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Research Article

Music Therapy and Its Role in Management of Pain among Post-Operative Clients

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Abstract: Background: Music and pain treatment research has exploded in popularity in recent years, and epidemiological evidence indicates that pain is becoming more prevalent. The impact of pain on post-surgical patients, as well as the rising economic and health costs, have received a lot of attention. The research was carried out in a hospital environment. The perspective, views, and expectations of chronic pain sufferers who underwent surgery are the subject of this study. **Materials and Methods:** A qualitative research methodology was used, as well as a quasi-experimental one-group pre-test and post-test study design. The participants in this study were post-operative patients who underwent surgery and fulfil the inclusion criteria and who were admitted in surgical wards of General Hospital Oromia region, Ethiopia. **Results:** The study's main findings revealed that in both the experimental and control groups, 40% of the individuals are between the ages of 40 and 50, and 40% of the experimental group and 46% of the control group had just an elementary education. In the experimental group, the standard deviation for pain ratings of postoperative patients was 2.33. In the control group, the standard deviation for pain rating of postoperative patients was 0.172 suggests that music has a good effect on pain. **Conclusion:** The following inferences were taken from the study's findings after they were analyzed. Following the treatment of music therapy, postoperative patients had a considerable reduction in pain. As a result, it has been proven to be an effective pain treatment.
Keywords: Music Therapy, Post-Operative Pain, Pain treatment.

Introduction

It is said that pain has evolved into a more terrifying creature than death itself. This has now become a worldwide problem, posing a burden for family, friends, and health-care providers who must provide assistance to those who are afflicted with this horrible ailment [1]. Pain is defined as a distressing sensory and emotional experience brought on by real or potential tissue injury. It is divided into two types: acute and chronic. Acute pain is the most prevalent cause for visits to the doctor, but chronic pain is increasingly recognized a condition in and of itself. Untreated pain causes unnecessary suffering, physical and psychological dysfunction, slowed recovery from acute illness, surgery, immunosuppression, and sleep difficulties, among other things. It is frequently linked to physical incapacity and psychological issues. Depression, sleep difficulties, reduced mobility, increased health-care consumption, physical and social role dysfunction are all common side effects of chronic pain [2]. According to the American Pain Foundation, pain statistics among the general population show that 89 percent of Americans aged 18 and above experience pain at least once a month. 42 percent of respondents aged 20 and above said their agony lasted a year or more [2,3]. At least once a week, 40 percent of children and adolescents complain of pain. Pain that interferes with

normal function affects 50 percent of nursing home patients, and similar number of patients report persistent pain also [3].

The goal of this study was to emphasize the importance of using less pain medication. This research contributed to considerable changes in the client's responsiveness and coping with the treatment regimen. This study also aided nurses and physicians in providing post-operative patients with more peace of mind and a higher quality of life. This research helped to change the treatment routine for surgical patients, resulting in fewer problems related to the overuse of analgesics.

Review of Literature

Medical, Surgical, and Psychological pain are the three types of pain. The surgical pain is the most intense of them all. Every year, between 25 and 30 percent of the population is hospitalized for surgery and suffers from chronic postoperative pain. Any major operation has the possibility of complications and adverse events, which raises risk, length of stay in the hospital, and death. All surgical procedures have some complications in common. During the first 30 days after surgery, the overall complication ranges from 7% for laparoscopic procedures to 14.5 percent for open incision procedures in the hands of skilled surgeons [4].

For those who underwent significant major or moderate surgery, pain is a severe and dreaded concern. It might sometimes persist despite the medication prescribed by the doctor. People of various ages, socioeconomic levels, and ethnic origins are affected. Post-operative pain is a variable symptom with varying degrees of severity. It's usually severe at first, then moderate with medicine, mild to moderate on day two, and then considerably improves with ambulation. Opoids, non-steroidal anti-inflammatory drugs, muscle relaxants, neuroleptics, and antidepressants are commonly recommended, but their effectiveness is restricted by their negative side effects [5].

The most effective pain treatment for patients comes from a mixture of pharmacological and non-pharmacological methods of pain control. It was claimed that nurses may make a substantial contribution to pain control by combining standard analgesic approaches with non-pharmacological treatments such as diversion, notably humors, relaxations, meditation, massage, and aural stimulation [6].

