

A study to assess the effect of Music Therapy on level of pain among patients undergone abdominal surgery at selected hospital, Lucknow.

¹Ms. Jyoti Sunar, ²Ms. Swastika Das, ³Ms. Godhuli Ghosh

¹MSc. Nursing Final year, ^{2,3}Assistant Professor
Era College of Nursing

ABSTRACT:

PROBLEM STATEMENT: A study to assess the effect of Music Therapy on level of pain among patients undergone abdominal surgery at selected hospital, Lucknow.

INTRODUCTION: Pain is a multidimensional phenomenon and is a known consequence of surgery. Inadequate pain control can develop into surgical complications. Complementary and alternative medicine such as music can be used in combination with opioid medication can help to improve pain control leading to successful surgical outcomes.

Aim: To assess the effect of Music Therapy on level of pain.

Objectives of the study are to: Assess the level of pain among patients undergone abdominal surgery in experimental and control group, Evaluate the effect of Music Therapy on level of pain among patients undergone abdominal surgery in experimental group, Associate the level of pain among patients undergone abdominal surgery with selected demographic variables in experimental and control group.

METHODOLOGY: A quasi evaluative research approach was used and the research design adopted for this study was Quasi-experimental research design- nonrandomized control group design. 40 subjects (20 experimental and 20 control group) was selected by purposive sampling technique. Pre test was conducted by using Wong Baker face pain scale after obtaining consent, Music therapy was administered for once a day for three consecutive days for experimental group. Post test was assessed for both groups using same tool.

FINDINGS: The study reveals that the total pretest and posttest mean and SD value of level of pain was **19±2.63 and 10.5±1.93**, with the mean difference of **8.5**, the calculated paired 't' value was 24.16 with $p < 0.05$. This signifies that there is a statistical significant difference in pretest and posttest level of pain. Hence, it clearly indicates that after administration of music therapy the post operative pain was considerably reduced in patients and this proves that music therapy is effective in reducing level of pain.

CONCLUSION: The study concluded that Music therapy is cost effective, noninvasive, non-pharmacological method to reduce the level of pain and also it supports an independent nursing intervention without causing any adverse effect on patients.

Keywords: Music, Music Therapy, Pain, Postoperative patient, Abdominal surgery

INTRODUCTION

Pain is always subjective, each individual learns the application of the word through experience related to injury; hence the experience of pain varies from person to person based on past experience and or present state of mind.^[1] Abdominal surgeries constitute an important proportion of general surgical operations.^[3] Patients undergoing major surgical operations continue to experience pain with an overall reported incidence of 29.7% for moderate-to-severe pain and 10.9% for severe pain. Even in developed countries, 86% of patients experience postsurgical pain. Persistent pain after major abdominal surgery can lead to shallow breathing which facilitates retention of secretion with eventual development of pneumonia contributing to organ dysfunction and prolonged convalescence. Music has been used in medicine for thousands of years. But music therapy emerged as a formal means of care in the United States in the 1940s, after doctors learned that music helped restore World War II soldiers suffering from shell shock.

Music therapy is one of these modalities and is defined as “The clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program” (American Music Therapy Association, 2016). Research in music therapy supports its effectiveness in a wide variety of healthcare and educational settings. In spite of this fact, music therapy is not widely used in routine daily clinical practice as a tool of postoperative pain management. Nurses have carried out researches to determine the efficacy of music in pain management, demonstrating that the implementation of music therapy could be beneficial for postoperative pain management.^[8]

PROBLEM STATEMENT:

A study to assess the effect of Music Therapy on level of pain among patients undergone abdominal surgery at selected hospital, Lucknow.

AIM OF THE STUDY:

The aim of the study is to assess the effect of Music Therapy on level of pain.

1.5 OBJECTIVE:

Objectives of the study are to:

- Assess the level of pain among patients undergone abdominal surgery in experimental group and control group.
- Evaluate the effect of Music Therapy on level of pain among patients undergone abdominal surgery in experimental group.
- Associate the level of pain among patients undergone abdominal surgery with selected demographic variables in experimental and control group.

1.6 OPERATIONAL DEFINITION:

Assess:

In this study, Assess refers to evaluate the effect of music therapy on level of pain using Wong Baker’s face pain rating scale.

Effect:

In this study, Effect refers to the impact of music therapy on level of pain.

Music Therapy:

In this study, Music Therapy refers to administration of selected rhythmic and melodious tune to induce relaxation, promote healing and desired changes in the level of pain.

Pain:

In this study, Pain refers to the unpleasant feeling of great discomfort and experience after the abdominal surgery in which patient expresses the intensity, which is measured by means of Wong Baker’s face pain scale and is classified into mild, moderate and severe.

Post-operative Patient:

In this study, Post operative patient refers to patients who have undergone abdominal surgery in order to get cure from a certain disease condition.

Abdominal surgery:

In this study, Abdominal surgery refers as a surgical incision into the abdominal cavity done for therapeutic interventions.

1.7 HYPOTHESIS:

- **H₁** There is a significant effect of music therapy on level of pain among patients undergone abdominal surgery in experimental group.
- **H₂**: There is significant association of level of pain among patients undergone abdominal surgery with selected demographic variables in experimental and control group.

REVIEW OF LITERATURE:

The review of literature of the present study is organized and presented under following headings:

Section A: Literature related to the prevalence of postoperative pain.

Section B: Literature related to the effects of music therapy for pain management. **Section C:** Literature related to the effects of music therapy on level of pain among post operative patients.

SECTION A: LITERATURE RELATED TO THE PREVALENCE OF POSTOPERATIVE PAIN

Ansbert S Ndebea et al in 2020, conducted a study on “Prevalence and Risk Factors for Acute Postoperative Pain after Elective Orthopaedic and General Surgery at a Tertiary Referral Hospital in Tanzania”. Objective of the study was to determine the prevalence of postoperative pain after general and orthopaedic surgery. A prospective cohort study was conducted and 281 Patients ≥ 18 years admitted for elective general or orthopaedic surgery were included in the study. Data was collected and pain was assessed with a numerical rating scale (NRS 0–10) at 4, 24, 36 and 48 hours postoperatively. Finding of the study revealed that the prevalence of postoperative pain was 61%, 73%, 67% and 58% at 4, 24, 36 and 48 hours after surgery, respectively. Pethidine was the most frequently prescribed analgesic for postoperative pain management (85.1%) in the first 24 hours, and 13% received tramadol.[18]

LaikaKöse Tamer et al in 2020, conducted a study on “The Assessment of Pain and the Quality of Postoperative Pain Management in Surgical Patients”. The aim of the study was to investigate surgical patients’ pain experience and the quality of nursing care in managing acute postoperative pain. A descriptive cross-sectional study was conducted and 141 samples were included in the study. The study data were collected using the Patient Information Form and Strategic and Clinical Quality Indicators Postoperative Pain (SCQIPP) in POPM. Finding of the study revealed that The mean score for the most and least severe pain experienced within the first 24 hours was 7.5 ± 1.4 and 2.8 ± 1.4 , respectively. 87.9% described their pain as tingling, 87.9% experienced pain while getting out of bed, 86.5% stated that movement increased their pain, and 61.7% stated that their pain was relieved by rest.[19]

