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The Effect of Autogenic Relaxation Technique Combined with Classical Music on Reducing Anxiety Levels in Preoperative Patients

Marwan Ahmad[1], Yuliana[2]
[1] Universitas Muhammadiyah Surakarta
[2] STIKES Mitra Adiguna Palembang
Correspondence: marwanahmadmkd00056@gmail.com

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ABSTRACT

Background: Data obtained from the World Health Organization (WHO) show that the number of patients undergoing surgical procedures has increased significantly from year to year. One of the non-pharmacological interventions to reduce anxiety is the autogenic relaxation technique combined with classical music therapy. The purpose of this study was to determine the effect of the autogenic relaxation technique combined with classical music on reducing anxiety levels in preoperative patients at Pelabuhan Hospital Palembang.
Methods: This study employed a pre-experimental design, namely a one-group pre-post test design. The population consisted of patients scheduled for surgery in February–March 2024, with a total of 35 respondents. Sampling was conducted using accidental sampling, resulting in 35 respondents. Data were collected using questionnaires. Data analysis was carried out using univariate and bivariate analysis with the paired sample t-test.
Results: Univariate analysis showed that the average anxiety level of respondents before the intervention was 21.80, and after being given the autogenic relaxation technique combined with classical music, the average score decreased to 17.51. The results of the paired sample t-test showed that there was a significant effect of the autogenic relaxation technique combined with classical music on reducing anxiety levels in preoperative patients at Pelabuhan Hospital Palembang in 2024 (p-value = 0.000).
Conclusion: It is expected that the hospital can implement non-pharmacological interventions such as the autogenic relaxation technique combined with classical music to support pharmacological treatment for anxiety, particularly in patients undergoing surgery, so that anxiety can be reduced optimally.

INTRODUCTION

Surgery is a medical procedure that often causes anxiety, as most people still perceive all surgical procedures as major surgeries. Surgery is an invasive intervention that involves injuring a part of the body affected by a health problem, followed by wound closure. Surgery may be performed for several reasons, including diagnostic purposes (e.g., biopsy, exploratory laparotomy), curative treatment (e.g., tumor mass excision, removal of an inflamed appendix), reparative measures (e.g., repairing multiple injuries), reconstructive purposes, and palliative care. A surgical procedure generally involves three phases: preoperative, intraoperative, and postoperative (Putri et al., 2022).

Anxiety is strongly associated with feelings of uncertainty and helplessness, resulting from an individual's assessment of an object or situation. It arises as a response to stress, whether physical or psychological. In other words, anxiety occurs when an individual feels threatened, either physically or psychologically. Prior to surgery, anxiety is a common emotional reaction, as the preoperative stage is often a new and unfamiliar experience for patients. More than 90% of preoperative patients are at risk of experiencing anxiety as an anticipatory response to a situation perceived as a threat to their role, body integrity, or even their life (Moonti, 2023).

The World Health Organization (WHO) reported that the global prevalence of anxiety in 2017 reached more than 200 million people, with a proportion of 3.6% in relation to the world population (Himpsi, 2020). In 2015, data from Southeast Asia indicated that more than 60 million people, or

approximately 23% of the population, experienced anxiety (Supardi et al., 2020). Data from the WHO also revealed that the number of patients undergoing surgical procedures has shown a significant increase from year to year. In 2011, there were 140 million patients recorded worldwide, while in 2012, the number rose to 148 million.

According to the 2018 Basic Health Research (Riset Kesehatan Dasar), the prevalence of emotional disorders, including anxiety, was 9.8% among the adult population. Considering that the adult population in Indonesia is approximately 185 million, it can be estimated that around 18 million adults currently suffer from anxiety disorders (Himpsi, 2020). If not properly managed, anxiety can lead to both physical and psychological changes, such as increased sympathetic nerve activity, elevated heart rate, respiratory rate, and blood pressure, cold sweats, abdominal discomfort, urinary disturbances, and overall reduced energy levels. Anxiety is one of the most common symptoms experienced during the preoperative phase (Simamora et al., 2021).

