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EFFECTIVENESS OF INTRAOPERATIVE MUSIC THERAPY ON ANXIETY AMONG PATIENTS UNDER SPINAL ANESTHESIA

ABSTRACT

The aim of the present study was to determine the “Effectiveness of Intraoperative Music Therapy on Anxiety Among Patients Under Spinal Anesthesia. The objectives of the study were to assess the level of anxiety among patients under spinal anesthesia in experimental and control group before and after music therapy during intraoperative period as measured by the State Trait Anxiety Inventory, to determine the effectiveness of intraoperative music therapy on anxiety among patients under spinal anesthesia by comparing the anxiety level between experimental group and control group, to find out the association between the pre-test score on level of anxiety among patients under spinal anesthesia in experimental and control group with their selected demographic variables. Conceptual framework used in this study is based on Roy’s Adaptation Model. Quasi experimental pre-test post-test with control group design was used in this study. Consecutive sampling technique was used to select 60 samples. Data were collected using the State Trait Anxiety Inventory. The researcher implements intraoperative music therapy to the experimental group that is music therapy from phone library with the use of android phone and ear bud throughout the surgery. Post-test were conducted for both experimental and control group. Data was analysed by using descriptive and inferential statistics. The independent ‘t’ test was used to analyse the data and the result has shown that the score significantly differ between the group at $t = 13.086$ $p=0.001$ level. There was no evidence of significant association between pre-test anxiety levels among patient under spinal anesthesia with their selected demographic variables. The study concluded that intraoperative music therapy is effective on anxiety among patients under spinal anesthesia.

Key words: effectiveness; music therapy; anxiety; state trait anxiety inventory

INTRODUCTION

Spinal anesthesia is an extensive conduction nerve block that is produced when a local anaesthetic agent is introduced into the subarachnoid space at the lumbar level, usually between L4 and L5. It produces anesthesia of the lower extremity, perineum, and lower abdomen. Sterile technique is used as a spinal puncture is made and the medication is injected through the needle.¹⁴

Anxiety is an abnormal and overwhelming sense of apprehension and fear often marked by physical signs such as tension rate by doubt concerning the reality and nature of the threat, and by self-doubt about one’s capacity to cope with it.¹⁵ music therapy is an effective tool for stress relief and analgesia in patients under spinal anesthesia and socio-demographic Performa and knowledge questionnaire

OBJECTIVES

Primary Objective

- ⇒ To assess the level of anxiety among patients under spinal anesthesia in experimental and control group before and after music therapy during intra operative period as measured by State Trait Anxiety Inventory.
- ⇒ To determine the effectiveness of intraoperative music therapy on anxiety among patients under spinal anesthesia by comparing the anxiety level between experimental group and control group.

Secondary Objective

- ⇒ To find out the association between the pre-test score on level of anxiety among patients under spinal anesthesia in experimental and control group with their selected demographic variables.

METHODS AND MATERIALS

A quantitative and evaluative approach was adopted for this study. The research design adopted for the present study was quasi experimental pre-test post-test control group design. The study was conducted in the operation theatre at NIMS Medicity, Neyyattinkara. The total sample consisted of 60 patients, out of which 30 for experimental group and 30 for control group. Consecutive sampling technique was used. Tools and techniques used were socio-demographic Proforma and State-Trait Anxiety Inventory Scale.

Section A. This part deals with socio-demographic data including baseline profile such as patient's age, gender, religion, marital status, education, occupation, type of surgery and previous history of surgery. Clinical parameters consisted of patient's present surgical details such as preoperative diagnosis, name of the surgery, post-operative day, type of anesthesia used.