SECTION B: LITERATURE RELATED TO THE EFFECTS OF MUSIC THERAPY ON MANAGEMENT OF PAIN

Navjeet Kaur, Jansi Kesava in 2018, conducted a study on “A quasi-experimental study to assess the effectiveness of music therapy on pain level among cancer patients admitted to regional cancer hospital Indira Gandhi Medical College, Shimla”, aimed to find the effect of music therapy in reducing pain among cancer patients. A nonrandomized control group design study was adopted, 50 patients were selected using nonprobability purposive sampling technique and divided into 2 groups. Music therapy was provided to the experimental group for 20 min 2 times a day for 3 consecutive days. Finding of the study revealed that experimental group during posttest on day I evening, the mean and SD was (3.44 ± 0.87) and on day III evening, the mean and SD was (2.56 ± 0.58) with mean difference of 0.88. The t value was 4.99 and found statistically significant at $P < 0.001$. Therefore, the results show that music therapy was effective in reducing the pain level among cancer patients in the experimental group and had a long time effect on the pain if given daily on the regular basis at periodic intervals.[28]

Latika Rohilla et al in 2018, conducted a study on “Effect of Music Therapy on Pain Perception, Anxiety, and Opioid Use During Dressing Change Among Patients With Burns in India”. Purpose of the study was to assess the effect of music therapy on pain, anxiety, opioid use, and hemodynamic variables during burn dressing change. A quasi-experimental research design was employed. 10 patients were included in the study, A total of 104 dressing changes (52 control, 52 experimental) were completed as study data points. The music was played using MP3 players and earphones at the bedside of the patient 30 minutes before and for 30 minutes after each dressing change. Finding of the study revealed that the pain score (median, IQR) for the experimental group (3, range 1–5) was significantly lower than for the control dressing changes (4.5, range 2–6) ($P < .001$). State anxiety score and the frequency of opioid use was also significantly lower in experimental group.[29]

SECTION C: LITERATURE RELATED TO THE EFFECTS OF MUSIC THERAPY ON LEVEL OF PAIN AMONG POST OPERATIVE PATIENTS

Lindsey Hein et al in 2021, conducted a study on “Music therapy as a nonpharmacological means of reducing postoperative pain in intrabdominal surgical patients: a systematic review”, which aimed to synthesize evidence-based research as it relates to music therapy and its effect on pain management in postoperative abdominal surgery patients. An exhaustive literature search of evidence-based research of music therapy and its effects on pain management in post abdominal surgery patients was conducted utilizing CINAHL, Medline, Ovid, ProQuest, Nursing Reference Center Plus, Cochrane, and Google on articles published from Jan 2003present. The finding of the study revealed that Postoperative pain scores and ratings were reduced with music therapy in abdominal surgery in 75% of the studies. Six studies found that music therapy decreased the use of opioids and 1 found the use of music therapy intraoperatively to have no effect on the anesthetic requirements for patients undergoing laparoscopic cholecystectomy.[38]

Pratibha Luhera et al in 2020, conducted a study on “a study to assess the impact of music on post operative pain in surgical ward in operated patients, B. R Ambethkar hospital in Noida”. Pre experimental one group, pre-test post-test design was selected for the study, 30 postoperative patients were selected using purposive sampling technique. Music therapy was administered for 30 minutes for 2 consecutive days on 1st and 2nd postoperative day morning and evening. The finding of the study revealed that there was statistical significant difference in pre therapy and post therapy level of pain with mean and SD value of on the 1st POD morning (6.3 ± 2.19) VS (5.03 ± 2.01), 1st POD evening (5.4 ± 2.30) VS (4.15 ± 1.81), 2nd POD morning (4.5 ± 1.92) VS (3.31 ± 1.97) and 2nd POD evening (4.21 ± 2.05) VS (2.88 ± 1.99) with $p < 0.05$. It is also concluded that there is no significant association of level of pain with selected demographic variable.^[39]

RESEARCH METHODOLOGY:

Research Approach: Quantitative Evaluative Research Approach

Research Design: Quasi experimental research design- nonrandomized control group design.

VARIABLES UNDER STUDY:

Independent variables: Music therapy.

Dependent variables: level of pain among patients undergone abdominal surgery.

Demographic variables: Age, Gender, Previous history of surgery, Substance Abuse.

Research Setting: This study was conducted at Era’s Lucknow Medical College and Hospital, which is located at Sarfarazganj Hardoi road, Lucknow.

Population: post operative patients undergone abdominal surgery

Target Population: post operative patients undergone abdominal surgery and admitted in the surgical unit of Era’s Lucknow Medical College and Hospital, Lucknow.

Accessible Population: Postoperative patients who were present during data collection period.

Sample: patients who fulfills the inclusion criteria.

Sample Size: The sample size of the present study is comprises of 40 post operative patients (20 Experimental group and 20 Control group).

Sampling Technique: Purposive sampling technique.

SAMPLING CRITERIA:

Inclusion Criteria:

- ✓ Patient who will be willing to participate in the study Patients who had undergone abdominal surgery - Laparotomy.
- ✓ Patients who are on POD1.
- ✓ Patient with the pain level from moderate to severe pain according to WongBaker’s face pain scale scoring.
- ✓ Patient who is alert and oriented to person, place and able to rate pain on the Wong Baker’s pain scale.

Exclusion criteria:

- ✓ Patient with hearing disability.
- ✓ Patient with mild degree of pain according to the Wong-Baker’s face pain scale scoring.
- ✓ Patient who has undergone surgery other than abdominal surgery.
- ✓ Patients with diabetes mellitus.

DEVELOPMENT AND DESCRIPTION OF TOOL:

In this study, **Wong Baker Face Pain Scale**, a standard tool was used with the permission from Wong-Baker Face Foundation.

The tool was organized into two sections. They are:

Section I: Demographic profile of patients undergoing abdominal surgery, which includes four parameters; Age, Gender, Substance Abuse and Previous history of surgery,

Section II: Assessment of pain is done by using Wong- Baker’s pain scale.

The scoring system is categorized as:

- 0= No pain
- 1-3= mild pain
- 4-6= moderate pain and
- 7-10= severe pain

CONTENT VALIDITY OF THE TOOL:

The content of the tool was validated by the 5 experts from the field of medicine and Nursing. The suggestions of the experts were incorporated in the study. Minimal modification was made in the section I of the tool. After the change the tool was finalized. The refined modified tool was used for data collection and content validity was obtained.

ETHICAL CONSIDERATION:

The study objectives and data collection procedure were approved by the ethical committee of the institution. Formal consent was obtained from the authorities, written consent was obtained from all participants. No human rights were harmed in any way during the study period. Respect for dignity and right to withdraw from study of the research participants were prioritized.

PILOT STUDY:

- ✓ Through pilot study the validity and reliability of tool was developed.
- ✓ The reliability co- efficient of the whole test was estimated by using Pearson's correlation coefficient method.
- ✓ The reliability score obtained $r=0.89$

3.12 PLAN FOR DATA ANALYSIS:

The data were analyzed according to the objectives and hypothesis of the study by using descriptive and inferential statistics. The plan for data analysis as follows:

Descriptive statistics include:

- ✓ Frequency and percentage distribution of demographic variables.
- ✓ Mean and standard deviations of pre assessment and post assessment of level of pain.

Inferential statistics include

- ✓ Effectiveness of music therapy on level of pain was analyzed by paired 't' test.
- ✓ Unpaired 't' test was measured to compare the pre test and post test level of pain between control and experimental group.
- ✓ Fisher's exact test is used to associate the demographic variables with the pre- test level of pain for both groups.