Previous studies have shown that female patients tend to experience higher levels of anxiety compared to male patients. In terms of age, patients over 40 years old have a higher anxiety level than those under 40. Patients with prior experience of surgery or anesthesia tend to have slightly lower anxiety levels compared to those with no experience. Moreover, patients with lower education levels are more likely to feel anxious compared to those with higher education. Preoperative anxiety requires proper management, as it may negatively affect postoperative outcomes, such as prolonged recovery from anesthesia, increased postoperative pain leading to higher analgesic demand, greater intraoperative anesthetic requirements, and a higher incidence of postoperative nausea and vomiting (Sitinjak et al., 2022).

Several factors contribute to preoperative anxiety, including patients' knowledge, family support, nurses' communication and attitudes in applying anxiety prevention strategies, and the type of surgery. Anxiety levels can be measured using several scales, such as the Visual Analog Scale for Anxiety (VAS-A), Hamilton Rating Scale for Anxiety (HRS-A), Penn State Worry Questionnaire (PSWQ), Spielberger State-Trait Anxiety Inventory (STAI), and Depression Anxiety Stress Scales (DASS). One relaxation technique that can be used to reduce anxiety is the autogenic relaxation technique, which is a self-induced method of relaxation. The aim of autogenic relaxation is to help the body relax through autosuggestion, thereby regulating breathing, blood pressure, heart rate, and body temperature. Standard autogenic training involves visual imagery and verbal cues that produce sensations of warmth, heaviness, and calmness. This method helps individuals control physiological functions such as blood pressure, heart rate, and blood flow, while also promoting relaxation responses and reducing stress (Atmojo, 2023).

Non-pharmacological therapies can provide a calming effect, stabilize hemodynamic parameters, and maintain vital signs, particularly in patients undergoing procedures such as cesarean section. One effective intervention is music therapy. Music is a simple and widely accessible medium that can evoke relaxation, elevate mood, or even induce sadness. By understanding different types of music and their effects on the body, individuals can select music that best suits their emotional needs. Classical music, which generally has a moderate frequency, has been shown to influence emotions, as it promotes relaxation in the brain. Among various genres, classical music holds a special place in medical practice because of its soft and rhythmic tones, stimulation of alpha brain waves, and its ability to induce calmness and relaxation (Emilda, 2021).

A preliminary study conducted on February 7, 2024, through observation and interviews with the Head of Ward 1, revealed that the number of patient visits in 2022 averaged 25,026, while in 2023 the number increased to 30,573. The total number of patients undergoing surgery in different wards in 2023 was 2,089. In January 2024 alone, 259 patients underwent surgical procedures. The application of music therapy in this setting provided a relaxation response, which effectively reduced patients' anxiety levels.

RESEARCH METHODS

This study employed a quantitative method with a pre-experimental approach, specifically a one-group pre-post test design, involving a single group of preoperative patients whose anxiety levels were measured before and after the intervention. The research was conducted in the Operating Room of Pelabuhan Hospital Palembang over a period of one month, from March 11 to April 11, 2024. The study sample consisted of 35 preoperative patients who experienced anxiety, selected using accidental

sampling, in which respondents were chosen based on their availability during the study period. The inclusion criteria included patients scheduled for surgery in the Operating Room of Pelabuhan Hospital Palembang, adult patients aged over 18 years, patients in a compos mentis condition, those who were able to communicate and cooperate, and those experiencing at least mild anxiety. The exclusion criteria were patients who experienced a sudden decrease in consciousness during the study and patients with hearing impairments. At the initial stage, the researcher determined the sample using accidental sampling. During the pre-test phase, patients' anxiety levels were measured using the Hamilton Anxiety Rating Scale (HARS). The intervention, consisting of autogenic relaxation combined with classical music therapy, was then administered for 15 minutes. In the post-test phase, the patients' anxiety levels were reassessed using the same HARS instrument.

