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September 2015	A STUDY TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY IN CONTROLLING POSTOPERATIVE PAIN AND ANXIETY AMONG SURGICAL PATIENTS (MAJOR ABDOMINAL SURGERY) IN RMMCH, ANNAMALAI UNIVERSITY	<b>KEY WORDS:</b> Effectiveness, Music therapy, Postoperative Pain and Anxiety .
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ABSTRACT

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Pain is a universal human experience, yet no two individuals experience and respond to pain exactly the same way and also pain is the predominant complaint patients have after surgery. Anxiety is an emotional state characterized by feelings of apprehension, discomfort, restlessness, or worry. Music therapy is one of the non-pharmacological interventions to reduce postoperative pain and anxiety. AIM: To assess the effectiveness of music therapy in controlling postoperative pain and anxiety among surgical patients. MATERIAL AND METHODS: Quasi-experimental design Time series with multiple institutions of treatment) was adopted. A total of 40 patients 20 in experimental and 20 in control group chosen by convenient sampling technique. The instrument consisted of two sections: First section comprises of demographic and clinical variables of the patient. Second section was Speilberger State-Trait Anxiety Scale Form Y-1 and Numerical Pain Rating Scale. Reiki instrumental music was selected for intervention. Music therapy was provided through head phone on second and third postoperative day to the experimental group in two sessions in each day totaling four sessions lasting for 30 minutes each. Assessment was done periodically for two sessions at a interval of 2 hours per day after music therapy. **RESULTS:** The postoperative pain intensity score of the experimental group was significantly reduced from severe to mild level, where as in the control group pain intensity score was reduced from moderate to mild level. (p< 0.001). The postoperative anxiety level reduction for experimental group was from moderate to mild level, where as in the control group anxiety level remained constantly at moderate level. (p< 0.001). There was no significant association between preoperative anxiety with previous experience of surgery. CONCLUSION: Music therapy is a simple, safe and effective method for reducing postoperative pain and anxiety.

#### **BACKGROUND OF THE STUDY:**

"Pain is whatever the experiencing person says it is, existing whenever he says it does"<sup>1</sup>.

Pain is a complex subjective experience with sensorydiscriminative, emotional-affective and cognitive – evaluative components. Pain causes an increase in the sympathetic response of the body with subsequent rises in heart rate, cardiac work and oxygen consumption<sup>2</sup>. Pain is the most common symptom of disease or injury that precipitates entry into the health care system<sup>3</sup>.

The prevalence of unrelieved postoperative pain is high and may lead to adverse effects including prolonged hospitalization and delayed recovery<sup>4</sup>. The site of the surgery has a profound effect upon the degree of postoperative pain a patient may suffer. Operations on the thorax and upper abdomen are more painful than operations on the lower abdomen<sup>2</sup>.

The experience of acute pain is usually accompanied by fear, anxiety, or both: fear related to the loss or injury of a body part and anxiety about the response of significant others<sup>3</sup>.

Everyone experiences Anxiety to a greater or lesser degree at some time in life. It strikes people in all walks of life. Anxiety is an emotional state characterized by feelings of apprehension, discomfort, restlessness, or worry<sup>5</sup>.

Even the thought of operation and anesthesia increases the feeling of anxiety. Preoperative and postoperative anxiety changed dramatically over the course of the postoperative period<sup>6</sup>. The incidence of preoperative anxiety was reported as high as 60% of surgical patients<sup>7</sup>.

The patient's fear and anxiety may lead to high levels of postoperative pain<sup>2</sup>. Physiological symptoms of anxiety include increases in pulse rate, blood pressure, accelerated breathing rates, perspiration, muscular tension, dryness of the mouth and diarrhoea<sup>8</sup>.

Anxiety and pain are problems of post-surgery that often affect one another. Medications used to treat pain can often have negative side effects but music therapy used as a sedative distractor or relaxation can be an option without the harmful side effects. Distraction reduces conscious awareness of pain<sup>®</sup>. For distraction to be effective, the individual must be aware of activities or situations that are the most exciting, interesting, or absorbing. Distraction techniques may range from simple activities, such as watching TV or listening music to highly complex physical and mental exercises<sup>®</sup>.

Music is widely used to enhance well-being, reduces stress and distracts patients from unpleasant symptoms. Although there are wide variations in individual preferences, music appears to exert direct physiologic effects through the autonomic nervous system. Music effectively reduces anxiety and improves mood in medical and surgical patients<sup>10</sup>.

Music is a low-cost intervention that often reduces surgical, procedural, acute and chronic pain. Music also improves the quality of life for patients receiving palliative care, enhancing a sense of comfort and relaxation<sup>11</sup>. So, the investigator was interested to have rigorous nursing research to test the efficacy of music intervention for postoperative pain and anxiety.

# STATEMENT OF THE PROBLEM

A study to assess the effectiveness of music therapy in controlling postoperative pain and anxiety among surgical patients (major abdominal surgery) in RMMCH, Annamalai University.

