

“Effectiveness Of Art Theraphy In Reducing Preoperative Anxiety Among Children Undergoing Surgery At Svbch Hospital, Silvassa, Dadra And Nagar Haveli”

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Abstract

Introduction: preoperative anxiety among pediatric patients is very common, has been associated with the display of maladaptive behaviors post-surgery, including high post-operative pain, parent child conflict and increased anxiety and sleeping disturbances. Children who exhibit more anxiety preoperatively are 3 times more likely to exhibit post-operative negative behaviors. As many as 67% of children may develop post-operative negative behavioral changes including general anxiety, separation anxiety, social phobia, physical injury, sleep disturbance. Due to the high prevalence and adverse effects of preoperative anxiety, different treatments have been evaluated including pharmacological and non-pharmacological approaches. As non-pharmacological interventions are becoming more popular.

Aim: the main aim of the study was to evaluate effectiveness of art therapy in reducing pre-operative anxiety among children undergoing surgery.

Methodology: a quantitative research approach was adopted for this study. The preoperative children (60 sample) are selected by using a non-probability convenient sampling technique.

Results: the study finding showed that in control group posttest mean was 58.9, sd 5.22 and experimental posttest mean was 37.7., sd was 4.58. The control group and experimental group over all mean difference was 32.8, t value was 24.84 and p value was < 0.001 that is also highly significant.

Conclusion: the present study finding concluded that the art therapy was effective to reduce the pre-operative anxiety among children undergoing surgery at the 0.05 level of significance.

Keyword: art therapy, pre-operative children, anxiety.

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I. Introduction

Children are a blessing from the Lord. They build the nation sound and strong, because today's children are responsible citizens of tomorrow.¹

A sick child needs hospital care and it is a stressful experience for child the hospital environment, they react with defence mechanisms like regression, separation anxiety, negativism, depression, phobia, unrealistic fear, suppression and children are particularly vulnerable.¹

Hospital care may be an emotional and developmental set back to the child. It causes anxiety due to imbalance between environmental and societal demands and child's coping abilities. The child in hospital may have to undergo various diagnostic and therapeutic procedures make the child to feel scary and hospital environment that puts such emotional drawbacks on the child's regular life. The child is displaced from daily routine of home and brought into an unfamiliar setting. Hospital care leads to altered nutritional and sleep pattern of the child.²

Children are afraid of doctors, nurse and generally health workers and hospital routine. In other words, they have white uniform phobia often associated with that which is called as white-collar syndrome. Moreover, they are afraid of medical procedure such as injection or surgery. These medical and surgical procedures increase level of anxiety in children.³

Surgery is a tense experience for children. it associated with moderate to severe pain and discomfort. exposure to post-operative pain is associated with high level of distress and anxiety, and lower pain thresholds. children may blame themselves for their pain experience. unrelieved pain and discomfort can interfere with the wound healing process.³

Statement Of Problem

“Effectiveness Of Art Therapy In Reducing Pre-Operative Anxiety Among Children Undergoing Surgery At Svbch Hospital, Silvassa, Dnh”.

Objectives

- 1.To assess the pretest and posttest level of pre-operative anxiety among children undergoing surgery in control group and experimental group.
- 2.To determine the effectiveness of art therapy by comparing pretest and posttest level of preoperative anxiety among children undergoing surgery in experimental and control group.
3. To find out the association between pretest level pre-operative anxiety level with selected demographic variables among children undergoing surgery.

Hypothesis

Hypothesis will be tested at $p < 0.05$ level of significant;

1. H01- There is no significant difference between the pre-test and post test score of preoperative anxiety level of art therapy among children undergoing surgery.
2. H02- There is no significant association between level of preoperative anxiety among children undergoing surgery with their selected demographic variables.
3. HA1- There is significant difference in pre-test and post test score of preoperative anxiety level of art therapy among children undergoing surgery.
4. HA2- There is significant association between the post test score of preoperative anxiety level of and experimental group with selected demographic variables.