Section B. This consisted of 20 statements assessing the patient's experience of anxiety after surgery. This self-report measure indicates the intensity of feelings of anxiety; it distinguishes between state anxiety (a temporary condition experienced in specific situation) and trait anxiety (a general tendency to perceive situation as threatening). Total 20 statements, eight positive and 12 negative statements. Minimum score is 20 which indicates no anxiety and maximum score is 80 for severe anxiety.⁵⁷

Level of anxiety	Actual score	Percentage
No anxiety	20	25
Mild anxiety	21 -40	26-50
Moderate anxiety	41 -60	51-75
Severe anxiety	61 -80	76-100

Table: 3.1 State Trait Anxiety Score

RESULTS

Section 1: Description of samples according to their socio demographic characteristic under study

Frequency and percentage distribution of selected socio demographic characteristics under study in experimental and control group.

Section 1: Description of sample according to their socio demographic characteristic under study

Figure 4.1 Percentage distribution of sample according to age group

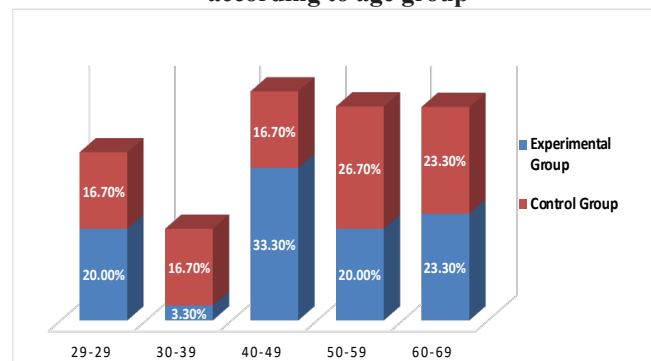


Figure 4.1 shows that in experimental group, 20% of samples belonged to 20-29 years; 3.30% belonged to age group of 30-39 years; 33.30% belonged to the age group of 40-49 years; 20% belonged to the age group of 50-59 years; 23.3% belonged to the age group of 60-69 years; whereas in the control group 16.70% sample belonged to 20-29 years; 16.70% belonged to 30-39 years; 16.7% belonged to 40-49 years; 26.70% belonged to the group of 50-59 years; 23.30% belonged to 60-69 years.

Section 1: Effectiveness of intraoperative music therapy on anxiety among patients under spinal anesthesia between experimental and control group.

Table 4.1.1 Comparison of pre- test Anxiety scores of experimental and control groups

n = 60

Group	N	Mean	Standard Deviation	Standard Error Mean
Experimental	30	51.57	5.23	.955
Control	30	58.03	7.51	1.373

Table 4.1.2 Independent Samples Test

N=60

	Mean difference	95% CI	“t ‘ Value	df	Sig (2 tailed)
Group Difference	-6.467	-9.814, -3.12	-3.86	58	P= 0.001

Table 4.1 shows that the mean pre-intervention score in the experimental group was 51.57 (SD 5.230) and that of control group was 58.03 (SD 7.518). The mean difference was -6.467 between the two groups (95% CI -9.814, -3.120). This difference was found to be statistically significant on ‘t’ test (‘t’ value -3.867 p=0.001) Since the pre-intervention anxiety score was significantly different in the two groups, pre-post difference of each individual was calculated for both groups and the mean of this difference in each group was considered for comparison.

Table 4.2 Effectiveness of intraoperative music therapy on anxiety among patients under spinal anesthesia**Table 4.2.1 Comparison of mean of post anxiety score difference between Experimental and Control groups**

n = 60

	N	Mean	Standard Deviation	Standard Error Mean
Experimental	30	15.53	4.478	0.818
Control	30	2.07	3.423	0.625

Table 4.2.2 Independent Samples Test

N=60

	Mean difference	95%CI	“t ‘ Value	df	Sig (2 tailed)
Group Difference	13.467	11.41, 15.53	13.086	58	P=0.001

Section 3: Description of association between pre-test scores on level of anxiety among patients under spinal anesthesia with their selected demographic variables.