DATA ANALYSIS AND INTERPRETATION**Results Are Presented In Following Sections:**

Section A: Distribution of samples according to selected demographic variables in both experimental and control groups.

Objective I: Assess the level of pain among patients undergone abdominal surgery, in experimental group and control group.

- **Section B:** Frequency and percentage distribution of samples according to pre-test level of pain in experimental and control group.
- **Section C:** Frequency and percentage distribution of samples according to posttest level of pain in experimental and control group.

Objective II: Evaluate the effect of music therapy on level of pain among patients undergone abdominal surgery.

- **Section D:** Evaluate the effect of music therapy on level of pain among patients undergone abdominal surgery in experimental group.
- **Section E:** Comparison of the post-test level of pain among patients undergone abdominal surgery, in experimental group and control group.

Objective III: Association of the level of pain among patients undergone abdominal surgery with their selected demographic variables in experimental and control group.

SECTION- A

Distribution of samples according to selected demographic variables in both experimental and control groups.

TABLE- 1

Frequency And Percentage Distribution Of Samples According To The Demographic Variable:

n= 40

Demographic profile	Experimental group		Control group	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Age in years:				
18-28 years	3	15%	5	25%
29-38 years	4	20 %	6	30%
39-48 years	9	45%	6	30%
>48 years	4	20%	3	15%
Gender:				
Male	12	60%	15	75%
Female	8	40%	5	25%
Substance abuse:				
Illicit Drugs	0	0%	0	0%
Alcohol	5	25%	6	30%
Tobacco	7	35%	7	35%
None.	8	40%	7	35%
Previous history of surgery:				
Yes	3	15%	1	5%
No	17	85%	19	95%

Above table reveals the demographic information of the samples those who participated for the following study on “A study to assess the effect of music therapy on level of pain on patient undergone abdominal surgery at selected hospital, Lucknow”.

In considering the age wise distribution of samples in experimental group (15%) 3 subjects were in 18-28 years of age, (20%) 4 subjects were in 29-38 years of age, (45%) 9 subjects were in 39-48 years of age and (20%) 4 subjects age were more than 48 years of age. In control group (25%) 5 subjects were in 18- 28 years of age, (30%) 6 subjects were in 29- 38 and 39- 48 years of age, and (15%) 3 subjects were more than 48 years of age.

Regarding gender wise distribution in experimental group (60%) 12 subjects were male and (40%) 8 subjects were female. In control group (75%) 15 subjects were male and (25%) 5 subjects were female who participated in the study. With the view of history of substance abuse among samples in experimental group (0%) of subjects were taking any illicit drugs. Whereas, (25%) 5 subjects gave the history of alcohol consumption and (35%) 7 subject gave the history of tobacco consumption, and rest (40%) 8 subjects din't have any history of substance abuse. In control group (0%) of subjects were taking any illicit drugs. Whereas, (30%) 6 subjects gave the history of alcohol consumption, (35%) 7 subjects had the history of tobacco consumption and (35%) 7 subjects dint have any history of substance abuse.

When considering the previous history of surgery among samples in experimental group, (15%) 3 subjects had the history of previous surgery and (85%) 17 subjects din't have any history of previous surgery. in control group (5%) 1 subject had the history of previous surgery and (95%) 19 subjects din't have any history of previous surgery.

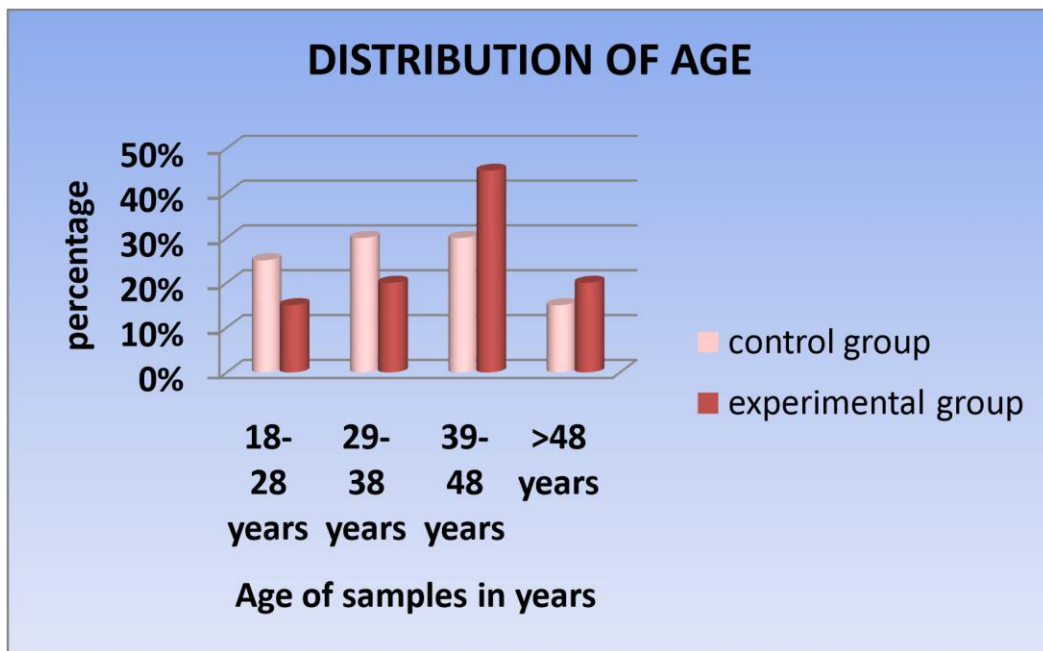


Fig. 3. Percentage distribution of samples in experimental and control group according to their age.

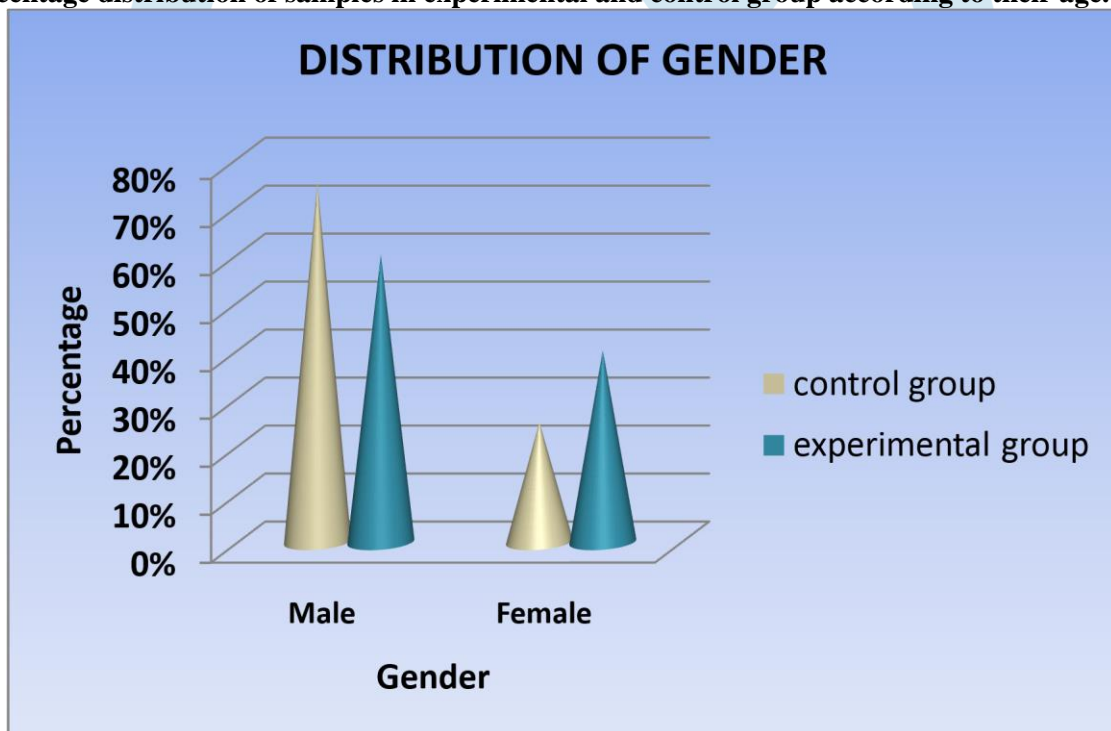


Fig. 4. Percentage distribution of samples in experimental and control group according to the gender.

