

# Effect of Instrumental Music Therapy on Preoperative Anxiety Levels in Patients at Imanuel Hospital Bandar Lampung

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**Abstract.** *Anxiety is an uncomfortable feeling of powerlessness caused by unpleasant new experiences, resulting in tension, agitation, and loss of control due to subjective judgment. Anxiety often occurs in patients undergoing surgical procedures. The prevalence of anxiety in Indonesia in preoperative patients ranges from 45% to 75%. This proves that the majority of patients undergoing surgery experience anxiety. One way to alleviate anxiety is through relaxation distraction techniques, such as instrumental music therapy. The effects of instrumental music therapy include reducing stress and anxiety, as well as improving concentration. The statistical test results obtained a significance value of  $0.00 < p < 0.05$ , indicating a significant difference in the level of preoperative patient anxiety before and after being given instrumental music therapy intervention. Thus, it can be concluded that instrumental music therapy affects the level of preoperative patient anxiety at Imanuel Hospital Bandar Lampung. Suggestions for Imanuel Hospital are to implement instrumental music therapy as one of the nursing interventions to reduce anxiety in preoperative patients. With the provision of instrumental music therapy, it is hoped that patients undergoing surgery will feel calmer, allowing the surgical procedure to proceed smoothly and effectively.*

**Keywords:** *Instrumental Music Therapy, Anxiety, Preoperative*

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## INTRODUCTION

Surgery is a medical procedure with a procedure to make an incision to open or display the body part being treated and aims to treat or diagnose a disease (Alim Sigit Prasetyo et al., 2023). Surgery consists of three phases, namely pre-operative, intra-operative, and post-operative (Prasetyawati et al., 2022). Based on the initial survey conducted at RiS Imanuel Bandar Lampung, health education and explanation of surgical preparation have been given to patients who will undergo surgery. Health education that is carried out is structured and uses interesting media, so that families get complete and interactive information. It still affects patients as well as being a manifestation of anxiety that is experienced. However, the provision of instrumental music therapy to reduce anxiety in pre-operative patients before being carried out by

nurses in the ward. In the initial survey of this study, researchers observed 12 patients who were going to undergo surgery through interviews and observations.

### Identification of the Problem

From the background of the problem that has been described, the identification of the problem that can be obtained is as follows: According to WHO (2020), in 2017 there were 140 million patients in hospitals around the world who underwent surgery, while in 2019 the data increased by 148 million people. In 2020, there were 234 million patients in all the hospitals in the world who underwent surgery. b. Based on data from the Maharibe (2024), surgical procedures in Indonesia in 2020 reached 1.2 million people. Surgical procedures are ranked 11th out of 50 diseases in Indonesia, 32% of which are elective surgical procedures. Based on the Lampung Provincial Health Service in 2012, there were 10,320 patients who underwent surgery, where 60% of patients experienced anxiety before the surgical process.

### METHODS

This type of research is quantitative research. Quantitative research is a type of research that uses numbers and statistics in data collection, along with data analysis that can be measured (Alam, 2021). In this study, the data that has been collected is re-checked, then coded and analyzed using statistical tests. This study uses an experimental method with pre- and post-test without control group design. This research was conducted from December 24, 2023 to January 24, 2024 in the operating room of Imanuel Hospital Bandair Lamipung. The population includes all the characteristics or attributes possessed by the subject or object being studied (Megawati & Sutarto, 2021). The lamps that are sleeping 2i50 patients. The sample is a part of the number and characteristics possessed by the population (Harefa et al., 2023). The sampling technique in this research is purposive sampling. iIn this research, a sample has been taken that has the following characteristics:

#### Inclusion criteria

GCS i15 deniers patient, Physical status of AiSA I and ASA II.

#### Exclusion criteria

Operation go, Patients with hearing impairment, Patients who do not like music and instruments. A good sample is one that is able to represent the population. Therefore, the sample dispersion has been calculated using the Sloivin formula, namely in the following equation.

$$n = \frac{N}{1 + N (d)^2}$$

Figure 1. Ruimus iSlovin

Description:

n: sample size

N: population size

1: fixed constant

d: desired level of confidence (0.12)

$$\frac{250}{1 + 250 (0,1)^2} = \frac{250}{3,5} = 71,4$$

From the population of 250 through the Slovin formula, a sample size of 71 samples was obtained.

### Research Variables

In this research, there are 2 variables, namely the independent variable and the dependent variable.

#### Independent Variables

Independent variables are variables that affect the dependent variables, and do not depend on other. The independent variable in this study was instrumental music therapy which only played musical instruments without vocals.

#### Dependent Variable

The dependent variable is a variable whose existence is influenced by the independent variable, always related and dependent on other variables. The dependent variable in this study is the patient's anxiety level.

