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EFFECTIVENESS OF MUSIC THERAPY IN REDUCING PRE OPERATIVE ANXIETY AMONG CLIENTS UNDERGOING ORTHOPAEDIC SURGERY

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ABSTRACT

Surgery has become an integral part of global health care, with an estimated 234 million operations performed yearly. Anxiety is a human reaction to any unknown situation. Surgical anxiety is a psychological issue. It can cause discomfort both mentally and physically. This, in turn, may increase postoperative pain, prolong postoperative recovery, and increase the potential for complications. Patient anxiety will be highest before surgery, decreased immediately after surgery, and increased again postoperatively. This study was undertaken to find out the effectiveness of music therapy in reducing preoperative anxiety among clients undergoing orthopaedic surgery. The study sample consisted of 30 clients with in the age group of 20-65 years and who were posted for Non-emergency orthopaedic surgery such as open reduction, closed reduction, internal fixation, bone graft, joint replacement, and amputation. Music therapy (recorded piano music in the mobile through the head phone) was administered for30 minutes to the subjects. The mean score of anxiety in pre test (61.2) was more than the post-test means scores. The calculated t values for the both tests, that is, pre test and post test 1, and pre test and post test 2 (11.97,18.30) were higher than the table value(t_{29}=2.05, $p<0.05$). The calculated t value between the experimental and control group were 10.34 and 22.4 .The calculated paired t value between the pre-test and post-test scores among experimental group are 11.97 and 18.3 were higher than the table value (t_{29}=2.05, $p<0.05$) The findings of the study proved that the music therapy is an effective measure to reduce the preoperative anxiety among clients undergoing orthopaedic surgery.

INTRODUCTION

Health is a state of dynamic balance in which an individual's capacity to cope with all the circumstances of living is at an optimal level. Both internal as well as external environment of the body determines the wellbeing of a person. The present modern era brings storms and stress to all human beings in daily life. Often when people become ill, they feel anxious, worried, tensed and may lose hope in life. Anxius means a state of agitation and distress, and angere means to cause pain, to choke or strangle, which are common symptoms in the anxiety – ridden person. Anxiety is a diffuse apprehension that is vague in nature and is associated with feelings of uncertainty and helplessness [1]. Surgical patients experience stress and anxiety preoperatively, and postoperatively [2]. Irrespective of diagnosis, anxiety is

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inherent to surgical patients. Contributing factors of preoperative anxiety include fear of anesthesia, and fear of events that could occur during surgery i.e. whether surgery will work, being awake during the procedure and fear of dying during surgery or while under anesthesia. Postoperatively, pain is the most expressed fear [3]. Music, meditation, guided imagery, spirituality, journaling, and biofeedback are some of the complementary therapies used around the world for the treatment of anxiety. There is increasing evidence of the benefits and effectiveness of various alternative and complementary therapies for anxiety [4]. Music not only relaxes the body but also the mind. As body and mind are interrelated, a pleasant frame of mind helps to keep illness away and relieve the discomfort.

MATERIALS AND METHODS

This study was approved by ethical committee of A.J ethics committee and conducted in A J Medical Collage Mangalore and Athena hospital. Purposive sampling technique was used to select the sample. The study sample consisted of 30 clients with in the age group of 20-65 years and who were posted for Non-emergency orthopaedic surgery such as open reduction, closed reduction, internal fixation, bone graft, joint replacement, and amputation in A J Medical Collage Mangalore and Athena hospital at Mangalore. The instrument used for the study was State Trait Anxiety Inventory which comprises of 20 state and 20 trait anxiety statements. Each statement in the State category has four choices numbering which is indicated 1=not at all, 2=somewhat, 3=moderately so, 4=very much so. The reliability co-efficient obtained was 0.81 which indicated that the tool was reliable. Validity was obtained from to seven experts from the field of nursing. Written consent was obtained from the subjects. Preoperative post-test anxiety was assessed using State Trait Anxiety Inventory at 8.30 pm for both control group and experimental group, and then 30 minutes music was administered to the experimental group. Music therapy (recorded piano music in the mobile through the head phone) was administered immediately after the pre-test to the experimental group. Pre-test was done at 4 pm for the experimental and control group. Preoperative post-test anxiety assessment was done again at 7 am the next day to both experimental and control group. Chi-square ($\chi 2$) test was used to test the association of mean anxiety score with selected demographic variables.