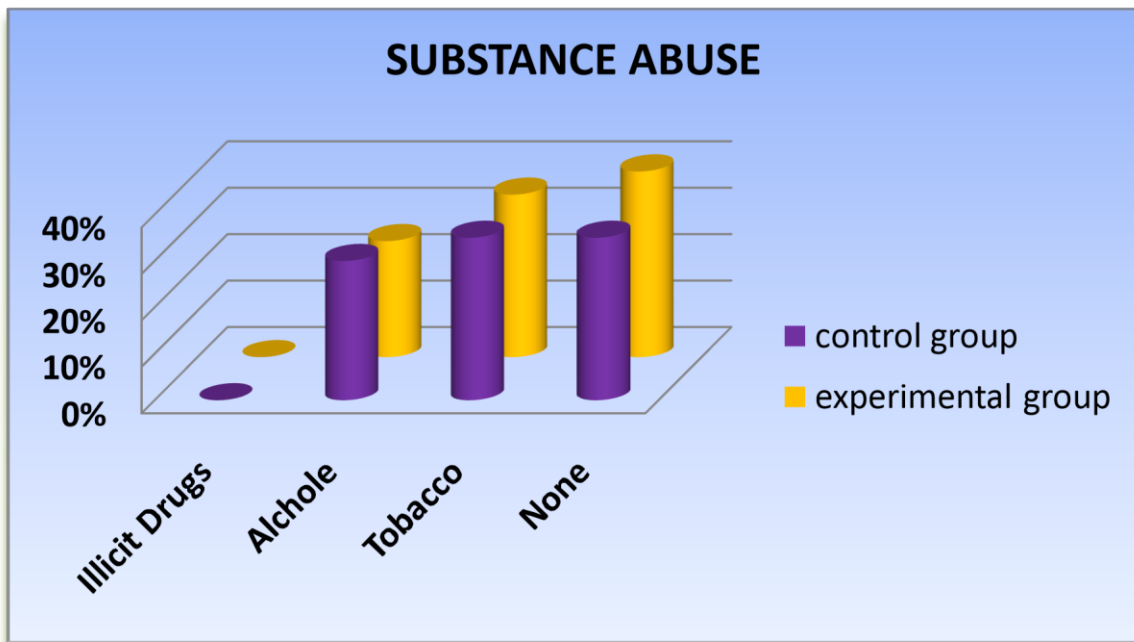


Fig.5. Percentage distribution of samples in experimental group and control group according to their addiction to substance abuse.

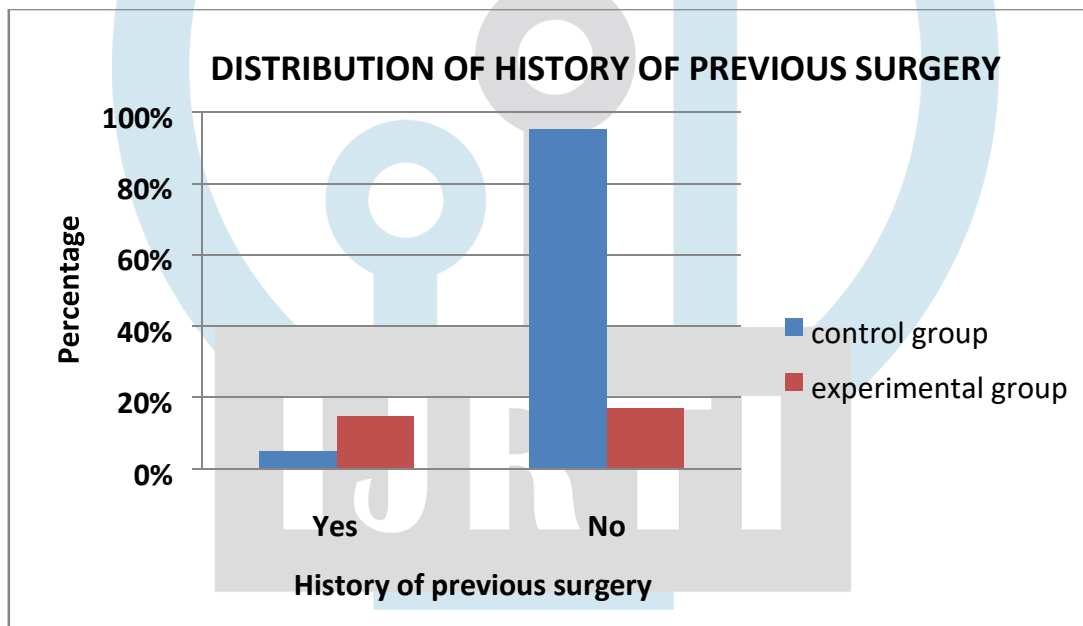


Fig. 6. Percentage distribution of samples in experimental group and control group according to their history of previous surgery.

Objective- I

Assess the level of pain among patients undergone abdominal surgery, in experimental group and control group.
 Section- B: Frequency and percentage distribution of samples according to pretest level of pain in experimental and control group.

Table- 2

Frequency and percentage distribution of samples according to pretest level of pain in experimental group.

n= 20

Level of Pain	Experimental Group: Pre-test					
	Day 1		Day 2		Day 3	
	F	%	F	%	F	%
No pain						
Mild						
Moderate	6	30%	15	75%	19	95%
Severe	14	70%	5	25%	1	5%

The data presented in the table shows the pretest level of pain among the subjects in experimental group. On the 1st day 14 subjects (70%) was having severe pain and 6 subjects (30%) were having moderate pain. On the 2nd day 5 subjects (25%) were having severe pain and 15 subjects (75%) were having moderate pain. On the 3rd day 1 subject (5%) was in category of severe pain and 19 subjects (95%) were having moderate pain.

