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The Effect of Murottal Therapy on Reducing Pain and Anxiety Levels in Post-Surgical Fracture Patients

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ABSTRACT

***Background**: Postoperative pain is one of the main problems experienced by patients after surgery. The use of complementary therapies such as Qur'anic murottal is increasingly being investigated as a nonpharmacological method in pain management. **Objectives**: This study aims to analyze the effectiveness of Qur'anic murottal therapy in reducing pain scale in postoperative patients with femur fracture. **Methods**: This study used a quasi-experimental design with a pre-test and post-test approach. The pain scale was measured before and after the murottal therapy intervention given for three consecutive days. **Results**: The results showed that Qur'anic murottal therapy was effective in reducing pain scale. There was a significant decrease in the pain scale after the intervention, which indicates that this therapy can provide a relaxing effect and increase patient comfort. **Conclusion**: Qur'anic murottal therapy has the potential to be an effective complementary method in reducing postoperative pain. The application of this therapy may support nonpharmacologic pain management in the medical setting. Further research is needed to confirm these findings in a wider population.*

***Keywords**: Qur'anic Murottal, Postoperative Pain, Complementary Therapy, Femur Fracture*

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INTRODUCTION

Pain is an unpleasant sensory and emotional experience due to tissue damage, either real or potential (International Association for the Study of Pain, 2021). In the medical world, pain is a major challenge, especially for postoperative patients. One condition that is often encountered is femur fracture, which requires surgery to repair the broken bone. Postoperative pain in femur fracture patients can be acute and negatively impact patient recovery, including increasing blood pressure, causing sleep disturbances, anxiety, and slowing wound healing (Kehlet & Dahl, 2018).

Postoperative pain management generally uses analgesic drugs, both opioid and non-opioid. Although these drugs are effective, their use can cause side effects, such as nausea, vomiting, constipation, excessive sedation, and the risk of opioid dependence (Vadivelu et al., 2017). Therefore, non-pharmacological approaches have been developed as complementary therapies to reduce pain intensity with minimal risk. One method that has begun to be researched is Qur'anic murottal therapy.

Murottal therapy is a sound therapy that uses the chanting of the holy verses of the Qur'an to provide relaxation and healing effects. Several studies have shown that listening to murottal can reduce stress hormone levels, increase endorphin production, and reduce pain perception (Rahmah et al., 2020). This concept is in accordance with the theory of psychoneuroimmunology, which explains that psychological factors can affect the body's physiological responses, including pain perception (Ader, 2007). In addition, aspects of religiosity in murottal therapy are believed to provide inner calm and improve patients' coping mechanisms for pain (Haryanto et al., 2019).

Based on this background, this study aims to analyze the effectiveness of Qur'anic murottal therapy in reducing pain scale in postoperative patients with femur fracture. It is hoped that this research can contribute to the development of complementary therapy methods that are safer, easier to apply, and beneficial for patients in accelerating the postoperative recovery process.

METHODS

This study used a case study approach to explore the effectiveness of murottal therapy in reducing the pain scale in patients. The research subjects were selected by purposive sampling, taking into account the pain conditions experienced and the patient's readiness to participate in the study. Both patients have different characteristics, where Mr. A has never undergone surgery before. A has never undergone surgery before, while Mr. B has a history of surgery. B has a history of surgery. The data obtained were analyzed descriptively comparative by comparing the pain scale before and after murottal therapy in each patient. In addition, the validity of the data was strengthened by triangulation of methods, namely observing the patient's response, recording the patient's subjective report regarding changes in pain, and confirming with medical personnel caring for the patient. Through this method, the study is expected to provide a clearer picture of the effectiveness of murottal therapy in reducing the pain scale as well as the factors that influence the level of effectiveness of therapy in each individual.