## RESULT AND DISCUSSION

### Characteristics of Responden

This research is quantitative in nature, where data are expressed in numerical form, then analysis is carried out using the iSPSS program. This data was obtained by administering a questionnaire to 71 respondents before Dian after being given institutional music therapy.

#### Gender

Table 1. Gender Characteristics

Gender	Frequency	Percentage
Man	35	49.3%
Woman	36	50.7%
<b>Total</b>	<b>71</b>	<b>100%</b>

Based on table 4.1, the number of respondents in this research is at least 60 respondents, consisting of the diaries of 35 respondents with a male gender with a percentage of 49.3%, and another 36 respondents with a female gender with a percentage of 50.7%. Count the highest number of female respondents. In the period from 24 December 2023 to 24 January 2024, the number of patients who underwent surgery at the Imanuel Baidar Lampiung Hospital was 250 patients, with 140 patients (56%) being female and 110 patients being male.

Table 2. Age Characteristics

Age	Frequency	Percentage
20-30 years	19	26.8 %
31-40 years old	14	19.7 %
41-50 years old	20	28.1 %
51-60 years old	18	25.4 %
<b>Total</b>	<b>71</b>	<b>100%</b>

For those aged 20 years to 30 years, the number of respondents was 19 respondents with a percentage of 26.8%. At the age of 31 years to 40 years, the number of respondents was 14 respondents with a percentage of 19.7%.

## Education

Table 3. Educational Characteristics

Education	Frequency	Percentage
elementary school	19	26.8 %
Junior High School	11	15.5 %
Senior High School	12	16.9 %
College	29	40.8 %
<b>Total</b>	<b>71</b>	<b>100%</b>

Based on table 3, the total number of respondents paid for this research was 71 respondents with different levels of education, starting from elementary school, middle school, high school, up to higher education education diaries. Respondents who only completed elementary school education numbered 19 respondents, with a percentage of 26.8%. There were 11 respondents who had only completed junior high school education, with a percentage of 15.5%.

## Work

Table 4. Job Characteristics

Work	Frequency	Percentage
Doesn't work	24	33.8 %
Work	47	66.2 %
<b>Total</b>	<b>71</b>	<b>100%</b>

Based on table 4, the total number of respondents to this research was 71 respondents with various types of work held by each respondent. There are 24 respondents who do not work, with a percentage of 33.8%, while respondents who have jobs are 47 respondents with a percentage of 66.2%. It can be concluded that the largest number of respondents are respondents who have jobs. Respondents who did not work in this research consisted of students from the household, while respondents who worked consisted of workers, farmers, entrepreneurs, teachers, civil servants and TNI/police officers.

## Univariate Analysis

### *Pre-Intervention*

Table 5. Anxiety Level Before Intervention

Anxiety Level	Frequency	Percentage
Light	1	1.4 %
Currently	45	63.4 %
Heavy	25	35.2 %
<b>Total</b>	<b>71</b>	<b>100%</b>

Respondents who experienced mild levels of anxiety were 1 person, with a percentage of 1.4%.

Table 6. Description of Anxiety Level Pre Intervention

<b>Pre-intervention anxiety level</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Deviation</b>	<b>Min.</b>	<b>Max.</b>
	2.34	2.0	0.506	1	3

Based on table 6, it is known that the average score of the level of anxiety of the respondents before being given instrumental music therapy is 2.34.

### **Post Intervention**

Table 7. Anxiety Levels Post Intervention

<b>Level of Anxiety</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Light</b>	51	71.8%
<b>Moderate</b>	20	28.2%
<b>Weight</b>	0	0%
<b>Total</b>	<b>71</b>	<b>100%</b>

Based on table 7, 71 respondents in this study had varying levels of anxiety after being given intervention in the form of instrumental music therapy. The patient's level of anxiety after being given instrumental music therapy is different from the level of anxiety before being given instrumental music therapy.

Table 8. Description of Anxiety Levels After Intervention

<b>Post-intervention anxiety level</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Deviation</b>	<b>Min.</b>	<b>Max.</b>
	1.28	1	0.453	1	2

Based on table 8, it is known that the average score for the level of anxiety of respondents after being given instrumental music therapy is 1,28. This shows that the average level of anxiety of respondents after being given music therapy is at the level of mild anxiety.