## **OBJECTIVES**

- 1. To determine the effectiveness of music therapy in controlling postoperative pain among surgical patients (major abdominal surgery).
- 2. To determine the effectiveness of music therapy in reducing postoperative anxiety among surgical patients (major abdominal surgery).
- 3. To associate the level of preoperative anxiety with clinical variable like previous experience of surgery.

#### **HYPOTHESES**

**H1:** The mean postoperative pain score of the experimental group will be significantly different from the mean postoperative pain score of the control group.

**H2:** The mean postoperative State-anxiety score of the experimental group will be significantly different from the mean postoperative State-anxiety score of the control group.

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# MATERIALS AND METHODS

A quasi-experimental design (Time series with multiple institutions of treatment) was adopted for the study. The study setting was selected in surgical / gynecological wards of Rajah Muthiah Medical College Hospital, Annamalai University, Chidambaram. The population for this study was major abdominal surgery patients. Independent variable was Reiki music therapy and dependent variables were Preoperative anxiety, postoperative pain and postoperative anxiety. The instrument consisted of two (2) sections.

Section A: Demographic and clinical variables of patients Section B:

a).Spielberger State – Trait Anxiety Scale (FormY-1) b).Pain intensity scale (NRS)

# PART A: DEMOGRAPHIC AND CLINICAL VARIABLES OF PATIENTS

This section consisted of demographic variables which include age, gender, place of residence, education, marital status, occupation, monthly family income and clinical variables such as previous experience of surgery, type of surgery, duration of surgery, type of anesthesia and site of incision.

## PART B:

# A). SPIELBERGER STATE - TRAIT ANXIETY SCALE (FORM Y-1)

It consisted of 20 statements. For each statement, the patient had to answer from four options. State anxiety was measured one day prior to surgery and on second and third postoperative day. Scoring was done using positive and negative scores.Score ranges between 20 and 80.

#### **SCORE INTERPRETATION**

:	20
:	21 - 40
:	41 - 60
:	61 -80
	::

#### **B) PAIN INTENSITY SCALE (NRS)**

A horizontal 10 cm pain intensity scale(NRS) marked '0' at the left end and '10' at the right end denoting "no pain" and "unbearable pain" respectively.

#### SCORE INTERPRETATION:

No pain	:	0
Mild pain	:	1 -4
Moderate pain	:	5 -7
Severe pain	:	8 - 10

#### CRITERIA FOR SAMPLE SELECTION: INCLUSION CRITERIA

- 1. Patients between the age of 21 and 60 years.
- 2. Patients who are willing to participate in the study.
- 3. Patients who are willing to listen music.
- 4. Patients who are undergoing elective abdominal surgery.
- Laparotomy in male and female patients, TAH –for female patients.

# **EXCLUSION CRITERIA**

- 1. Patients who have cancer or concurrent medical problems or any psychiatric disorders.
- 2. Patients who have auditory impairment.
- 3. Patients who have undergone minor abdominal surgery
- 4. Patients who undergo emergency abdominal surgery.

## DATA COLLECTION PROCEDURE:

Ethical clearance was obtained from institutional research committee members and written permission obtained from the participants.40 samples, Experimental Group 20 and Control group 20 were chosen using inclusion criteria and were informed regarding the research study and written consent was obtained. Demographic data were collected using interview schedule. Preoperative anxiety was assessed one day prior to surgery and postoperative pain and anxiety was assessed in second and third postoperative day using NRS and STAI Form Y-1. Data collection was done first in the control group then in the experimental group to avoid contamination.

#### **DESCRIPTION OF THE INTERVENTION**

Reiki instrumental music was selected for intervention. Music therapy was provided through head phone on second and third postoperative day to the experimental group in two sessions in each day totaling four sessions lasting for 30 minutes each. Assessment was done periodically for two sessions at an interval of 2 hours per day after music therapy.

# PLAN FOR DATA ANALYSIS

# The statistical methods applied for analysis were:

- Number and Percentage
- Mean and standard deviation
- Chi-square, 'p' value and two-way ANOVA was used to test the hypotheses.

## **Major Study Findings**



Experimental group Control group

## Fig:1 Distribution Of Age Groups In Experimental And Control Groups Of Major Abdominal Surgery Patients

The above graph depicted that out of 20 patients in the experimental group, 90% of them were between 21-50 years and 10% of them were 51-60 years. In the control group 95% of them were 21-50 years and 5% of them were 51-60 years.



Experimental group Control group

# Fig:2 Distribution Of Gender In Experimental And Control Groups Of Major Abdominal Surgery Patients

Majority of the patients were female in both experimental and control groups.



<sup>---</sup> Experimental group --- Control group

Fig:3 Mean Postoperative Pain Intensity Score Of Experimental And Control Groups

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The mean pain level in the experimental group was 7.60 initially. At the end of the intervention, in the experimental group the pain was reduced from 7.60 to 2.65. In the control group, the mean pain level was initially 7.70 and it was reduced from 7.70 to 6.10.