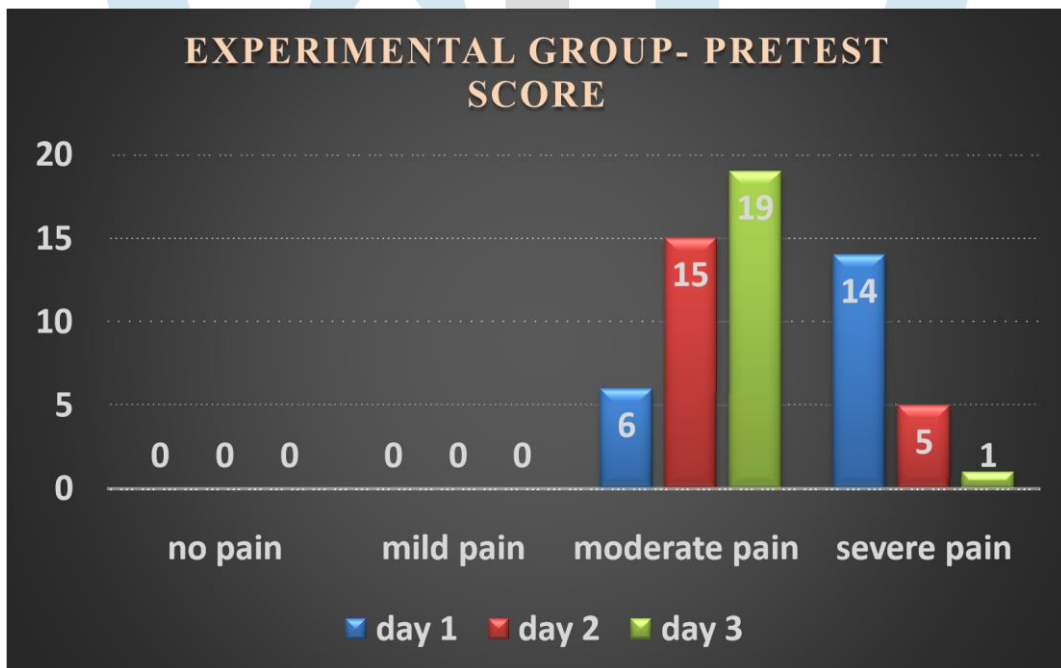
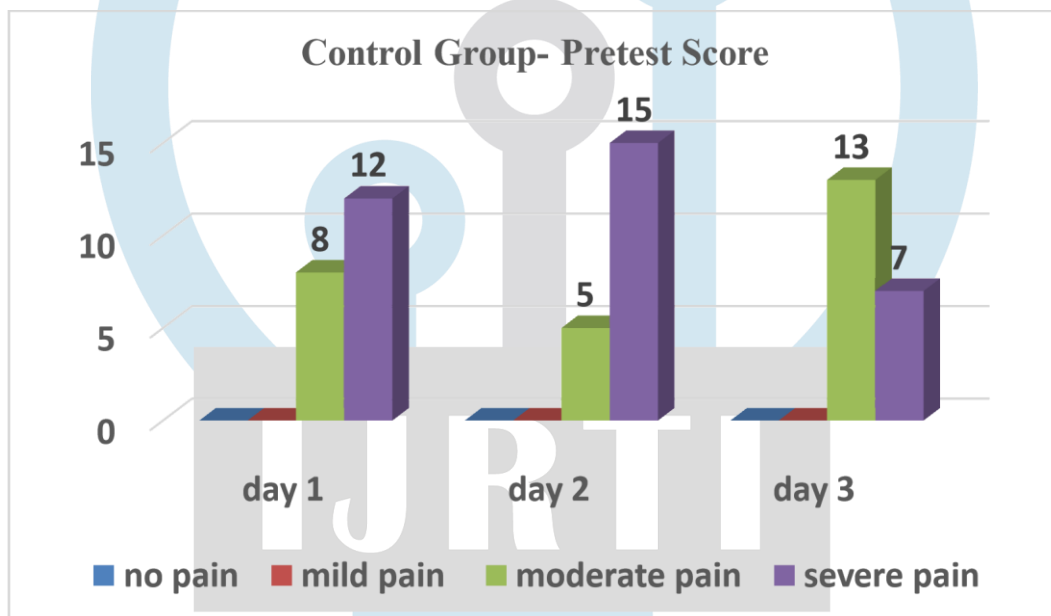


Fig: 7 Frequency and percentage distribution of samples according to pretest level of pain in experimental group.

Table- 3**Frequency and percentage distribution of samples according to pretest level of pain in control group.****n= 20**

Level of pain	Control Group: Pretest					
	Day 1		Day 2		Day 3	
	F	%	F	%	F	%
No pain						
Mild						
Moderate	8	40%	5	25%	13	65%
Severe	12	60%	15	75%	7	35%

The data presented in the table shows the pretest level of pain among the subjects in control group. On the 1st day 12 subjects (60%) were having severe pain and 8 subjects (40%) were having moderate pain. On the 2nd day 15 subjects (75%) having severe pain and 5 subjects (25%) were having moderate pain. On the 3rd day 7 subjects (35%) were having severe pain and 13 subjects (65%) were having of moderate pain.

**Fig: 8 Frequency and percentage distribution of samples according to pretest level of pain in control group.**

SECTION-C: Frequency and percentage distribution of samples according to post-test level of pain in experimental and control group.

Table- 4
Frequency and percentage distribution of samples according to post-test level of pain in experimental group.

n= 20

Level of pain	Music Therapy Group: Post-test					
	Day 1		Day 2		Day 3	
	F	%	F	%	F	%
No pain						
Mild	1	5%	6	30%	18	90%
Moderate	19	95%	14	70%	2	10%
Severe						

The data presented in the table shows the post-test level of pain among the subjects in experimental group. On the 1st day after the music therapy it was observed that 19 subjects (95%) were having of moderate pain and 1 subject (5%) was having of mild pain. On the 2nd day 14 subjects (70%) was having moderate pain and 6 subjects (30%) were in the category of mild pain. On the 3rd day 2 subjects (10%) was having moderate pain and maximum number of subjects; 18 subjects (90%) was having mild pain.

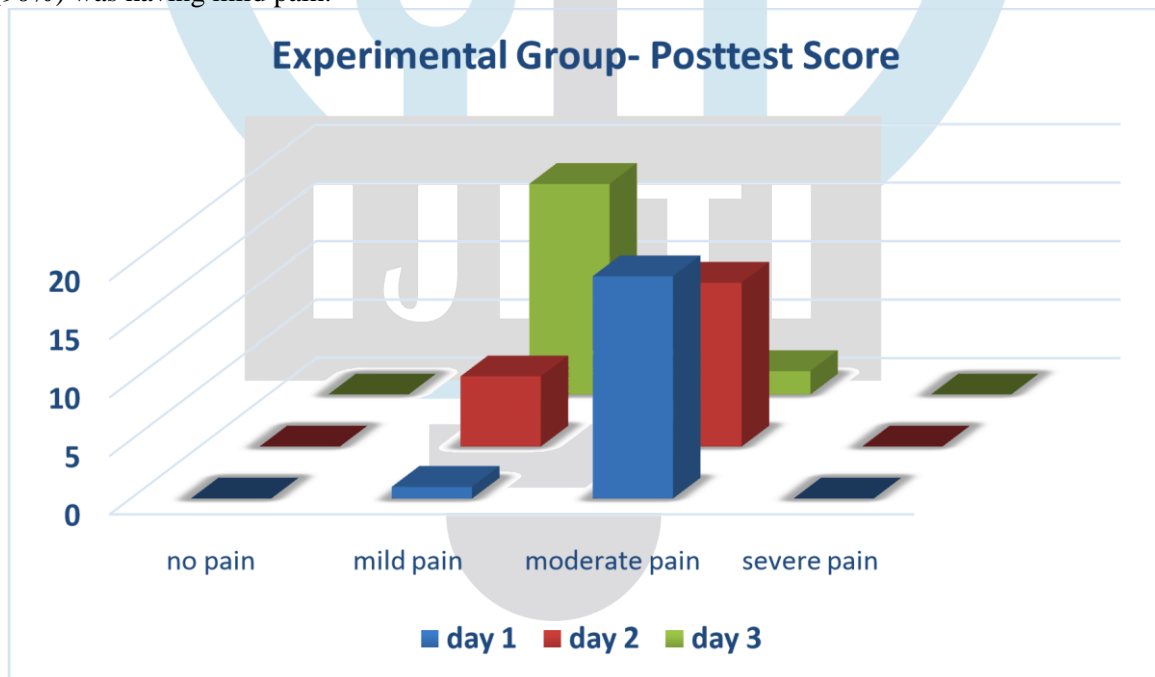


Fig: 9 Frequency and percentage distribution of samples according to post-test level of pain in experimental group.

