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The Effect of Murottal Therapy on Reducing Anxiety in Pre-Operative Patients Undergoing Spinal Anesthesia

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Abstract

Background: Surgery involving spinal anesthesia can pose a threat to the body, integrity, and mental state of an individual. Moreover, surgery induces anxiety that hinders daily tasks and life activities. The use of non-pharmacological management or complementary therapy to reduce anxiety is increasingly being adopted, one of which is murottal therapy. This study aims to analyze the effect of murottal therapy on reducing anxiety in pre-operative patients undergoing spinal anesthesia at the Central Surgery Installation.
Methods: This quantitative study employs a pre-experimental design, specifically a one-group pretest-posttest design. The sampling technique used in this study was consecutive sampling, involving 29 participants who met the inclusion and exclusion criteria. The instrument used in this study to assess respondents' anxiety was the Amsterdam Preoperative Anxiety and Information Scale (APAIS) questionnaire.
Results: Following the administration of murottal therapy, a decrease in anxiety was observed. Initially, there were 7 respondents (27.6%) with mild anxiety, 14 respondents (48.3%) with moderate anxiety, and 7 respondents (24.1%) with severe anxiety. After the murottal therapy, 12 respondents (41.4%) experienced no anxiety, 15 respondents (51.7%) had mild anxiety, and 2 respondents (6.9%) had moderate anxiety, with no respondents experiencing severe anxiety or panic levels (0%)
Conclusions: These results indicate that murottal therapy has a significant effect on reducing anxiety in pre-operative patients undergoing spinal anesthesia.

Keywords: murottal therapy, anxiety, spinal anesthesia, complementary, pre-operative

Introduction

Surgery can elicit emotional responses in patients, such as fear, anger, and anxiety before the procedure (Saputri & Ulfa, 2018). The surgical process begins with the administration of anesthesia, which is essential to prevent the patient from feeling pain during surgery. Anesthesia can be administered consciously (spinal anesthesia) or unconsciously (general anesthesia) to ensure the optimal performance of the surgical procedure (Rehatta et al., 2019).

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One critical phase of surgery is the preoperative phase, which involves several preparations, including physical and mental or psychological preparations, as well as the administration of premedication drugs. Both physical and mental preparations are crucial for patients undergoing surgery (Kurniawan et al., 2021). Anesthesia can be categorized into general anesthesia (GA), regional anesthesia (RA), and local anesthesia (LA). Spinal anesthesia is a type of regional anesthesia in which local anesthetic is injected directly into the cerebrospinal fluid surrounding the spinal cord and nerve roots, blocking pain from large areas of the body such as the hips, abdomen, pelvis, and legs (Hunie et al., 2021).

Surgery involving spinal anesthesia can pose a threat to the body, integrity, and mental state of an individual. Additionally, surgery-induced anxiety can hinder daily tasks and activities, leading to various disturbances. These disturbances include fear of pain, fear of physical changes, fear of disfigurement or loss of normal function (body image), fear of surgical equipment and staff, fear of not regaining consciousness after anesthesia, and fear of surgical failure, all of which are anxiety responses to surgery (Rusding, 2022).

Preoperative anxiety can cause physical and psychological changes that activate the sympathetic autonomic nerves, increasing heart rate, blood pressure, respiratory rate, and generally reducing the patient's energy levels, ultimately disadvantaging the patient and affecting the surgical outcome (Muttaqin & Sari, 2020). Managing anxiety is essential to mitigate its impact, whether through pharmacological or non-pharmacological methods. The use of non-pharmacological management or complementary therapies to reduce anxiety has been increasing, one of which is murottal therapy (Potter & Perry, 2015).

Murottal Al-Qur'an therapy is a relaxation technique that uses sound waves with the power to make listeners feel relaxed and calm after listening. This sense of calm can also boost the confidence of patients undergoing surgery, especially among Muslims (Siswatinah, 2019). Murottal Al-Qur'an therapy can be administered one hour before surgery and provided for ten minutes. Previous research indicates that murottal therapy significantly reduces preoperative anxiety, with patient anxiety levels decreasing by 20% after listening to the therapy (Sulistiyani, 2019). Another study found that a 10-minute session of murottal Al-Qur'an therapy effectively reduces preoperative anxiety levels (Saputri & Ulfa, 2018).

Methods

This quantitative study employs a pre-experimental design, specifically a one-group pretest-posttest design. This method involves conducting a pretest measurement before the intervention and a posttest measurement after the intervention (Adiputra et al., 2021). The causal relationship is tested by comparing the pretest and posttest results (Notoatmodjo, 2018).

The study population comprises surgical patients undergoing general anesthesia at the Central Surgery Installation (IBS) of Jatiwinangun Hospital, Purwokerto, with an average of 73 patients per month. The sampling technique used is consecutive sampling, involving 29 participants who meet the inclusion and exclusion criteria. The instrument used to assess respondents' anxiety is the Amsterdam Preoperative Anxiety and Information Scale (APAIS) questionnaire.

