



## **A Case Study: Murotal Distraction to Reduce Pain Level among Post-Mastectomy Patients**

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**Abstract.** Carcinoma mammae or breast cancer is a malignant disease that originates from the parenchyma. Women who suffer from this disease will choose treatment using mastectomy. Mastectomy treatment is a process of removing all breast tissue that can inhibit the development of cancer cells. Post-operative mastectomy pain can be relieved by non-pharmacological therapy, one of which is murotal therapy. This case study aims to present the results of applying evidence-based murotal treatment to reduce pain scales in post-mastectomy surgery patients. Physical examination was performed using the head-to-toe method in post-operative patients. The North American Nursing Diagnosis Association is used to determine nursing diagnoses. Meanwhile, nursing intervention refers to the Nursing Intervention Classification and Nursing Outcome Classification. The intervention was carried out in five stages of evidence-based nursing implementation in nursing practice, with complementary therapy in murotal therapy and progressive application for 6 days for post-mastectomy surgery patients. As a result, giving murotal therapy intervention for 6 days showed a reduction in the pain scale from a scale of 4 (1-10) to 1 (1-10). The implementation of EBN murotal therapy proved to be effective in reducing the intensity of the pain scale in post-mastectomy surgery patients.

**Keyword:** mastectomy, murotal, pain level, case study



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### **INTRODUCTION**

The World Health Organization (WHO) mentioned that around 9-8% of women could develop breast cancer, where this disease is a malignant tumor that can attack parts of the human body and then set in the breast tissue. Breast cancer is common cancer in women (1). Based on Riskesdas 2013 data, the prevalence of cancer in Indonesia is 1.4 per 1000

population or around 330,000 people. Friska's study in 2017 stated that West Java province with the largest population in Indonesia, namely 40,737,594 people, where the female population is 49.5% with cases of breast cancer by 0.5% and an estimated incidence of 26 / 100,000 women or about 5,200 people.

Breast cancer is a malignant disease that causes death (2) So that someone who has been diagnosed with breast cancer will seek treatment for his recovery. Along with technological developments in the medical field, new treatment methods have been discovered, one of which is mastectomy (3). Mastectomy is the removal of all breast tissue to treat cancer. This can inhibit the process of spreading cancer cells throughout the body. This tissue removal process has a cure rate of 85-87%, so mastectomy is the preferred treatment for people living with breast cancer. However, in addition to the high recovery rate, a breast cancer patient who underwent a mastectomy would lose part or all of her breasts. In addition, several effects will be felt after the mastectomy, namely numbness in the skin area and pain (4).

Pain caused by breast cancer surgery is inflammatory pain caused by incisions and tissue damage. This inflammatory process occurs due to inflammatory mediators (chemical mediators) that activate nociceptors, resulting in increased responsiveness of peripheral neurons responsible for transmitting pain (5). The pain that I feel varies, ranging from mild to severe pain, but decreasing the level of pain will decrease as the healing process occurs (6).

This is in line with research conducted by the International Association for the Study of Pain in 2019, which concluded that pain is an unpleasant condition that occurs in the sensory and emotional parts and is directly related to tissue damage in parts of the human body. The onset of pain is caused by the stimulation of analgesic substances found in the superficial layers of the skin and body tissues. These pain receptors can be found at the ends of the afferent nerve fibers in the delta A and C (7).

Post-operative mastectomy pain is one of the biggest problems that cannot be avoided because pain is a stimulus or response to the body when experiencing a disturbance (8). The intensity and duration of post-operative pain vary according to the severity of the wound. So that if not treated quickly, it can cause severity (9). If pharmacological management is a collaborative action of nurses and doctors, non-pharmacological management is an independent action taken by a nurse. (10). In this case, the nurse can provide education about pain management in post-mastectomy surgery patients. One of the treatments using non-pharmacological therapy in the form of distraction techniques. This therapy is related to the American Academy of Pediatrics research, which suggests giving non-pharmacological distraction therapy as a treatment process for post-operative patients (11).

One of the distraction techniques is murotal listening therapy. Listening to murotal is a religiosity activity that can be done by remembering Allah SWT through dhikr by reading the Al-Qur'an (12). Before we take action on the patient, we first measure the scale of the felt pain. One nurse's assessment of pain can use the Numeric Rating Scale (NRS). NRS is a Likert scale rating based on patient responses. The NRS is a horizontal line over which the scale can be calculated from 0-10. The NRS assessment method has a reliable ability to detect changes. Changes that occur can be done by analyzing the patient's condition. When assessing the pain, the nurse will ask the patient to choose a number from 1-10, with an explanation, the number 0 means no pain, numbers 1-3 are mild pain, pain is 4-6 moderate pain, and 7-10 severe pain.