In this study, the instrument used to measure anxiety levels was the Hamilton Rating Scale for Anxiety (HARS/HRS-A). The HRS-A is a scale developed to assess anxiety symptoms and has been widely applied in clinical settings as well as in various research studies on anxiety. The scale consists of 14 items, each rated on a 0–4 scale (0 = no anxiety, 1 = mild anxiety, 2 = moderate anxiety, 3 = severe anxiety, 4 = panic), with a total score ranging from 0 to 52. The interpretation of the scores is as follows: a score of <14 indicates no anxiety, 14–20 indicates mild anxiety, 21–27 indicates moderate anxiety, 28–41 indicates severe anxiety, and 42–52 indicates very severe anxiety.

RESULTS AND DISCUSSION

This study was conducted over approximately one month, from March 11 to April 11, 2024, with a total of 35 respondents in the Operating Room of Pelabuhan Hospital. The collected data were then processed and analyzed using univariate and bivariate analyses.

The univariate analysis in this study was presented in numerical form, including percentages, mean values, maximum and minimum scores, as well as the 95% Confidence Interval (CI), to describe the effect of the autogenic relaxation technique combined with classical music on reducing anxiety levels in preoperative patients. The results of this study showed that the mean anxiety level of preoperative patients before being given the autogenic relaxation technique combined with classical music was as follows:

Table 1. Anxiety Levels of Preoperative Patients Before Receiving the Autogenic Relaxation Technique Combined with Classical Music at Pelabuhan Hospital Palembang, 2024

Variable	N	Mean	SD	Min-Max	95% CI (Lower-Upper)
Pre test	35	21,80	4,100	14-28	20,39-23,21

From Table 1, it was found that the mean anxiety level of respondents before being given the autogenic relaxation technique combined with classical music was 21.80 (95% CI: 20.39–23.21) with a standard deviation of 4.100. The minimum score was 14, and the maximum score was 28. Based on this estimation, it can be concluded that the anxiety level of respondents before the intervention was within the range of 20.39 to 23.21.

The results of this study showed that the mean anxiety level of preoperative patients after being given the autogenic relaxation technique combined with classical music was as follows:

Table 2. Anxiety Levels of Preoperative Patients After Receiving the Autogenic Relaxation Technique Combined with Classical Music at Pelabuhan Hospital Palembang, 2024

Variable	N	Mean	SD	Min-Max	95% CI (Lower-Upper)
Post test	35	17,51	3,584	11-23	16,28-18,75

From Table 2, it was found that the mean anxiety level of respondents after being given the autogenic relaxation technique combined with classical music was 17.51 (95% CI: 16.28–18.75) with a standard deviation of 3.584. The minimum score was 11, and the maximum score was 23. Based on this estimation, it can be concluded that the anxiety level of respondents after the intervention was within the range of 16.28 to 18.75.

Before conducting data analysis, the researcher first performed a normality test. In this study, the total number of respondents was 35; therefore, the Shapiro-Wilk test was used to test data normality, as the number of respondents was fewer than 50.

Table 3. Results of the Data Normality Test (n = 35)

Variable	F	Sig.
Anxiety Level of Preoperative Patients Before Receiving the Autogenic Relaxation Technique Combined with Classical Music	35	0,081
Anxiety Level of Preoperative Patients After Receiving the Autogenic Relaxation Technique Combined with Classical Music	35	0,064

Table 3, shows the results of the normality test. Since α > 0.05, the data are considered normally distributed. Based on the results of the normality test, the research data were normally distributed; therefore, bivariate analysis was conducted using the paired sample t-test. The results of the bivariate analysis conducted in this study are as follows:

Table 4. The Effect of the Autogenic Relaxation Technique Combined with Classical Music on Reducing Anxiety Levels in Preoperative Patients at Pelabuhan Hospital Palembang, 2024

Variable	Mean	Mean Differences	SD	*p-value*
Pre test	21,80	4,286	4,100	0,000
Post test	17,51		3,584	

The analysis showed that the mean anxiety level of respondents before receiving the autogenic relaxation technique combined with classical music was 21.80 with a standard deviation of 4.100, while after the intervention, the mean anxiety level decreased to 17.51 with a standard deviation of 3.584, resulting in a mean reduction of 4.286. The results of the paired sample t-test yielded a p-value of 0.000, indicating that the null hypothesis (Ho) was rejected and the alternative hypothesis (Ha) was accepted. This means that the autogenic relaxation technique combined with classical music had a significant effect on reducing anxiety levels in preoperative patients at Pelabuhan Hospital Palembang in 2024.