To assess these variations, Two – way ANOVA repeated measures analysis was done. The significant interactional effect between groups (experimental and control group) and pain (different time periods) infers that there was a higher pain reduction in the experimental group as compared to the control group.

The significant time effect indicates that there was a notable reduction of pain in experimental group from the initial time period at the end of the study (P< 0.001). Hence hypotheses H1 was accepted.

[Note:Time refers to pain at different assessment].



Experimental group Control group

## Fig: 4 Mean Pre And Postoperative State-anxiety Score Of Experimental And Control Group

The mean preoperative anxiety level in the experimental group was 51.30. At the end of the intervention, in the experimental group the mean postoperative anxiety was reduced from 51.30 to 34.75. However, in the control group, the mean preoperative anxiety was initially 54.75 and it was reduced to 48.35.

To assess these variations, Two-way ANOVA repeated measures analysis was done. The significant interactional effect between groups (experimental and control group) and time (different time periods) infers that there was a higher anxiety reduction in the experimental group as compared to the control group (P < 0.001). Hence hypotheses H1 was accepted.



Experimental group Control group

### Fig:5 Mean Preoperative State-anxiety Score For Experimental And Control Groups By Previous Experience Of Surgery

The mean anxiety score was higher in patients who do not have previous experience of surgery. Two way ANOVA repeated measures analysis indicated that there was no significant association between previous experience of surgery with preoperative anxiety.

### DISCUSSION

In this study findings depicted that the average pain level in the experimental group was 7.60 initially. At the end of intervention, the pain was reduced from 7.60 to 2.65. However, in the control group, the average pain level was initially 7.70 and it reduced from 7.70 to 6.10, which was slightly reduced. Two-way ANOVA repeated analyses revealed that there was significant pain reduction in the experimental group as compared to the control group. The present study findings were similar to the findings of **Good M**, et al. (2005) study result showed a significant reduction in postoperative pain of patients who had relaxation and music therapy than in the control group<sup>22</sup>. **Kwon IS**, et al. (2006) study results showed that music therapy was an effective method for decreasing pain and discomfort of patients (P<0.001)<sup>37</sup>.

In this present study revealed that the mean preoperative anxiety level in the experimental group was 51.30. At the end of the intervention, anxiety level was reduced to 34.75. Whereas, in the control group, the mean preoperative anxiety was 54.75 initially and it was reduced to 48.35. Two-way ANOVA repeated measures showed a significant anxiety reduction in the experimental group as compared to the control group.Similar to the present study findings, Augustin P and Hains AA(1996) found that music therapy offers demonstrable benefits for ambulatory surgery patients<sup>50</sup>. Mok and Wong KY (2003) study results indicated that patients who listened to music of their choice during surgery experienced significantly lower anxiety levels than patients who did not listen to music<sup>48</sup>. Winter MJ, et al.(1994) the study result showed that who listened to music had significantly less stress and anxiety than who did not listen to music<sup>23</sup>.

In this study depicted that the mean anxiety was higher in patients who did not have previous experience of surgery.Two-way ANOVA results indicated that there was no significant association between previous experience of surgery with preoperative anxiety.

The present study findings were similar to the findings of **Domar AD**, et al.(1989) whose results showed that female patients were more anxious than male patients, and individuals accompanied by a support persons were more anxious than those not accompanied.

# CONCLUSION

The effectiveness of music therapy in controlling postoperative pain and anxiety was assessed in major abdominal surgery patients. The study revealed that music therapy was effective in reducing the postoperative pain and anxiety.

#### REFERENCES

- Ladner K Patricia. Fundamentals of Nursing. 2nd edition, U.S: Thomson Delmarlearning, 2002.
- Dr.Ed Charlton. The management of postoperative pain. Anaesthesia and Pain Management, 1997;7(2):2-7.
- Rawlins Ruth Parmelee, et al. Mental Health Psychiatric Nursing. 3rd edition, Philadelphia: Mosby year book, 1993.
- Benzie IF, Tse MM and Chan MF. The effect of music therapy on post operative pain, heart rate, systolic blood pressures and analgesic use following nasal surgery. www.inet.poly.edu.hk;2006.
- Smeltzer C Suzzanne . Brunner and Suddarth's text book of Medical Surgical Nursing. 10th edition, Philadelphia : Lippincott Williams and Wilkins, 2004.
- Bonica J.J.Post operative pain. 2nd edition, Philadelphia: Lea & Febiger, 1990.
  Hashimoto, et al. Anxiolytic effect of preoperative showing of anaesthesia
- video for surgical patients. Anaesthesia Analgesia, 1993;42(1):611-16. 8. Anxiety. The Columbia Encyclopedia. www.cc.columbia.edu;2003.
- 9. Black M Joyce. Medical Surgical Nursing. 7th edition, Philadelphia : Saunders, 2004.
- Kemper, J. Kathi and Suzanne. C. Danhauer. Music As Therapy. Southern Medical Journal, 2005;98(3):282-287.
- Danhauer SC, Kemper KJ. Music as therapy. South Medicine Journal. 2005; 98(3):282-8.