Table 4.3 Pre intervention anxiety scores in relation to selected variables

n = 60

Demographic data		Mild anxiety		Moderate anxiety		Severe anxiety		Chi square value	P value
		No	%	No	%	No	%		
Age	20-29	6	54.4	3	27.3	2	18.2	8.215 0	0.413
	30-39	1	16.7	5	83.3	0	0		
	40-49	10	66.7	4	26.7	1	6.7		
	50-59	6	42.9	6	42.9	2	14.3		
	60-69	7	50.0	6	42.9	1	7.1		
Gender	Male	17	47.2	14	38.9	5	13.9	1.528	0.466
	Female	13	54.2	10	41.7	1	4.2		
Education	Professional Degree	2	50.0	1	25.0	1	25.0	3.968	0.860
	Graduate	9	52.9	6	35.3	2	11.8		
	Intermediate	11	45.8	12	50.0	1	4.2		
	High school	6	60.0	4	33.3	2	16.7		

Marital status	Middle school	2	66.7	1	33.3	0		0	4.497	0.810
	Married	21	47.7	19	43.2	4		9.1		
	Unmarried	5	71.4	1	14.3	1		14.3		
	Widow	2	50.0	1	25.0	1		25.0		
	Divorced	1	50.0	1	50.0	0		0		
	Separated	1	33.3	2	66.7	0		0		
Occupation	Professional	3	60.0	1	20.0	1		20.0	14.062	0.297
	Semi professional	3	42.9	4	57.1	0	0			
	Clerk/shop	6	42.9	8	57.1	0	0			
	Skilled	5	62.5	2	25.0	1	12.5			
	Semi-skilled	4	30.8	7	53.8	2	15.4			
	Unskilled	4	57.1	1	14.3	2	28.6			
	Unemployed	5	83.1	1	16.7	0	0			
Religion	Hindu	11	52.4	7	33.3	3	14.3		1.575	0.813
	Muslim	9	50.0	7	38.9	2	11.1			
	Christian	10	47.6	10	47.6	1	4.8			
Previous surgical history	Yes	4	44.4	5	55.6	0	0	1.765	0.414	
	No	26	51.0	19	37.3	6	11.8			
Type of surgery	Elective	2	4.4	34	75.6	9	20.0	4.49	0	0.106
	Emergency	0	0	15	100	0	0			

DISCUSSION

Section 1: Description of samples according to their socio-demographic characteristic under study

Frequency and percentage distribution of selected socio-demographic characteristics under study in experimental and control group.

- Majority of samples in experimental group 33.30% belongs to age group of 40-49 years and in control group 26.70% belongs to 50-59 years.

Section 2: Effectiveness of intraoperative music therapy on anxiety among patients under spinal anesthesia.

⇒ The mean pre-intervention score in the experimental group was 51.57 (SD 5.230) and that of control group was 58.03 (SD 7.518). The mean difference was -6.467 between the two groups (95% CI -9.814,-3.120). This difference was found to be statistically significant on 't' test ('t' value -3.867 p=0.001). Since the pre-intervention anxiety score was significantly different in the two groups, pre-post difference of each individual was calculated for both groups and the mean of this difference in each group was considered for comparison.

⇒ The mean of pre-post difference in score in the experimental group was 15.53 (SD 4.478) and that of control group was 2.07 (SD 3.423). The mean difference was 13.467 between the two groups (95% CI 11.41, 15.53). This difference was found to be statistically significant on 't' test ('t' value 13.086 p=0.001). So it can be concluded that music therapy was effective in reducing anxiety during spinal anesthesia.

Section 3: Description of association between pre-test scores on level of anxiety among patients under spinal anesthesia with

their selected demographic variables.

⇒ Among the sample there is no evidence of significant association between demographic variables of study such as age, gender, education, religion, marital status, occupation, previous history of surgery to pre intervention level of anxiety.

LIMITATION

- Hearing impairment
- Spinal anesthesia converted to general anesthesia
- Unstable vital parameters
- Complication during surgeries
- Sedation
- Vulnerable groups

CONCLUSION

The present study reveals that a majority of the clients under spinal anesthesia experience moderate to severe anxiety during surgery and music therapy had shown to decrease the level of anxiety. The study also reveals that there is significant reduction in anxiety after implementing music therapy.

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