The research showed that the murotal could move brain waves, balance, and influence respiratory rhythm and pulse (13). This happens because the murotal affects the limbic system in the human brain, where the limbic system is the center of emotional regulation. From the limbic system, then forwarded to the hippocampus, one end of the

hippocampus is adjacent to the center of the nuclei amygdala. The amygdala is located in the brain's left and right temporal lobes, which helps coordinate responses to things that trigger emotional responses. Then limbic signals are received and transmitted to the hypothalamus. (14).

The hypothalamus functions as an endocrine and vegetative regulator of the body, such as emotionality, passed on reticular formation to continue to the autonomic fibers. The nervous system is divided into two, namely the sympathetic and parasympathetic nerves, which can affect the contraction and relaxation organs in the human body. So that with the mural autonomic nervous system, it will give a signal to the body to relax, resulting in the sense of calm. Of the several rhythms that can be heard by patients who feel pain, mural distraction for 15 minutes is recommended to reduce pain in patients with post-mastectomy surgery (15).

Mural therapy works on the part of the brain so that when pushed by external stimuli (Al-Quran), the brain produces chemicals called neuropeptides. Therefore, mural therapy or listening to the Qur'anic verses is a way to restore the balance of cells that have been damaged. Suppose the sound of classical music can affect the level of intellectual intelligence (IQ) and the level of emotional intelligence (EQ). In that case, listening to the recitation of the Al-Qur'an verses can affect the level of spiritual intelligence (SQ) (16).

In line with the research results conducted by DR. Ahmad Al-Qadhi to five non-Muslim volunteers aged 17-40 years using a stress measurement tool MEDAQ 2002, listening to the Koran can reduce reflective nerves. This research was conducted through a device equipped with software and an electric detector system. This is reinforced by the study conducted by Abdurroccman in 2008, that listening therapy to the Koran is better than music therapy. Al-Quran therapy can generate delta waves as much as 63.11%, with the highest percentage increase reaching 1,057% compared to music therapy with a lower presentation. The stimulation of Al-Quran therapy can generate frontal and central delta waves on the left and right hemispheres of the brain so that it can provide a calming effect. (17).

The results of Sri Mulyani Nurhayati's research study in 2020 revealed that listening to the verses of the Qur'an can be an antidote (medicine) for various kinds of poisons (diseases) because of the vibrations of neurons will be stable and can even function properly as in a healthy condition. The sound of reciting the verses of the Qur'an has a significant effect in reducing nervous tension, diverting attention from pain, fear, and anxiety. However, research on the effectiveness of mural therapy for pain is currently not effective in Indonesia, where the majority is the largest Muslim population in the world (18).

The results of an initial survey conducted in a family with breast cancer in Rancapetir District, Ciamis Regency, found that pain from post-mastectomy surgery and had never applied distraction therapy as an alternative therapy.

## **OBJECTIVE**

This case study describes the change in pain scale in post-mastectomy patients after being given distraction intervention with mural al-Quran.

## **METHOD**

This case study uses five stages of EBN implementation according to Polit and Beck (2019) (19), which consist of 1) asking questions were used keywords by Population Intervention Control and Outcomes (PICO), 2) exploring related evidence, 3) assessing evidence, 4) applying evidence, 5) evaluation of the implementation of the EBN. The first stage is to ask PICO (Problem/population, intervention, comparison, outcome) questions based on the EBN. The question that arises is, "Is the right intervention done in post-mastectomy surgery patients?"

Furthermore, the second stage is conducting a search using electronic media, namely Google Scholar and PubMed. The third stage assesses the articles found and decided to intervene in murotal therapy to reduce pain in post-mastectomy surgery patients.

The fourth stage is the implementation of EBN in post-operative mastectomy patients in Rancapetir Village, Ciamis Regency. Before the intervention is carried out, first explain the procedure given to the patient and family through verbal informed consent to ask for consent from the patient and family. After the patient and family approve it, a comprehensive assessment is carried out before the EBN implementation process is given to the patient.

The intervention was given for six consecutive days at the same time for 15 minutes from 08.00 Indonesia West Time by listening to the Quran surah Ar Rahman. Murotal was played on the mobile phone. The patient was positioned semi-fowler on the bed using earphones. The patient is confirmed to have had breakfast and taken medicine according to the doctor's prescription. During the intervention, the patient-focused on listening to the murotal. Both the family and the nurse wait outside the room to avoid communication. While the instrument used to measure the pain scale in patients was the Numeric Rating Scale (NRS).