Nursing uses a variety of ways to manage pain, with music being one of the most essential. Music therapy is a therapeutic intervention in which the therapist uses musical therapy in conjunction with a supportive relationship to help his or her clients to enhance their well-being. The management of pain, reduction of stress and anxiety, easing of depression, treatment of respiratory disorders, exercising of joints and limbs, provision of control and self-expression, and general promotion of good health are all aims that music therapy may work toward [7]. When medicine sometimes doesn't give enough pain relief, music therapy is often utilized in conjunction with pharmacological therapy. Another reason to employ music is when a patient's pain medicine has major adverse effects and cannot be utilized. The aim of music therapy for pain treatment is to improve the patient's comfort, well-being, and sense of control over suffering [8].

Despite the fact that music has been around for a long time, only a small percentage of the population is aware of it and benefits from it. Music therapy has been shown to be effective in the treatment of pain in studies. Music has a wide range of positive effects, from profound relaxation to intense joy. It provides complete tranquility and comfort. With mounting evidence of its validity and efficacy, an increasing number of hospitals around the world are incorporating music therapy as a post-operative therapeutic measure [9].

There were few research studies that supported the effectiveness of music therapy for pain relief until recently. As a result, in India, a study on the effectiveness of music therapy is urgently needed. In recent years, music therapy has grown in popularity in modern medicine. However, large-scale

randomized controlled trials have been conducted in a limited number of cases. As a result, getting hospitals, administration, and managed care to approve music therapy for disease treatment, either alone or as an adjunct, can be difficult. To increase the use of music therapy, more randomized, double-blinded controlled trials are needed [10].

Research Methodology

Research Approach: In view of the problem selected and the objectives to be achieved, evaluative approach was considered appropriate for the study.

Research Design: As this study involves the evaluation of the effectiveness of the use of music therapy on reducing pain among postoperative patients, a single–blind randomized control trial was chosen.

Variables: The present study was aimed at understanding the effectiveness of the intervention. In the present study the independent variable was music therapy and dependent variable was pain.

Research Setting: The settings selected for the present study was Dilla General Hospital. The criterion for selecting this setting was the feasibility for conducting the study.

Sample Size and Sampling Techniques: The sample size considered for the study was 400 postoperative patients, who had undergone surgery hospitalized in surgical wards. The sampling technique used for the study was simple random sampling using the lottery method. 402 paper slips of equal size were made of which 201 were marked "E" representing experimental group and the rest were marked "C" representing control group. The slips were thoroughly mixed and kept in a bowl. The subjects selected a slip each. The selected slips were not replaced back into the bowl. The slips were mixed well before each selection. Subjects who selected slips marked "E" were included in the experimental group and the subjects who selected slips marked "C" were included in the control group.

Data Collection Instrument: In this study data collection instruments were: Socio-demographic Performa, Visual Analogue Scale.

Development and Description of the Tool: After an extensive review of literature about the study standardized tools were selected for assessing the intensity of pain. Visual Analogue Scale (VAS) was used in the present study. The visual analogue scale requires patient to rate pain on a line scale of 0-10, which 0 representing no pain, 1-2 indicating mild pain, 3-4 moderate pain, 5-6 severe pain, 7-8 extreme pain and 9-10 worst possible pain. The straight line shows a continuum of intensity. A patient indicates pain by marking the appropriate point on the VAS. This scale gives the patient total freedom to identify pain severity.

Procedure for Data Collection: Formal permission was obtained from the Health officer, Dilla General Hospital Oromia region, Ethiopia. After obtaining formal permission and consent from authorities and eligible postoperative patients of the proposed study with proper explanation about the aim of the study participants were enrolled. Data collection was carried on 400 postoperative patients i.e. 200 experimental and 200 controls. Randomization was done by lottery method subsequently information related to Socio-demographic Performa was obtained. Music therapy was given to the patients in the experimental group for half an hour followed by assessment of pain perception using (VAC) in experimental and control group was obtained, further data collected was tabulated and analyzed.

Results and Analysis

The data obtained was analyzed in terms of the objective of the study, using descriptive and inferential statistics. Inferential statistics were used to draw the following conclusions. Paired t-test

for comparison of pain within the group. Unpaired t-test for comparison of pain between the experimental and the control group. Chi square test to find the association between pre interventional pain and selected demographic variables.