This study employs a non-parametric test due to the ordinal nature of the categorical data. The Wilcoxon test is used to compare the median values of a variable from two paired data samples.

Results

Table 1. Characteristics Respondent

Characteristics	F	%
Age		
17-25 (Late Adolescence)	6	20.7
26-35 (Early Adulthood)	9	31.0
36-45 (Late Adulthood)	4	13.8
46-55 (Early Elderly)	4	13.8
56-65 (Late Elderly)	2	6.9
>65 (Elderly)	4	13.8
Total	**29**	**100.0**
Education Level		
Elementary School	5	17.2
Junior High School	10	34.5
High School	9	31.0
Bachelor's Degree	5	17.2
Total	**29**	**100.0**
Gender		
Male	15	51.7
Female	14	48.3
Total	**29**	**100.0**

Based on Table 1 Characteristics respondent include age, education level, surgical history, and ASA status. The majority of respondents in this study are aged 26-35 years, with a total of 9 respondents (31.0%). The dominant education level is Junior High School, with 10 respondents (34.5%).

Table 2. Anxiety Levels before Murottal Therapy

Anxiety Level (APAIS)	f	%
1-6 (Not Anxious)	0	0.0
7-12 (Mild)	8	27.6
13-18 (Moderate)	14	48.3
19-24 (Severe)	7	24.1
Total	29	100

Table 2 shows that out of 29 respondents, the majority experienced moderate anxiety before receiving murottal therapy, with 14 respondents (48.3%). There were no respondents who were not anxious or in a state of panic (0%).

Table 3. Anxiety Levels after Murottal Therapy

Anxiety Level (APAIS)	f	%
1-6 (Not Anxious)	12	41.4
7-12 (Mild)	15	51.7
13-18 (Moderate)	2	6.9
19-24 (Severe)	0	0.0
Total	29	100

Table 3 shows that out of 29 respondents, after receiving murottal therapy, 15 respondents (51.7%) experienced mild anxiety, 12 respondents (41.4%) were not anxious, 2 respondents (6.9%) experienced moderate anxiety, and none experienced severe anxiety or panic (0%).

Table 4. Effect Murottal Therapy for Anxiety

Variable	Mean	SD	Min± Max	P-Value	Z
Pre-Test Anxiety	14.97	3.86	8±22	.000	-4.709
Post-Test Anxiety	7.79	2.76	4±14		

Based on Table 4, the Wilcoxon test results indicate a p-value of 0.000, which is less than 0.05. This signifies a significant difference in anxiety levels before and after the administration of murottal therapy in preoperative patients with spinal anesthesia in the inpatient ward of Brawijaya at Jatiwinangun Hospital. After the murottal therapy, there was a noticeable reduction in anxiety: previously, 7 respondents (27.6%) had mild anxiety, 14 respondents (48.3%) had moderate anxiety, and 7 respondents (24.1%) had severe anxiety. Post-therapy results showed 12 respondents (41.4%) were not anxious, 15 respondents (51.7%) had mild anxiety, 2 respondents (6.9%) had moderate anxiety, and no respondents had severe anxiety or panic (0%). This indicates that murottal therapy effectively reduces preoperative anxiety in patients undergoing spinal anesthesia.

Discussion

The study results from 29 respondents show that the majority of respondents were aged 26-35 years, with 9 respondents (31.0%). This finding aligns with Kleruk's (2021) study, "The Relationship Between Preoperative Anxiety Levels and Gender and Age in Caesarean Section Patients," where 15 out of 45 caesarean section patients (33.3%) aged 26-35 years experienced preoperative spinal anxiety, representing the highest percentage. The study results show that the dominant education level among the 29 respondents was Junior High School, with 10 respondents (34.5%). This finding is consistent with Felisitas' (2023) study, "The Relationship between Knowledge Level and Preoperative Anxiety in Fracture Patients at Yogyakarta City Hospital," which indicated that 70% of preoperative fracture patients with anxiety had a Junior High School education. The study results from 29 respondents show that the majority of respondents were female, with 15 respondents (51.7%). This finding aligns with Barus et al.'s (2024) study, "Anxiety Levels in Preoperative Surgical Patients at Santa Elisabeth Hospital Medan in 2022," which found that 62.5% of female respondents experienced preoperative anxiety.