Table- 5
Frequency and percentage distribution of samples according to post-test level of pain in control group.

n= 20

Level of pain	Control Group: Post-test					
	Day 1		Day 2		Day 3	
	F	%	F	%	F	%
No pain						
Mild						
Moderate	15	75%	14	70%	20	100%
Severe	5	25%	6	30%		

The data presented in the table shows the post-test level of pain in control group. On the 1st day 5 subjects (25%) were in the category severe pain and 15 subjects (75%) were in the category of moderate pain. On the 2nd day 6 subjects (30%) were in the category of severe pain and 14 subjects (70%) were in the category of moderate pain. On the 3rd day all 20 subjects (100%) were in the category of moderate pain and none of the subjects were having severe pain.

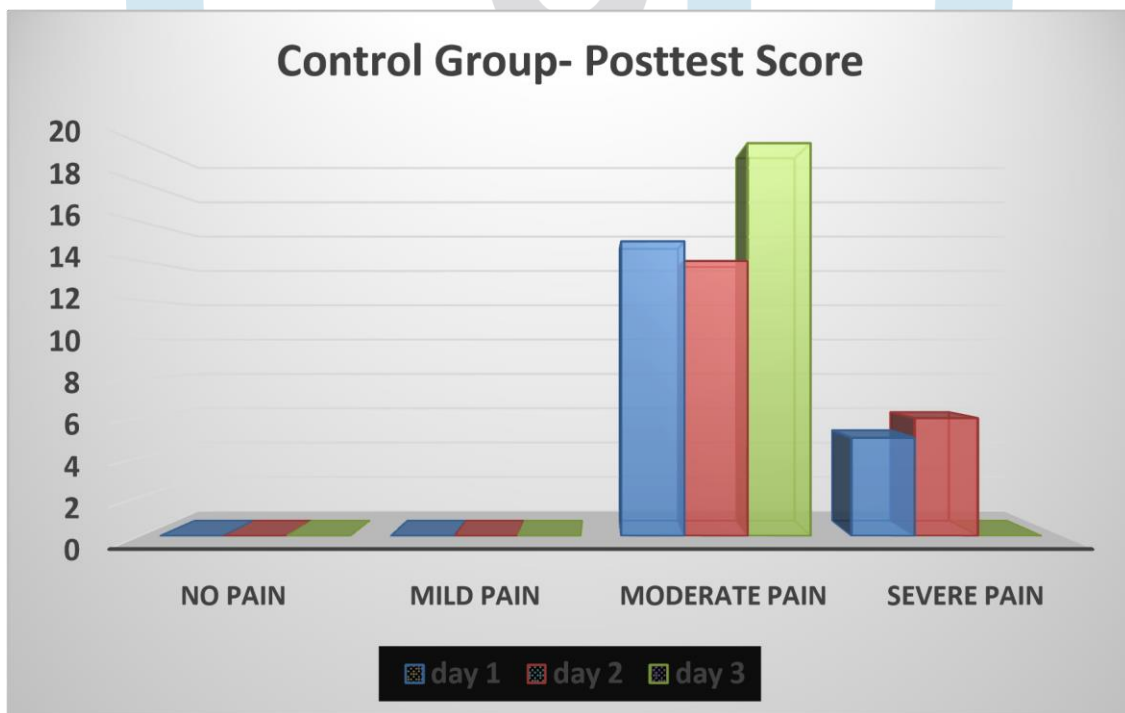


Fig: 10 Frequency and percentage distribution of samples according to post-test level of pain in control group.

OBJECTIVE- II

Evaluate the effect of music therapy on level of pain among patients undergone abdominal surgery in experimental group.

Table- 6

SECTION- D: Evaluate the effect of music therapy on level of pain among patients undergone abdominal surgery, in experimental group.

n= 20

Score	Experimental Group Pre-test		Experimental Group Post-test		Mean Difference	t- value	p- value
	Mean	SD	Mean	SD			
Total score	19	2.63	10.5	1.93	8.5	24.16	0.000***

(* p<0.05- significant, **0<0.01 and *** p<0.0001- highly significant)

The table reveals that the total pretest and posttest mean and SD value of level of pain was **19±2.63 and 10.5±1.93**, with the mean difference of **8.5**, the calculated paired 't' value was 24.16 with p<0.05. This signifies that there is a statistical significant difference in pretest and posttest level of pain. Hence, it clearly indicates that after administration of music therapy the post operative pain was considerably reduced in patients and this proves that music therapy is effective in reducing level of pain. Therefore, **H₁** is accepted.

SECTION- E: Comparison of the post test level of pain among patients undergone abdominal surgery, in experimental group and control group.

Table- 6

Comparison of the post test level of pain among patients undergone abdominal surgery, in experimental group and control group.

n= 40

Post operative Day	Control Group (Post-test)		Experimental Group (Post-test)		Mean Difference	t- value	p- value
	Mean	SD	Mean	SD			
Day 1	6.3	1.14	4.7	1.14	1.6	4.30	0.000***
Day 2	6.5	1.10	3.6	1.2	2.9	7.85	0.000***
Day 3	5.3	0.97	2.2	0.61	3.1	11.99	0.000***

(* p<0.05- significant, **0<0.01 and *** p<0.0001- highly significant)

The table reveals the post-test score of mean and SD of both experimental group and control group. On the 1st day the post-test mean score and SD of pain was **6.3±1.14 in control group, and 4.7± 1.14 in experimental group** with the mean difference of 1.6. On 2nd day the post-test mean score and SD of pain among **control group was 6.5±1.07, and in experimental group was 3.6±1.2** with the mean difference of 2.9. On 3rd day the post-test mean score and SD value of pain among **control group was 5.3± 0.95, in experimental group was 2.2±0.6** with the mean difference of 3.1. Therefore, as the mean and SD score of level of pain in experimental group is significantly lower than the control group, and the calculated unpaired 't' value of t= 11.99 which was found to be statistically significant at p<0.05 level. This clearly indicates that music therapy is effective in reducing the level of pain.

OBJECTIVE- III

Association of the level of pain among patients undergone abdominal surgery, with their selected demographic variables in experimental groups and control group.

