

The Effect of Classical Music Therapy on Reducing Anxiety Levels in Preoperative Patients at RSI Sunan Kudus

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Abstract. Preoperative anxiety is one of the most common psychological responses experienced by patients before surgery. Excessive anxiety may trigger physiological changes, including increased heart rate, blood pressure, respiratory rate, and stress hormone secretion, potentially affecting surgical outcomes and postoperative recovery. Classical music therapy has been recognized as a safe, inexpensive, and non-pharmacological nursing intervention that promotes relaxation and reduces anxiety. This study aimed to determine the effect of classical music therapy on anxiety levels among preoperative patients at RSI Sunan Kudus. A quantitative pre-experimental study with a one-group pretest-posttest design was conducted involving fifteen preoperative patients selected using purposive sampling. Anxiety levels were measured using the Amsterdam Preoperative Anxiety and Information Scale (APAIS) before and after the intervention. Participants received classical music therapy for approximately 20 minutes before surgery. Data were analyzed using the Wilcoxon Signed Rank Test with a significance level of 0.05. Prior to the intervention, most respondents experienced severe anxiety (46.7%). Following classical music therapy, no respondents remained in the severe anxiety category, while the majority experienced moderate anxiety (60.0%) and one respondent (6.7%) reported no anxiety. Statistical analysis demonstrated a significant reduction in anxiety levels after the intervention ($Z = -3.451$; $p = 0.001$). Classical music therapy significantly reduces anxiety levels among preoperative patients and may be recommended as an effective complementary nursing intervention to improve patients' psychological readiness before surgery.

Keywords: Classical music therapy; preoperative anxiety; nursing intervention; APAIS; surgery.

INTRODUCTION

Surgical procedures are widely performed worldwide as an essential treatment for various acute and chronic health conditions. Despite advancements in surgical techniques and anesthesia, many patients continue to experience psychological distress before surgery, with anxiety being the most common emotional response. Preoperative anxiety is characterized by feelings of fear, uncertainty, and worry regarding anesthesia, surgical procedures, postoperative pain, potential complications, and surgical outcomes. These emotional responses may negatively affect both physiological stability and psychological readiness before surgery. Previous studies have demonstrated that approximately 60–80% of surgical patients experience varying degrees of anxiety before undergoing operative procedures. Excessive anxiety activates the sympathetic nervous system and stimulates the hypothalamic-pituitary-adrenal (HPA) axis, leading to increased secretion of catecholamines and cortisol. Consequently, patients may experience elevated blood pressure, increased heart rate, rapid respiration, muscle tension, and reduced pain tolerance. These physiological responses may complicate anesthesia management, delay surgical procedures, and prolong postoperative recovery.

In nursing practice, managing preoperative anxiety is an important component of holistic perioperative care. Although pharmacological agents such as sedatives may reduce anxiety, they may also produce undesirable side effects, including respiratory depression, excessive sedation, and prolonged recovery. Therefore, complementary non-pharmacological

interventions have become increasingly recommended because they are safer, inexpensive, easy to implement, and can be integrated into routine nursing care.

One complementary intervention that has received considerable attention is classical music therapy. Music therapy provides auditory stimulation capable of activating the parasympathetic nervous system while suppressing sympathetic activity, thereby promoting relaxation. Listening to classical music with slow tempo and harmonious rhythm has been shown to decrease heart rate, blood pressure, respiratory rate, and muscle tension while increasing endorphin release and reducing cortisol secretion. These physiological changes contribute to improved emotional comfort and reduced anxiety before surgery.

Several previous studies have supported the effectiveness of classical music therapy in reducing preoperative anxiety. Supardi et al. (2020) reported that classical music therapy administered for twenty minutes significantly reduced anxiety among preoperative patients. Similar findings were reported by Basri and Lingga (2019), demonstrating a statistically significant decrease in anxiety following classical music intervention. More recent studies conducted by Nugraha (2023) and Azizah and Ardiani (2024) also confirmed that music therapy effectively lowers anxiety scores among surgical patients. However, many previous studies focused on different patient populations or clinical settings, and evidence regarding its implementation among preoperative patients at RSI Sunan Kudus remains limited.

A preliminary assessment conducted at RSI Sunan Kudus identified that most patients awaiting surgery experienced mild to moderate anxiety associated with fear of anesthesia, postoperative pain, and uncertainty regarding surgical outcomes. Such findings indicate the necessity of implementing effective nursing interventions that address psychological readiness before surgery. Therefore, this study aimed to determine the effect of classical music therapy on anxiety levels among preoperative patients at RSI Sunan Kudus. The findings are expected to strengthen evidence-based nursing practice by providing scientific support for the implementation of classical music therapy as a complementary intervention to reduce anxiety, improve psychological preparedness, and enhance the quality of perioperative nursing care.