The study results show that out of 29 respondents, the majority experienced moderate anxiety before receiving murottal therapy, with 14 respondents (48.3%). There were no respondents who were not anxious or in a state of panic (0%). This finding aligns with Sriningsih & Pratiwi's (2022) study, which found that 45.5% of respondents experienced moderate anxiety and 27.3% experienced mild anxiety before receiving murottal therapy. The study's findings are supported by research on preoperative anxiety and associated factors among adult surgical patients, indicating that everyone scheduled for surgery experiences anxiety. Factors influencing anxiety include gender, education, preoperative information, and previous surgical experiences. Fear of complications, concern for family, and fear of postoperative pain are common factors causing preoperative anxiety (Spreckhelsen & Chalil, 2021). Age is a significant factor affecting anxiety, as major surgeries are often experienced by adult and elderly patients with various indications. Another factor is gender; women are more sensitive and responsive, making them more prone to anxiety compared to men. Anxiety is also influenced by education and employment; individuals with higher education levels are more adaptable to new situations, and those who are unemployed are more likely to experience anxiety (Sari, 2019).

The study results show that out of 29 respondents, after receiving murottal therapy, 15 respondents (51.7%) experienced mild anxiety, 12 respondents (41.4%) were not anxious, 2 respondents (6.9%) had moderate anxiety, and none experienced severe anxiety or panic (0%). This finding aligns with Anisah & Maliya's (2021) study, where after Benson relaxation therapy, 80% of respondents experienced mild anxiety, and 20% were not anxious at all. Non-pharmacological therapy for anxiety includes murottal therapy. Murottal

therapy is chosen because it is more effective than other audio therapies. Its effects include not only mental relaxation but also healing and spiritual comfort in times of despair, hard work, restlessness, dissatisfaction, and economic hardship (Alfiyah, 2023).

The Wilcoxon test results show a p-value of 0.000, which is less than 0.05, indicating a significant difference in anxiety levels before and after murottal therapy in preoperative patients with spinal anesthesia at Jatiwinangun Hospital. After receiving murottal therapy, anxiety levels decreased, as evidenced by the initial results showing 7 respondents (27.6%) with mild anxiety, 14 respondents (48.3%) with moderate anxiety, and 7 respondents (24.1%) with severe anxiety. Post-therapy, 12 respondents (41.4%) were not anxious, 15 respondents (51.7%) had mild anxiety, 2 respondents (6.9%) had moderate anxiety, and none experienced severe anxiety or panic (0%). This demonstrates that murottal therapy effectively reduces anxiety in preoperative patients with spinal anesthesia. This finding is consistent with Pratiwi & Budiati's (2024) study, which reported a statistically significant reduction in anxiety levels in preoperative laparotomy patients after murottal Al-Qur'an therapy. Before the therapy, 56.2% of patients had moderate anxiety, and 43.8% had severe anxiety. After the therapy, 65.6% experienced mild anxiety, and 34.4% had moderate anxiety.

This study was conducted on preoperative spinal anesthesia patients in the inpatient ward at Jatiwinangun Hospital, Purwokerto. Murottal therapy was administered before surgery using speakers for 15 minutes. The study is supported by previous research where murottal Al-Qur'an therapy was provided using headphones for 15 minutes with a murottal intensity set to 50 dB, equivalent to a quiet office environment, which made patients feel comfortable (Alkasanah, 2021). A brief interview conducted after the therapy revealed that respondents felt more comfortable and calm in facing surgery and anesthesia. The sense of calmness felt by the respondents led to a decrease in anxiety scores. The researcher assumes that the reduction in anxiety was due to the respondents' ability to internalize and focus on the intervention series.

Listening to murottal Al-Qur'an also involves a belief factor, particularly in the Islamic religion. Muslims believe that the Qur'an is the holy book containing God's words and serves as a life guide. Therefore, listening to it brings individuals closer to God, guiding them to remember and surrender all their problems to God, which enhances relaxation (Indriyati et al., 2021).

Conclusion

The characteristics of preoperative patients in this study indicate that the majority of respondents were aged 26-35 years, with 9 respondents (31.0%), and the most dominant education level was junior high school, with 10 respondents (34.5%). There is a significant difference in anxiety levels before and after the administration of murottal therapy in preoperative patients. The difference in the average anxiety levels before and after murottal therapy is statistically significant, with a p-value of 0.000 < 0.05. This indicates that murottal therapy has an effect on reducing anxiety in preoperative patients with spinal anesthesia at the Central Surgical Installation.

Limitations

On research this done measurement pressure blood moment was in space take care stay. However, in research, this only done measurement level worry moment the patient was in space operation, so the researcher could not do a comparison related to worry about the patient during the operation. In contrast, in space take care stay and time already enter room operation. is hoped that the research will coming can done measurement level anxiety in space take care stay so that researcher can know results more research validated related connection between level worry with enhancement pressure blood in preoperative patients with general anesthesia

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Author's contributions

Made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data: IY, SS, HSM, AM, TH; Involved in drafting the manuscript or revising it critically for important intellectual content: IY, SS, HSM; Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content: IY, SS, HSM, AM, TH; Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: IY, SS, AM. All authors read and approved the final manuscript.

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Availability of data and materials

The data that support the findings of this study are available from the corresponding author, [IY], upon reasonable request

Declarations

Ethics approval and consent to participate
Not applicable

Competing Interest

The authors declare no competing interest

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