Table- 7

Association between the 1st day pretest level of pain among patients undergone abdominal surgery with their selected demographic variables in the experimental group.

n= 20

Demographic profile	No pain		Mild pain		Moderate pain		Severe pain		Fisher exact test (p)	Remarks
	F	%	F	%	F	%	F	%		
Age in years: 18-28 years					1	5%	2	10%	1.00	NS
29-38 years					1	5%	3	15%		
39-48 years					3	15%	6	30%		
>48 years					1	5%	3	15%		
Gender: Male					5	25%	7	35%	0.32	NS
Female					1	5%	7	35%		
Substance abuse: Illicit Drugs									0.46	NS
Alcohol					2	10%	3	15%		
Tobacco					3	15%	4	20%		
None.					1	5%	7	35%		
Previous history of surgery: Yes					1	5%	2	10%	1.00	NS
No					5	25%	12	60%		

(* S- Significant, NS- Not Significant)

The data presented in the table shows that there is no significant association between the 1st day pretest level of pain with selected demographic variables in experimental group at 0.05 level of significance.

Table- 8

Association between the 1st day pretest level of pain among patients undergone abdominal surgery with their selected demographic variables in the control group.

n= 20

Demographic profile	No pain		Mild pain		Moderate pain		Severe pain		Fisher exact test	Remark
	F	%	F	%	F	%	F	%		
Age in years: 18-28 years	-	-	-	-	4	20%	1	5%	0.11	NS
29-38 years	-	-	-	-	3	15%	3	15%		
39-48 years	-	-	-	-	1	5%	5	25%		
>48 years	-	-	-	-	0	0%	3	15%		
Gender: Male	-	-	-	-	6	30%	9	45%	1.00	NS
Female	-	-	-	-	2	10%	3	15%		
Substance abuse: Illicit Drugs	-	-	-	-	-	-	-	-	1.00	NS
Alcohol	-	-	-	-	2	10%	4	20%		
Tobacco	-	-	-	-	3	15%	4	20%		
None.	-	-	-	-	3	15%	4	20%		
Previous history of surgery: Yes	-	-	-	-	0	0%	1	5%	1.00	NS
No	-	-	-	-	8	40%	11	55%		

(* S- Significant, NS- Not Significant)

The data presented in the table shows that there is no significant association between the 1st day pretest level of pain with selected demographic variables at 0.05 level of significance.

HYPOTHESIS TESTING:

This section deals with the testing of the hypothesis put forward by the investigator in the beginning of the study with sound support of the statistical analysis. The data of the study are based on the hypothesis listed below:

- **H₁:** There is a significant effect of music therapy on level of pain among patients undergone abdominal surgery in experimental group at $p < 0.05$ level of significance.

- **H₂:** There is significant association of level of pain among patients undergone abdominal surgery with selected demographic variables in experimental and control group at $p < 0.05$ level of significance.

H₁: There is no significant effect of music therapy on level of pain among patients undergone abdominal surgery in experimental group at $p < 0.05$.

The study result showed that there is a significant difference in mean and SD pretest and posttest level of pain among experimental group (19 ± 2.63) vs (10.5 ± 1.93) with 't' value = 24.16 and $p < 0.05$.

Hence, **H₁** is accepted and concluded that music therapy is effective on level of pain.

H₂: There is significant association of level of pain among patients undergone abdominal surgery with selected demographic variables in experimental and control group at $p < 0.05$ level.

HYPOTHESIS TESTING:

This section deals with the testing of the hypothesis put forward by the investigator in the beginning of the study with sound support of the statistical analysis. The data of the study are based on the hypothesis listed below:

- **H₁:** There is a significant effect of music therapy on level of pain among patients undergone abdominal surgery in experimental group at $p < 0.05$ level of significance.

- **H₂:** There is significant association of level of pain among patients undergone abdominal surgery with selected demographic variables in experimental and control group at $p < 0.05$ level of significance.

H₁: There is no significant effect of music therapy on level of pain among patients undergone abdominal surgery in experimental group at $p < 0.05$.

The study result showed that there is a significant difference in mean and SD pretest and posttest level of pain among experimental group (19 ± 2.63) vs (10.5 ± 1.93) with 't' value = 24.16 and $p < 0.05$.

Hence, **H₁** is accepted and concluded that music therapy is effective on level of pain.

H₂: There is significant association of level of pain among patients undergone abdominal surgery with selected demographic variables in experimental and control group at $p < 0.05$ level.

The findings of the study revealed that there is no significant association between 1st day pretest level of pain with selected demographic variables among both the groups.

Therefore, **H₂** is rejected.

The findings of the study revealed that there is no significant association between 1st day pretest level of pain with selected demographic variables among both the groups.

Therefore, **H₂** is rejected.

SUMMARY:

In present study, effect of music therapy on level of pain among patients undergone abdominal surgery and the association of level of posttest level of pain with selected demographic variable was investigated. The researcher found that there was a significant reduction in level of pain after music therapy and there was significant association of level of pain with age and previous history of surgery but there is no significant association of level of pain with gender and substance abuse.

CONCLUSION:

This study attempted to find out the Effect of music therapy on level pain among patients undergone abdominal surgery. The post assessment pain score was significantly lower than pre assessment score with mean and SD value of level of pain 10.5 ± 1.93 vs 19 ± 2.63 with the mean difference of 8.5, the calculated paired 't' value was 24.16 with $p < 0.05$.

NURSING IMPLICATION:

The findings of the present study have brought out certain facts that have far reaching implication for nursing in the areas of practice, education, administration and research.

NURSING EDUCATION:

Nursing is an evolving profession every practice is based on evidence based care with adequate knowledge.

- ✓ The Nurse educator should teach about the distraction therapies, it is very effective and easy to administer.

- ✓ Nurse educators should provide in-service education regarding benefits nonpharmacological methods (especially music therapy) of pain management.
- ✓ Nurse educator can conduct Symposium, Seminars regarding the effect of the Music therapy play in pain management in patients.

NURSING PRACTICE:

- ✓ Nurse is the primary care giver and having responsibility in applying the holistic approach while giving the care to the patient. Music therapy should include as a part of nursing care.
- ✓ The study finding will help the Nursing personnel to manage the pain in patients during the postoperative period.
- ✓ Regular timings of music therapy should be maintained in postoperative care settings.

NURSING RESEARCH:

- ✓ Help the Nursing researcher to focus and develop insight on the distraction therapies.
- ✓ To do the further research in all post operative patients.
- ✓ The management should motivate the researchers to find various types of distraction therapies in post operative patients on the basis of cost effectiveness.

NURSING ADMINISTRATION:

- ✓ The Nurse administrator should prepare the protocol for distraction therapies especially music therapy play for the patients who are admitted into the hospitals.
- ✓ The Nurse administrator should teach about the effectiveness of music therapy to play in pain management among the post operative patients.

LIMITATIONS:

The limitations of present study were:

- ✓ The study limited to a period of five weeks.
- ✓ The study was conducted for the representative sample of the whole population in particular setting; hence generalization is limited to the population of post operative abdominal surgery patients of Era hospital, Lucknow only.
- ✓ The music therapy was effective only for a short time. It had no permanent effect on pain relief.
- ✓ The study is time consuming.
- ✓ Assessment of other parameters of pain is not done, so the result should be used with caution.

RECOMMENDATIONS

- ❖ A similar study can be conducted for all types of surgical patients.
- ❖ The same study can be conducted in larger groups in different settings.
- ❖ The same study can be used to minimize the fear and anxiety of the patients undergoing any surgical procedures..
- ❖ Comparison study can be done by various distraction therapies.
- ❖ This study can be done as true experimental study.