### Case Presentation

The assessment was carried out on Mrs. N on July 12th, 2020, at 13.30 Indonesia West Time. The patient complained of pain in the left post-operative area with 25 stitches and a wound length of  $\pm$  30 cm. Pain that feels like being cut and feels hot around the wound. The pain spreads in the left chest area with a pain scale 4 (1-10). The pain increases if the client has a lot of activity and decreases when the client rest. The assessment of vital signs: blood pressure 120/90 mmHg, pulse 90x/minute, respiration 20x/minute, temperature 36.4°C. Mrs. N has never done independent care or family assistance at home, such as non-pharmacological therapy to reduce her pain. This is in line with Indrawati's 2019 research on high school students who do not know how to deal with pain with murotal therapy (16).

The client's subjective data states that pain in the post-operative area on a scale of 4 (1-10) spreads to the left chest area and feels hot around the wound. The objective data obtained, the patient looks grimace in pain with the results of blood pressure: 120/90 mmHg, pulse 90x/minute, breathing 20x/minute, temperature 36.4°C. After six days of treatment, the patient was able to control pain with murotal therapy for 15 minutes per day. The following are the results of evaluating the pain scale assessment for six days pre and post after murotal treatment.



**Figure 1.** Intervention Evaluation by Pain Scale

The picture above shows the intervention results to reduce pain levels in post-mastectomy surgery patients after being given murotal therapy.

## DISCUSSION

Allah SWT in His word mentions in the Al-Quran Sura Ar-Ra'du verse 28 explicitly:

الَّذِينَ آمَنُوا وَتَطْمَئِنُّ قُلُوبُهُمْ بِذِكْرِ اللَّهِ أَلَا بِذِكْرِ اللَّهِ تَطْمَئِنُّ الْقُلُوبُ

*Meaning:*

*"(That is) those who believe and their hearts are at peace by remembering Allah. Remember, only by remembering Allah will the heart be at ease."*

The above verse explains that every believer's heart will be calm and serene when making dhikr to Allah. Their hearts are full of love so that when they mention the name of Allah and read His verses, their hearts tremble, and their faith increases. Furthermore, experts in interpreting this verse, for example, Imam Muhammad Ibn Ali Al-Syaukani, explained that the peace and tranquility of the hearts of the believers are through verbal remembrance of Allah, such as reading the Koran, reading tasbih, tahmid, and takbir or by listening to it (19).

The meta-paradigm in nursing allows nursing care to be provided to clients by paying attention to the patient as a whole, including biological, psychological, to spiritual aspects, which in nursing is called holistic care or holistic nursing (20). This model of nursing care does not only solve or overcome physical or biological problems but also needs to consider social, psychological, and spiritual aspects (21).

Several kinds of literature explain the relationship between these various aspects. For example, an anxious patient will cause disturbed sleep patterns due to a loss of calm and tranquility. In the same condition, hormone function will work irregularly (22). Increases in the hormones adrenaline and cortisol are the real effects of this, leading to an increase in blood sugar. You can imagine if a person experiences this situation with diabetes mellitus. Of course, this can slow down the recovery process (23,24). So thus, the duty of a nurse is not only to solve the hyperglycemic problem but also to identify the underlying causes.

Patients as whole individuals need to gain physical, psychological, social, and spiritual well-being (20). If all these aspects have obtained their welfare, then the individual can be said to have achieved a complete degree of health. That is why nurses need to provide nursing interventions spiritually based on the patient's religion and beliefs (25).

The patients treated in this case were Muslim. Therefore, the nurse provides intervention according to the patient's religious identity, namely murotal al-Quran distraction therapy. Based on the research results conducted by Mulyani, Purnawan, and Upoyo, in 2019, it was stated that murotal treatment was proven to reduce the pain scale in post-operative patients (18). Likewise, the results of the study which said that the decrease in the pain scale from moderate to mild showed a significant change from pre and post given murotal therapy with the results of statistical tests on students of SMAN 2 Bangkinang Kota, the value was  $p\text{-value} = 0.000, p < \alpha 0.05$  (26,27).

Based on the results of the study for 6 days, Mrs. N revealed that the pain he suffered had decreased from a scale of 4 (1-10) to a scale of 2 (1-10), and the patient was able to divert the pain by routinely listening to murotals. In this case, it shows that murotal Al Quran therapy in dealing with pain is very effective. In the EBN implementation process, this case study has a weakness, which is only conducted on one respondent. However, even so, this study can provide an overview of the implementation of the EBN. For further researchers, it is recommended to research a group of patients with pain nursing problems.

## CONCLUSION

The EBN implementation of murotal distraction therapy greatly influenced the reduction of pain levels after mastectomy surgery. Murotal intervention for 6 days showed a

reduction in the patient's pain scale from 4 to 1. Further research needs to be continued to describe the effectiveness of other variables and patient characteristics in a broader perspective.

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