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RESULTS

A. Nursing Assessment

Table 1. Nursing Assessment of the Patient

Patient Identity	Mr. A	Mr. B
Gender	Male	Female
Diagnosis	Malunion Fracture of Right Midshaft Femur	Malunion Fracture of Right Midshaft Femur
Chief Complaint	Severe right-sided pain and orif insertion surgery after a traffic accident 3 years ago.	Severe pain in the right thigh and orif insertion surgery after falling down the stairs of the house 2 days ago and feeling severe pain.
Family Health History	No family members have hereditary diseases	No family members have hereditary diseases
Psychosocial Data	The patient said he resigned and accepted the disease and left the healing to Allah SWT.	The patient said he resigned and accepted the disease and left the healing to Allah SWT.

B. Respondents' Pain Scale before Therapy

Table 2. Respondents' Pain Scale Before Being Given Murottal Therapy

Pain Scale	Frequency	Percentage (%)
Mr. A 6	**1**	**50.0**
Mr. B 7	**1**	**50.0**
Total	**2**	**100.0**

Based on table 1. The respondent's pain scale before being given Murottal Therapy, shows that 2 respondents were included in the moderate pain category. Namely with Scale 6 and 7, with a total of 2 respondents (100%).

C. Pain Scale Development Before and After Murottal Therapy

Table 3. Pain Scale Development Before and After Murottal Therapy

	Characterics	Mr. A	Mr. B
Day 1	Before	Pain Scale 6 (moderate)	Pain Scale 7 (moderate)
	After	Pain Scale 4 (moderate)	Pain Scale 5 (moderate)
Day 2	Before	Pain Scale 4 (moderate)	Pain Scale 5 (moderate)

	After	Pain Scale 3 (mild)	Pain Scale 3 (mild)
Day 3	Before	Pain Scale 3 (mild)	Pain Scale 3 (mild)
	After	Pain Scale 2 (light)	Pain Scale 1 (light)

In this study, two respondents who were postoperative patients with femur fractures, namely Mr. A and Mr. A, were interviewed. A and Mr. B, were given Al-Qur'an murottal therapy for three consecutive days. The results of measuring the pain scale before and after therapy showed a gradual decrease in pain. On the first day before the therapy was given, Mr. A experienced pain on a scale of 6 while Mr. B experienced pain on a scale of 6. A experienced pain with a scale of 6 while Mr. B had a pain scale of 7 which was included in the pain scale. Mr. B had a pain scale of 7 which is included in the moderate pain category. After listening to murottal, Mr. A's pain scale decreased to 4. A's pain scale decreased to 4, while Mr. B's pain scale decreased to 5, which is still in the moderate pain category. Mr. B's pain scale decreased to 5, which is still in the moderate pain category but with lower intensity.

On the second day, before therapy was carried out, Mr. A's pain scale dropped to 4, still in the moderate pain category. Mr. A dropped to 4, still in the moderate pain category, and Mr. B had pain on a scale of 5, also in the moderate pain category. Mr. B experienced pain with a scale of 5, also in the moderate pain category. After the murottal therapy was given, pain in both respondents showed improvement, where Mr. A's pain scale dropped to 3, in the mild pain category. A dropped to 3, falling into the mild pain category, and Mr. B's pain scale also decreased to 3, which is also in the moderate pain category. Mr. B's pain scale also decreased to 3, which is also included in the mild pain category.

On the third day, before therapy, Mr. A's pain scale was at 3, which is classified as mild pain, and Mr. A's pain scale was at 3, which is classified as mild pain. Mr. A was on a scale of 3, which is classified as mild pain, and Mr. B also had a pain scale of 3. After being given murottal therapy, Mr. A's pain scale decreased to 2, which is still included in the mild pain category, while Mr. B's pain scale also had a pain scale of 3. A again decreased to 2, which is still included in the mild pain category, while Mr. B's pain scale decreased to 1, which is also classified as mild pain. Mr. B's pain scale decreased to 1, which is also in the mild pain category.