METHODS

Study Design

This study employed a quantitative pre-experimental design using a one-group pretest-posttest approach. The design was selected to evaluate changes in anxiety levels among preoperative patients before and after receiving classical music therapy. Anxiety was measured twice, namely before the intervention (pretest) and after the intervention (posttest), to determine the effectiveness of the therapy.

Study Setting and Participants

The study was conducted at RSI Sunan Kudus, Central Java, Indonesia, between February and June 2026. The study population consisted of patients scheduled for elective surgery during the study period.

A total of fifteen respondents participated in this study. Participants were recruited using a purposive sampling technique based on predetermined inclusion and exclusion criteria. The inclusion criteria were:

1. Adult patients scheduled for elective surgery.
2. Patients who experienced preoperative anxiety.
3. Patients who were fully conscious and able to communicate effectively.
4. Patients who agreed to participate by providing informed consent.

The exclusion criteria included:

1. Patients with hearing impairment.
2. Patients receiving sedative medication immediately before data collection.
3. Patients with severe cognitive impairment or psychiatric disorders that interfered with communication.
4. Patients who withdrew from the study before completion.

Research Instrument

The level of anxiety was assessed using the Amsterdam Preoperative Anxiety and Information Scale (APAIS), a validated instrument specifically designed to measure anxiety among surgical patients. The questionnaire consists of six items assessing anxiety related to anesthesia, surgery, and the need for information. Higher scores indicate higher levels of preoperative anxiety. Demographic characteristics, including age, gender, and educational level, were also collected using a structured respondent characteristic form.

Intervention Procedure

Prior to data collection, eligible participants received an explanation regarding the objectives and procedures of the study. Written informed consent was obtained before participation.

The study procedure consisted of the following stages:

1. Respondents completed the APAIS questionnaire before the intervention (pretest).
2. Classical music therapy was administered individually using headphones in a quiet and comfortable environment.
3. Participants listened to classical music for approximately 20 minutes while resting comfortably before surgery.
4. Several hours after the intervention, but before the surgical procedure, respondents completed the APAIS questionnaire again (posttest) to evaluate changes in anxiety levels.
5. All questionnaires were checked for completeness before statistical analysis.

Data Analysis

Data were analyzed using IBM SPSS Statistics. Descriptive statistics were used to summarize respondents' demographic characteristics and anxiety levels. Continuous variables were presented as means and standard deviations, while categorical variables were expressed as frequencies and percentages.

Normality testing indicated that the anxiety scores were not normally distributed; therefore, the Wilcoxon Signed Rank Test was applied to compare pretest and posttest anxiety scores. Statistical significance was established at $p < 0.05$ with a 95% confidence interval.

Ethical Considerations

This study was conducted in accordance with the ethical principles for research involving human participants, including respect for autonomy, confidentiality, beneficence, and justice. Ethical approval was obtained from the Health Research Ethics Committee (KEPITEKES) of Institut Cendekia Utama Kudus with Ethical Clearance Number: No. 63/EC/KEPITEKES-CU/VI/2026 prior to data collection. Written informed consent was obtained from all participants before enrollment, and participants were informed that their involvement was voluntary and that they could withdraw from the study at any time without affecting their medical treatment. All respondent information was anonymized and kept strictly confidential.

RESULTS AND DISCUSSION

Respondent Characteristics

A total of fifteen preoperative patients participated in this study. The majority of respondents were aged 41–59 years (80.0%), female (66.7%), and had completed elementary school education (40.0%). These characteristics indicate that most participants belonged to middle adulthood, a period during which individuals generally possess greater awareness of disease severity and surgical risks, potentially increasing psychological distress before surgery.

Table 1. Characteristics of Respondents (n = 15)

Characteristics	Frequency (n)	Percentage (%)
Age		
20–40 years	3	20.0
41–59 years	12	80.0
Gender		
Male	5	33.3
Female	10	66.7
Education		
Elementary School	6	40.0
Junior High School	3	20.0
Senior High School	4	26.7
College	2	13.3

The predominance of middle-aged respondents may explain the relatively high anxiety levels observed before surgery. Adults generally have better cognitive understanding regarding operative risks, anesthesia, postoperative pain, and possible complications than younger individuals. Consequently, they tend to experience greater anticipatory anxiety. Similarly, female patients demonstrated higher representation in this study, which is consistent with previous findings suggesting that women are generally more vulnerable to anxiety due to biological, hormonal, and psychosocial factors. Lower educational attainment may also

contribute to limited understanding of surgical procedures, thereby increasing uncertainty and emotional distress.