RESULTS

In the study, the highest percentage of subjects in the experimental group (67%) and control group (60%) had severe level of anxiety, whereas, least percentage of subjects in the experimental group (33%) and control group (40%) had moderate level of anxiety. The study showed that the mean score of anxiety in post-test 2 (40) was less than the mean score in the post-test 1(50.8) for the experimental group. The subjects in the experimental group (40%) and control group (80%) had severe level of anxiety in pre test 1. The subjects in the experimental group (60%) and control group(80%) had moderate anxiety in post-test 1. the subjects in the experimental group showed (53%) had mild level of anxiety. The subject in the experimental group (40%) and control group (27%) had moderate level of anxiety. The subjects in the experimental group (7%) and control group (73%) had severe level of anxiety in post – test2. The mean score of anxiety in the pre-test (61.2) in experimental group was more than the post-test mean score. The study also showed the mean score of experimental group (50.8) was less than the mean score (61.6) of control group in post-test I, the mean score of experimental group (40) was less than the mean score of control group (62.4) in post-test 2, (post-test 1-$t_{29=}$10.34, post-test 2-$t_{29=}$24.94, $p<0.05$)is depicted in table 1. The calculated t value between the experimental and control group were 10.34 and 22.4 .The calculated paired t value between the pre-test and post-test scores among experimental group are 11.97 and 18.3 were higher than the table value ($t_{29}=2.05$, $p<0.05$) is depicted in table 2. The present study showed that there was no significant association between age, sex, education, marital status, type of family, monthly income, history of previous surgery of experimental group and control group with the pre-test and post-test anxiety scores.

Table1. Unpaired t test showing significant difference between the post-test mean anxiety score of experimental group and control group subjects

N=15+15

	Group	Mean score	SD	Mean difference	t value
Post-test 1	Experimental	50.8	9.346	10.66	10.34*
	Control	61.6	6.829		
Post-test 2	Experimental	40.0	9.128	22.40	24.94*
	Control	62.4	3.660		

$t_{29}=2.05$, $p<0.05$ * Significant

Table 2. Paired t test showing significant difference between post-test and pre-test mean anxiety scores in experimental group

N=15

Parameters	Mean score	SD	Mean difference	t value
Pre-test Post-test 1	61.2 50.8	5.946 9.346	10.4	11.97*
Pre-test Post-test 2	61.2 40.0	5.946 9.128	21.8	18.30*

t_{15}=2.05, p<0.05

DISCUSSION

The study findings showed that music therapy was effective in reducing anxiety among preoperative orthopaedic clients. The preoperative anxiety of the orthopaedic clients who are undergoing surgery can be effectively reduced by providing music therapy. The present study shows that there is no significant association between age, sex, education, marital status, type of family, and monthly income, of experimental group and control group with the pre-test and post-test anxiety scores. The study was supported by a study conducted at University Sains Malaysia to determine the effectiveness of music therapy on pre and postoperative surgical anxiety. The results showed that the mean differences of preoperative anxiety, were found to be greater (15.44 and 14.10) than the mean differences in the control group [5].

The study is also supported by a quasi-experimental study conducted in a medical centre, Taiwan, to evaluate the effects of music therapy on anxiety in patients undergoing 62 spinal surgeries. The result showed the mean score for degree of anxiety in the study group was 0.8-2.0, compared with 2.1-5.1 in the control group. The study concluded that music is an effective measure to reduce anxiety in surgical patients [6].

It is widely accepted that people awaiting surgery experience anxiety. In this study it is find out the effectiveness of music therapy on surgical anxiety. Music therapy has been proved as a successful intervention that can induce relaxation and cause distraction of mind from anxiety. It's easily applicable and cost effective with minimal adverse effects.

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