D. Comparison of Respondents' Pain Scale Measures

Table 4. Comparison of Pain Scale Measures

Characteristics	Mr. A	Mr. B
Before	Pain Scale 6	Pain Scale 7
After	Pain Scale 2	Pain Scale 1

Murottal therapy proved effective in reducing the pain scale, as seen in the results of the pain measurement of respondents Mr. A and Mr. A. A and Mr. B. Before the therapy was given,

Mr. A experienced pain on a scale of 6, while Mr. B experienced pain on a scale of 6. A experienced pain with a scale of 6, while Mr. B had a pain scale of 7. After listening to murottal, Mr. A's pain scale dropped to 2, while Mr. B had a pain scale of 7. A's pain scale dropped to 2, while Mr. Mr. B experienced a more significant decrease to a scale of 1. This difference can be explained by several physiological, psychological factors, as well as each individual's medical history.

DISCUSSION

A. Nursing Assessment

A malunion fracture is a condition in which the broken bone does not heal in the correct position, causing deformity, pain, and impaired function. Based on the patient data in this study, both Mr. A and Mr. A had malunion fractures. A and Mr. B had a *malunion fracture of the right midshaft femur*, but with different causes. Mr. Mr. A sustained the fracture due to a traffic accident three years ago, while Mr. B sustained the fracture due to a fall from the stairs. Mr. B sustained the fracture from a fall down the stairs two days prior to medical intervention. This difference in cause may affect the severity of the injury and the rehabilitation strategy applied.

According to research conducted by Brinker et al. (2018), fractures of the femoral shaft often require surgery in the form of *open reduction internal fixation* (ORIF) to ensure the correct position of the bone during the healing process. In this case, both patients underwent ORIF insertion surgery, which is the recommended method in various medical literature for treating femoral malunion (Court-Brown et al., 2020). However, the level of pain experienced by patients after surgery varies depending on factors such as age, general health condition, and the degree of deformity before surgery. In terms of family medical history, both patients had no family members with hereditary diseases related to bone conditions. This is in line with a study conducted by Marsell & Einhorn (2019), which states that genetic factors have a role in bone strength, but external trauma such as accidents or falls remain the main cause of fractures in the general population.

From a psychosocial perspective, both Mr. A and Mr. B showed an attitude of resignation and acceptance of their condition, leaving healing to God. This attitude can be attributed to the psychological aspects of the healing process. The study by de Jong et al. (2021) showed that patients with strong spiritual beliefs tended to have lower levels of anxiety and were more optimistic about their recovery compared to patients who experienced excessive stress. This may contribute to improved patient adherence to therapy and postoperative rehabilitation. In another study by Papakostidis et al. (2019), it was found that postoperative rehabilitation is crucial in ensuring optimal recovery for patients with *malunion fracture*. A rehabilitation program that includes physical therapy and graded exercises can help patients reduce pain and improve lower limb function. Therefore, long- term monitoring of the patient's condition is highly recommended to prevent further complications, such as osteoarthritis or muscle weakness due to prolonged immobilization. Overall, the cases of Mr. A and Mr. B illustrate how contributing factors, medical interventions, and psychosocial conditions can affect the healing process of

patients with malunion fractures. A multidisciplinary approach that includes medical interventions, psychological support and physical rehabilitation is required to ensure optimal recovery.

