furthermore, it also provides calm to the human body system. Listening to the murottal Al-Qur'an affects mental health. Al-Qur'an as the holy book was revealed as an antidote and a mercy for the believers. One of the verses in the Al-Qur'an which describes mental health, is Al-Qur'an surah Ar-Ra'd: 28, "namely people who believe and their hearts are at ease by remembering Allah. Remember only by remembering Allah will the heart be at ease" (Shihab, 2020).

The results of this study are in accordance with the theory put forward by Rahmayani et al. (2018) that physically chanting the Qur'an contains elements of the human voice, the human voice is an amazing healing instrument and the most accessible tool. Sound can reduce stress hormones, activate natural endorphins, increase feelings of relaxation, and divert attention from fear, stress and tension, improve the body's chemical system so that it lowers blood pressure and slows breathing, heart rate, pulse, and brain wave

activity. This deeper or slower rate of breathing is excellent for promoting calm, emotional control, deeper thinking and a better metabolism.

CONCLUSION

Psychoreligious intervention: murottal Al-Qur'an is effective in reducing pain and stress levels in bone cancer patients at Ungaran and Ambarawa General Hospital, Semarang Regency. Psychoreligious intervention of murottal Al-Qur'an can be used as a therapeutic modality to reduce pain and stress levels of bone cancer patients during home treatment which has a positive impact on improving the patient's physiological and psychological well-being. Finally, it will help the patient's recovery process from cancer.

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