Findings related to socio-demographic variables of subjects in experimental and control group and findings on distribution of pain scores based on VAS in experimental and control group were assessed.

Majority of the subjects, 40% belong to the age group of 40-50 years in the experimental and control group. 26% of subjects belong to the age group of 30-40 years in both the groups. 20% of subjects in the experimental group and 26% of subjects in the control group belong to the age group of 50-60 years. 13% of subjects in the experimental group and 6.6% of subjects in the control group belong to the age group of 20-30 years. Majority were males, 53% in both the groups. 46% of the subjects were females in both experimental and control groups. 40% of the subjects in the experimental group and 26% of subjects in the control group have no formal education. 40% of the subjects in the experimental group and 46% of the subjects in the control group have primary education. 20% of the subjects in the experimental group and 26% of subjects in the control have secondary education. 26% of the subjects in the control group were graduates.

60% of subjects in both the groups were Hindus. 20% of subjects in the experimental group and 26% of subjects in the control group were Christians. 20% of the subjects in the experimental group and 13% of subjects in the control group were Muslims. About 66% of subjects in both the groups had previous history of hospitalization and 33% of subjects in both experimental and control groups. 80% of the subjects in the experimental and 86% of the subjects in the control group had no previous history of surgery. Only 20% of subjects in the experimental group and 13% of subjects in the control group had previous history of surgery (Table 1).

Table 1. **Frequency and percentage distribution of subjects according to socio-demographic variables in experimental group and control group (n=200)**

S/N	Socio-demographic Variables	Experimental Group		Control Group	
		f	%	f	%
1	**Age in Years**				
	a) 20-30	27	13%	14	6.60%
	b) 30-40	53	26%	54	26%
	c) 40-50	80	40%	80	40%
	d) 50-60	40	20%	53	26%
2	**Gender**				
	a) Male	106	53%	106	53%
	b) Female	94	46%	94	46%
3	**Educational Status**				
	a) Non formal	80	40%	54	26%
	b) Primary	80	40%	94	46%
	c) Secondary	40	20%	53	26%
	d) Graduate	0	-	13	4%
	e) Post graduate	0	-	-	-
4	**Religion**				
	a) Hindu	120	60%	120	60%
	b) Christian	40	20%	53	26%
	c) Muslim	40	20%	27	13%
	d) Others	0	-	0	-
5	**Previous history of hospitalization**				
	a) Yes	133	66%	133	66%
	b) No	67	33%	67	33%
6	**Previous history of surgery**				
	a) Yes	40	20%	40	13%
	b) No	160	80%	160	86%

Mean pre-treatment score was nearly 07, mean post-treatment score was just above 04, mean difference and standard deviation for the pain assessment of post-operative patients in experimental group was found to be 2.33±1.43. Similarly mean pre-treatment score was nearly 6.5, mean post treatment score was just also found to be same, mean difference and standard deviation for the pain assessment of post-operative patients in control group was found to be 0±1.72.

Discussion

In this study nearly one third of the subjects, belong to the age group of 30-40 years in both the groups, this data resembles to the study done in Addis Ababa accounting to 25%.[11] Similarity between both study may be due to the similar geographical characteristics and the cultural attitude towards pain.

Majority of the study participants were males (53%) in the present study, this data was contradicting to the data found in a study done in Addis Ababa (46%)[11] this difference may be due to the gender differences in both the regions.

The response to the pain after music therapy was more or less same in all the studies which were found to be similar in all studies done in United States of America which was significantly greater after the intervention. Similar results were found in the study done in Wuhan, China and Iran[12,13]. This similarity may be due to the proximity of the human response to the diversion therapy and its implication on the mind and body.

Summary

This study dealt with data analysis and interpretation in form of statistical values based on objectives. Paired 't' test was used to evaluate efficacy of music therapy on behavioral outcomes regarding pain management among post-operative clients from Dilla Hospital Oromia region, Ethiopia. Paired t-test for comparison of pain within the group, unpaired t-test for comparison of pain between the experimental and the control group and Chi-square test to find the association between pre interventional pain and selected demographic variables were used for the data analysis.

Conflicts of interest: The authors declare no conflicts of interest.

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