### **Data Normality Test**

Table 9. Normality Test Data

<b>Anxiety Level</b>	<b>Kolmogorov-Smirnov</b>		
	<b>Statistics</b>	<b>df</b>	<b>Sig.</b>
Level of Anxiety <i>Pre</i> Intervention	,396	71	,000
Level of Anxiety <i>Post</i> Intervention	,451	71	,000

In the data non-normality test with *Kolmogorov-Smirnov*, if the significance value is  $> 0.05$ , it indicates that the data is normally distributed, whereas if the significance value is  $< 0.05$ , it indicates that the data is not normally distributed. Based on the normality test of the data contained in table 4.9, a significance value of 0.000 was obtained at the *pre-intervention* and *post-intervention*. This value indicates that the diary data resulting from this research is not normally distributed. The test used to find out the effect of instrumental music therapy on the *preoperative patient's anxiety level* is the parametric ion test, namely the Wilcoxon test.

### **Bivariate Analysis**

## Wilcoxon test

Table. 10 Rank

Anxiety Level		N	Mean Rank	Sum of Ranks
<i>Post Intervention</i> Anxiety Level – <i>Pre Intervention</i> Anxiety Level	Negative Ranking	68 <sup>a</sup>	34.50	2346.00
	Positive Rank	0 <sup>b</sup>	.00	.00
	Ties	3 <sup>c</sup>		
	<b>Total</b>	<b>71</b>		
<p>a. <i>Post- Intervention</i> Anxiety Level &lt; <i>Pre -Intervention</i> Anxiety Level.            b. <i>Post Intervention</i> Anxiety Level &gt; <i>Pre Intervention</i> Anxiety Level            c. <i>Post Intervention</i> Anxiety Level = <i>Pre Intervention</i> Anxiety Level</p>				

Based on table 10, the number of respondents who experienced a decrease in the level of anxiety after being given instrumental music therapy was 68 respondents and 3 other respondents did not experience changes in the level of anxiety after being given the level of instrumental music therapy. There were no respondents who experienced increased anxiety after being given instrumental music therapy.

Table 11. Statistics

Statistical Tests	<i>Post Intervention</i> Anxiety Level – <i>Pre Intervention</i> Anxiety Level
Z	-7,900
Sig.	,000

Based on table 11, a significance value of 0.000 < *i* was obtained at an IP value of 0.05. It can be concluded that H<sub>0</sub> is rejected and H<sub>a</sub> is accepted so that there is a meaningful or significant influence on the provision of instrumental music therapy on the level of anxiety of *pre-* operative patients at Imanuel Bandiar Laimung Hospital.

## Characteristics of Respondents

### Gender

The number of respondents with male gender was 35 respondents, with a percentage of 49.3% and the number of respondents with female gender was 36 respondents with a percentage of 50.7%. The largest number are respondents whose gender is female.

### Age

In this study, the ages of respondents varied between 20 years to 60 years. From the age of 20 to 30 years, the number of respondents was as many as 19 respondents with a percentage of 26.8%. For those aged 31 years to 40 years, the total number of respondents was 14 respondents with a percentage of 19.7%. At the age of 41 years to about 50 years there were 20 respondents with a percentage of 28.1%. At the age of 51 years to 60 years there were 18 respondents with a percentage of 25.4%.

### Education

The number of respondents to this research was 71 respondents with different levels of education, starting from secondary education, middle school, high school, up to tertiary education. There were 19 respondents who had only completed SiD education,

with a percentage of 26.8%. There were 11 respondents who had only completed junior high school, with a percentage of 15.5%.

### **Workplace**

There were 24 respondents who did not work with a percentage of 33.8%, compared to 47 respondents who had jobs with a percentage of 66.2%.

### **Level of Anxiety Before Providing Rumental Institution Music Therapy**

The effects of surgery can cause stress and physical and physiological changes, resulting in anxiety (Ulfah, 2023) . The anxiety that arises in the respondents of this research is related to their illness, and plans for medical action in the form of surgery. The respondents of this research faced the initial phase of surgery so that they were surrounded by fear, namely fear of not knowing the surgical procedure, death, fear of anesthesia, worry about losing work time, losing their job, responsibility for supporting their family, and permanent disability. Feelings of fear of having surgery arise because of fear of facing death and not being able to get up again after surgery (Barus et al., 2021) .

### **Level of Anxiety After the Delivery of Instrumental Music Therapy**

This research took a sample of 71 respondents. Previously, respondents were given a questionnaire to assess their level of anxiety before being given instrumental music therapy. Then all the respondents who had been selected were given instrumental music therapy entitled Our Future by Peder B. Hellanid for 9 minutes using a headphone so that the respondents could listen to instrumental music without the disturbance of other sounds.

## **CONCLUSION**

From the research objectives, it can be concluded that: It is known that the level of anxiety of pre-operative patients after being given instrumental music therapy is between mild anxiety levels of 51 respondents (71.8%), moderate anxiety levels of 20 respondents (28.2%). No respondents were found to experience severe anxiety and panic.

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