REFERENCES:

- 1 Angela J. Koestler and Ann Myers, M.D, “text book on understanding chronic pain”, (2002) university of press of Mississippi; ISBN: 1-57806-439-2, British library publications.
- 2 Suddarth and Brunner, “medical-surgical nursing, 10th edition, page no: 217.
- 3 G. Balasubramanian et al “Postoperative analgesia following elective abdominal surgery:a prospective observational study” , International Surgery Journal, 2017 Aug;4(8):2710-2716
- 4 Ismail Samina et al, “Postoperative pain management practices and their effectiveness after major gynecological surgery: An observational study in a tertiary care hospital”, J AnaesthesiolClinPharmacol. 2018 Oct-Dec; 34(4): 478–484
- 5 Bizuneh Belay Yosef et al, “Assessment of Patient’s Satisfaction and Associated Factors regarding Postoperative Pain Management at the University of Gondar Compressive Specialized Hospital, Northwest Ethiopia”, Pain Research and Management, vol. 2020, Article ID 8834807, 7 pages, 2020.
- 6 Dennis Thompson Jr, “Music Therapy for Pain Management”, Medically Reviewed by Pat F. Bass III, MD, MPH, 4 march 2010.
- 7 Parimalam. V, “A study to assess the effectiveness of music therapy on reduction of pain among children who underwent abdominal surgery in postoperative wards at institute of child health and hospital for children, EGMORE, Chennai,” 2014.
- 8 Bailey Magill Lucanne, “Music Therapy in Pain Management”, Department of Neurolog); Memorial Sloan-Kettering Cancer Center, New York, 1986 Winter; 1:25-

28.

9 MichailZografakis et al, “effect of music therapy intervention in acute postoperative pain among obese patients”, *International Journal of Caring Sciences* 2017; 10: 2937.

10 Jecklin-Sand Kari et al, “The impact of live therapeutic music intervention on patient’s experience of pain, anxiety and muscle tension”, *Holistic NursPract.* 2010;24(1); 7-15

11 LP SANTHNA et al, “The Effectiveness of Music Therapy for Post Operative Pain Control among Total Knee Replacement Patients”, *Malaysia, Med & Health* 2015; 10(1): 66-79

12 Hooks. E. Heather, “Effect of music intervention on the patient’s perception of pain after knee replacement surgery”, *East Tennessee State University*, 2014.

13 Electra Economidou et-al, “Does music reduce postoperative pain? A review,” *health science journal*, volume-6, issue 3(july- September 2012).

14 Wide-ranging online data for epidemiologic research (WONDER). Atlanta, GA: CDC, National Center for Health Statistics; 2020. Available at <http://wonder.cdc.gov>.

15 <https://www.who.int/news-room/fact-sheets/detail/opioid-overdose> 28 August 2020

16) Methew Jaya, “A study to evaluate the effectiveness of music therapy as a diversional therapy on pain management among postoperative abdominal surgery patients”, in *Mangalore*, 2005.

17) Tano Felicia Priscilla et al “Predicting factors that determine patients’ satisfaction with post-operative pain management following abdominal surgeries at KomfoAnokye Teaching Hospital, Kumasi, Ghana”, 25 may 2021, *PLoS ONE* 16(5): e0251979.

18) Ansbert S Ndebea et al “Prevalence and Risk Factors for Acute Postoperative Pain After Elective Orthopedic and General Surgery at a Tertiary Referral Hospital in Tanzania”. Department of Anesthesiology and Pain and Palliative Medicine, Radboud University Medical Centre, Nijmegen, the Netherlands, *Journal of Pain Research* 2020;13 3005–3011.

19) LaikaKöse Tamer et al “The Assessment of Pain and the Quality of Postoperative Pain Management in Surgical Patients”. *SAGE Open* April-June 2020: 1–10.

20) García-Ramírez et al “Postoperative pain: frequency and management characterization”. *Colombian Journal of Anesthesiology*: April-June 2018, 46:2 - p 93-97.

21) Dr. Ramesh Shanmugam et al “Assessment of postoperative pain management in Mekelle Public Hospitals, Ethiopia”, *International Journal of Development Research*. 30th October, 2018, 08:14552-7.

22) MASUMBUKO Y et al “Post-operative pain prevalence, predictors, management practices and satisfaction among operated cases at a Regional Referral Hospital in Dar es Salaam, Tanzania”, *The University of Dodoma, Dodoma, Tanzania. Tanzania Journal of Health Research*, 2018: 20; 2.

23) Prashant Kumar Singh et al “Prevalence of acute post-operative pain in patients in adult age-group undergoing inpatient abdominal surgery and correlation of intensity of pain and satisfaction with analgesic management”. Department of Pharmacy Practice, National Institute of Pharmaceutical Education and Research, Guwahati, Assam, India, December 9, 2017, IP: 134.249.12.48.

24) Vimolluck Sanansilp et al “Postoperative Pain Management and the Risk Factors in Major Operation: A Baseline Study of Acute Pain Service, Siriraj Hospital Mahidol University, Bangkok, Thailand”, *J Med Assoc Thai* 2016; 99 (5): 549-56.

25) WosenyelehSahileAdmassu et al in 2016, conducted a study on “Severity and Risk Factors of Post-Operative Pain in University of Gondar Hospital, Northeast Ethiopia”. Department of Anesthesiology and Critical Care, Addis Abeba University & University of Gondar, Ethiopia, 2016, 7:10- 1000675.

26) Asokumar Buvanendran et al “Brief Research Report: The Incidence and Severity of Postoperative Pain following Inpatient Surgery, Department of Anesthesiology, Rush Medical College, Chicago, Illinois, USA. *Pain Medicine* 2015; 16: 2277–2283.

27) Adriaan Albertus Murray et al “Acute postoperative pain in 1 231 patients at a developing country referral hospital: incidence and risk factors”. Department of Anaesthesiology and Critical Care, Faculty of Medicine and Health Sciences, Stellenbosch University, Tygerberg, South Africa, *Southern African Journal of Anaesthesia and Analgesia* 2015; 22(1):19–24.

28) Navjeet Kaur, Jansi Kesava “ A quasi-experimental study to assess the effectiveness of music therapy on pain level among cancer patients admitted to regional cancer hospital Indira Gandhi Medical College, Shimla”, 2018 | Volume : 3 | Issue : 2 |

Page : 108-110

29) LatikaRohilla et al “Effect of Music Therapy on Pain Perception, Anxiety, and Opioid Use During Dressing Change Among Patients With Burns in India”, Issue: Volume 64 - Issue 10 - October 2018 ISSN 1943-2720.

- 30) Samapti Pal et al “Effects of Music Therapy on Anxiety, Pain & Clinical Parameters among Primigravida in a Selected Hospital, West Bengal”, JMSCR Vol||05||Issue||12||Page 31397-31402, dec. 2017
- 31) Alireza Sabzevari et al “The effect of music on pain and vital signs of children before and after endoscopy”, Electron Physician. 2017 Jul; 9(7): 4801–4805.
- 32) Krishnaswamy Priyadharshini, “Effect of Music Therapy on Pain and Anxiety Levels of Cancer Patients”, Indian J Palliat Care. 2016 Jul-Sep; 22(3): 307–311
- 33) Fariba Yaghoubinia et al “Effect of music therapy and reflexology on pain in unconscious patients: A randomized clinical trial”. International Journal of Medical Research & Health Sciences, 2016, 5, 9S:288-295