B. Respondents' Pain Scale before Being Given Therapy

Based on Table 2, the pain scale experienced by both respondents before being given Murottal therapy was at a moderate level of pain, namely on a scale of 6 and 7. Each respondent showed the same frequency, which was 50% of the total respondents, with a total of 2 people (100%). The pain felt by respondents is a result of the medical conditions they experience, such as malunion fracture which has caused discomfort and chronic pain. This finding is in line with research conducted by Wahyuni et al. (2020), which states that patients with orthopedic conditions, especially fractures, often experience moderate to severe pain before non-pharmacological interventions are performed. Another study by Haryanto et al. (2019) also showed that the pain scale of patients with femur fractures often ranged from 5 to 7, especially before medical action or additional therapy. Previous research has also shown that Murottal therapy intervention has the potential to reduce the pain scale. The study by Amalia & Sari (2021) found that Qur'anic Murottal therapy had a significant relaxing effect in reducing pain perception in post-operative patients. This is because Murottal can stimulate the limbic system in the brain which plays a role in regulating emotions and pain, thus producing a calming effect and reducing pain-related anxiety when combined with pharmacological therapy, compared to Murottal therapy alone. This study emphasizes that psychological factors and the level of religiosity of patients also affect the effectiveness of this therapy in reducing pain perception.

C. Development of Pain Scale Before and After Murottal Therapy

Based on Table 4, it can be seen that the pain scale experienced by both respondents has decreased after being given Murottal therapy. On Day I, the pain scale before therapy was in the moderate pain category, namely scale 6 in Mr. A and scale 7 in Mr. A. A and scale 7 in Mr. B. B. After being given Murottal therapy, the pain scale decreased to scale 4 in Mr. A and scale 5 in Mr. B. A and scale 5 in Mr. B, but still in the moderate pain category. B, but still in the moderate pain category. On Day II, there was a further decrease. Before therapy, Mr. A's pain scale was on a scale of 4 (moderate). A was on scale 4 (moderate) and Mr. B was on scale 5 (moderate). B on a scale of 5 (moderate). After therapy, the pain scale decreased to scale 3 in both respondents, which is included in the mild pain category. On Day III, the pain scale decreased again. Before therapy, Mr. A's pain scale was on a scale of 3 and Mr. B's was on a scale of 5 (moderate). A was on a scale of 3 and Mr. B was also on a scale of 3. After therapy, the pain scale decreased to scale 2 (mild) in Mr. A and scale 1 (mild) in Mr. B. A and scale 1 (mild) in Mr. B. B.

This decrease in pain scale shows the effectiveness of Murottal therapy in helping to reduce pain perception in patients. This finding is in line with the research of Wahyuni et al. (2020) which states that Murottal therapy plays a role in reducing pain intensity through

relaxation and emotion modulation mechanisms. Murottal therapy can help calm the nervous system and reduce anxiety which is often associated with increased pain perception. The results of this study are also supported by a study conducted by Amalia & Sari (2021), which found that providing Murottal therapy for three consecutive days can significantly reduce the pain scale of orthopedic post-operative patients. This is due to the sound effect of the Qur'an which can stimulate the limbic system in the brain, which is responsible for pain and emotion regulation. In addition, research by Rahman et al. (2018) also mentioned that Murottal therapy is more effective when combined with pharmacological therapy. Their study showed that patients who listened to Murottal along with analgesic administration experienced a more significant decrease in pain scale compared to patients who only received pharmacological therapy. This suggests that Murottal therapy can serve as a complementary therapy in pain management.

CONCLUSIONS

Based on the results of the study, murottal therapy proved effective in reducing pain levels in patients. This can be seen from the significant reduction in pain scale after therapy is given. Before therapy, Mr. Mr. A had a pain scale of 6 and Mr. B had a pain scale of 7. After murottal therapy, the pain scale decreased to 2 in Mr. A and 1 in Mr. B. A and 1 in Mr. B. This significant reduction in pain suggests that murottal therapy can be a complementary method in pain management, especially for patients with chronic or postoperative conditions. The effectiveness of this therapy is likely related to the relaxing effect and increased psychological calmness produced by murottal chanting, which in turn reduces the perception of pain. However, it should be noted that the effectiveness of Murottal therapy may vary across individuals. Psychological factors, religiosity, as well as the physiological condition of the patient can affect the success rate of this therapy in reducing pain. According to a study by Haryanto et al. (2019), patients with a high level of religiosity tend to respond better to Murottal therapy, as they have a strong belief in the healing effects of the Qur'anic verses.

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