Changes in Anxiety Levels Before and After Classical Music Therapy

Before receiving classical music therapy, severe anxiety was the predominant category, affecting seven respondents (46.7%). Following the intervention, no respondents remained in the severe anxiety category. Most participants experienced moderate anxiety (60.0%), while one respondent (6.7%) reported no anxiety.

Table 2. Anxiety Levels Before and After Classical Music Therapy

Anxiety Level	Pretest n (%)	Posttest n (%)
No anxiety	0 (0.0)	1 (6.7)
Mild anxiety	4 (26.7)	5 (33.3)
Moderate anxiety	4 (26.7)	9 (60.0)
Severe anxiety	7 (46.7)	0 (0.0)

The findings demonstrate a clear reduction in anxiety severity following the intervention. Although several respondents remained moderately anxious, the complete elimination of severe anxiety indicates that classical music therapy successfully improved patients' psychological conditions before surgery.

Effect of Classical Music Therapy on Anxiety

Statistical analysis using the Wilcoxon Signed Rank Test revealed a significant reduction in anxiety scores after the intervention ($Z = -3.451$; $p = 0.001$), indicating that classical music therapy effectively decreased anxiety among preoperative patients.

Table 3. Wilcoxon Signed Rank Test Results

Variable	Z Value	p-value
Pretest–Posttest Anxiety	-3.451	0.001

Since the p-value was less than 0.05, the null hypothesis was rejected, indicating a statistically significant difference between anxiety levels before and after classical music therapy.

The reduction in anxiety can be explained through both physiological and psychological mechanisms. Listening to classical music stimulates the parasympathetic nervous system while suppressing sympathetic nervous system activity. This autonomic response decreases heart rate, blood pressure, respiratory rate, and muscle tension, thereby creating a relaxation response. Furthermore, classical music promotes endorphin and dopamine release while reducing cortisol secretion, resulting in improved emotional comfort and decreased stress.

Psychologically, classical music functions as a distraction technique. Patients awaiting surgery often experience persistent negative thoughts regarding anesthesia, pain, complications, and surgical outcomes. Music redirects attention away from these concerns toward pleasant auditory stimuli, thereby reducing cognitive stress and emotional tension. Consequently, patients become calmer and psychologically better prepared to undergo surgery. The present findings are consistent with those reported by Supardi et al. (2020), who demonstrated that twenty minutes of classical music significantly reduced anxiety among

preoperative patients. Similar results were reported by Basri and Lingga (2019), who observed a statistically significant reduction in anxiety following classical music intervention. More recent evidence from Nugraha (2023) and Azizah and Ardiani (2024) also supports the effectiveness of music therapy in improving psychological well-being among surgical patients. Although the intervention produced statistically significant improvements, several respondents continued to experience moderate anxiety after treatment. This finding suggests that anxiety before surgery is multifactorial and may also be influenced by previous surgical experiences, perceived severity of illness, family support, personality traits, communication with healthcare professionals, and individual coping mechanisms. Therefore, classical music therapy should be integrated with comprehensive preoperative nursing care, including patient education, therapeutic communication, and family involvement.

The principal novelty of this study lies in the implementation of classical music therapy as an evidence-based nursing intervention among preoperative patients at RSI Sunan Kudus using the Amsterdam Preoperative Anxiety and Information Scale (APAIS). Although previous studies have confirmed the effectiveness of music therapy, limited evidence has been reported from this hospital setting. The findings therefore provide additional evidence supporting the incorporation of classical music therapy into routine perioperative nursing practice.

From a clinical perspective, classical music therapy offers several advantages. It is inexpensive, non-invasive, easy to administer, requires minimal equipment, and carries virtually no adverse effects. Consequently, it may serve as an effective complementary intervention that enhances psychological readiness, improves patient comfort, and potentially contributes to better perioperative outcomes. These findings support the integration of classical music therapy into standard nursing care protocols for patients awaiting elective surgery.

CONCLUSION

This study demonstrated that classical music therapy significantly reduced anxiety levels among preoperative patients at RSI Sunan Kudus. Prior to the intervention, most respondents experienced severe anxiety, whereas following the intervention no respondents remained in the severe anxiety category. Statistical analysis using the Wilcoxon Signed Rank Test showed a significant difference between pretest and posttest anxiety levels ($Z = -3.451$; $p = 0.001$), confirming the effectiveness of classical music therapy as a complementary nursing intervention. Classical music therapy promotes relaxation through physiological and psychological mechanisms, thereby improving patients' emotional comfort and psychological readiness before surgery. Considering its simplicity, safety, low cost, and non-invasive nature, classical music therapy may be incorporated into routine perioperative nursing care to enhance the quality of patient-centered healthcare services.

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