The results of this study showed that the characteristics of the 35 respondents based on age and gender were as follows: 5 respondents (14.2%) were aged 20–30 years, 15 respondents (42.9%) were aged 31–40 years, and 15 respondents (42.9%) were aged 41–50 years. Univariate and bivariate analyses indicated that the mean anxiety level of respondents before receiving the autogenic relaxation technique combined with classical music was 21.80 with a standard deviation of 4.100, while after the intervention, the mean anxiety level decreased to 17.51 with a standard deviation of 3.584, resulting in a mean reduction of 4.286. The results of the paired sample t-test showed a p-value of 0.000, indicating a significant effect of the autogenic relaxation technique combined with classical music on reducing anxiety levels in preoperative patients at Pelabuhan Hospital Palembang in 2024.

These findings are consistent with the theory proposed by Sitinjak et al. (2022), which states that female patients tend to experience higher levels of anxiety than male patients. In terms of age, patients over 40 years old tend to have higher anxiety levels compared to those under 40 years old. According to Moonti (2023), preoperative anxiety is a common emotional reaction that often occurs because the preoperative phase represents a new and unfamiliar experience for patients. More than 90% of preoperative patients are at risk of experiencing anxiety as an anticipatory response to a situation perceived as a threat to their role, body integrity, or even their life.

To address this anxiety, therapy can be applied, including music therapy (Emilda, 2021). Music is a simple, accessible, and highly effective medium that can calm, uplift, or even induce emotional responses such as sadness. By understanding the effects of different types of music on the body, individuals can select music appropriate for their needs. Moderate-frequency music, such as classical music, has been shown to influence emotions by promoting relaxation in the brain. Classical music, in particular, is considered medically meaningful due to its soft and rhythmic tones, its stimulation of alpha brain waves, and its ability to induce calmness and relaxation in listeners.

This finding aligns with the study conducted by Pracoyo Broto Atmojo (2022) on the effect of autogenic relaxation therapy on anxiety levels in preoperative patients at Medistra Hospital Jakarta in 2022, which reported a mean preoperative anxiety score of 10.23, with scores ranging from 8.00 to 13.00. Similarly, the study by Lutfi Rosida, Imardiani, and Joko Tri Wahyudi (2019) on the effect of autogenic relaxation therapy on anxiety in patients at the Intensive Care Unit of Pusri Hospital Palembang reported a mean pre-test anxiety score of 43.55 and a post-test mean of 36.6, with p =

0.001 ($p < 0.05$), indicating that autogenic relaxation therapy significantly reduced patient anxiety in the ICU.

Based on the results of this study, relevant theories, and previous research, it is assumed that the autogenic relaxation technique combined with classical music helps the body achieve relaxation, reduces stress stimuli, alleviates pain from moderate to mild levels, and improves blood circulation by facilitating the body's response through autosuggestion. Additionally, respondents are required to concentrate during the intervention to maximize the effectiveness of the autogenic relaxation technique combined with classical music.

CONCLUSION

The autogenic relaxation technique combined with classical music was found to be effective in reducing anxiety levels in preoperative patients at Pelabuhan Hospital Palembang. The study demonstrated a significant decrease in mean anxiety scores from 21.80 before the intervention to 17.51 after the intervention, with a mean reduction of 4.286 ($p = 0.000$). This intervention can serve as an effective non-pharmacological approach to managing preoperative anxiety, supporting patients' psychological well-being and potentially improving surgical outcomes. Incorporating autogenic relaxation combined with classical music into preoperative care is recommended to help patients achieve relaxation, reduce stress, and enhance overall comfort before surgery.

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