Operational Definition

Effectiveness

In this study effectiveness refers to the extent to which art therapy reduced the level of anxiety among the children as assessed by Spence children anxiety scale.

Art Therapy

In this study art therapy refers to a systematic approach used by making the child to draw a picture by connecting the dots and coloring it with crayons and color pencils for 20 minutes

Pre-Operative Anxiety

Preoperative period is the before a surgical operation and Preoperative anxiety is a common experience for children's undergoing surgery and is characterized by feelings of tension, fear and nervousness and assessed by Spence children anxiety scale.

Children

It refers to children (boys and girls) of age 6-12 years admitted in Pediatric Ward of Shri Vinoba Bhave Civil Hospital, Silvassa Dadra and Nagar Haveli who have surgery.

Undergoing Surgery

In present surgeries: circumcision, hypospadias is, herniotomy, colostomy etc.

II. Research Methodology

Research Approach:

Research approach tells the research to know what data to collect and how to analyze it. The research approach adopted for this study was quantitative approach.

Research Design:

According to Polit and Hungler the second broad class of experimental study is quasi experimental which involves the manipulation of the independent variables and the control measures are employed but it lacks randomization. Research design is the overall plan for addressing a research question including specification for enhancing the study's integrity. The research design is used in the present study was two group pretest and posttest design.¹³

Setting:

The study was conducted in pediatric surgical ward of Shri Vinoba bhave civil hospital, Silvassa,DNH.

Population:

Children undergoing surgery who got admitted in the pediatric surgical ward of shri Vinoba behave civil hospital, Silvassa.

Target population:

Target population is the entire population in which the researcher is interested and to which the research would like to generate result of the study. The target population for the study includes Children undergoing surgery who got admitted in the pediatric surgical ward of shri Vinoba bhav civil hospital, Silvassa DNH.

Accessible population:

It is the population which is available to conduct the study. The population for this study includes children's who are admitted in pediatric surgical ward at shri Vinoba bhav civil hospital, Silvassa DNH.

Sample Size:

According to Polit and Hungler a sample is a small proportion of a population selected for observation and analysis.

In the present study the sample size 60 (30 samples in control group and 30 samples in experimental group).

Sampling Technique:

Convenience sampling is a non-probability sampling technique applicable to qualitative or quantitative studies and is most frequently used in quantitative studies.

In the present study children were selected by the non-probability convenient sampling technique. Total samples 60 were selected based on inclusion criteria.

Criteria For Sample Selection**Inclusion criteria**

1. School age children of 6-12 years those who undergoing surgery.
2. Who can speak Hindi or Gujarati or Marathi
3. Who are willing to participate in the study and whose parents have given written consent?

Exclusion criteria:

1. Children who are mentally retarded
2. Children with hand Impairment
3. Children who are under strict Isolation

Data Collection Procedure

Following data collection tool will be used.

Section A: Description of Demographic variables among children undergoing surgery.

Section 2: Description of pretest and posttest level of pre-operative anxiety among children undergoing surgery in control group and experimental group.

Section 3: Comparison of the pretest and posttest level of preoperative anxiety among children undergoing surgery in control group using routine care in experimental group using art therapy

section 4:: Association between pretest level of pre-operative anxiety level with their selected demographic variables.

Scoring and interpretation

Spence children's anxiety scale consisting of 44 items of which 6 are filler items

Only the 38 items are score 6 filler items are not scored.

The responses are score on 4-point scale ranging from 0-3

Never=0

Sometimes=1

Often=2

Always=3

This yields a maximum possible score of 114.

III. Result

Data Analysis And Interpretation

Section 1: Description of demographic variables among children undergoing surgery

Section 2: Description of pre-test and post-test level of pre-operative anxiety among children undergoing surgery in control group and experimental group.

Section 3: Comparison of the pretest and posttest level of preoperative anxiety among children undergoing surgery in control group using routine care in experimental group using art therapy.

Section 4: Association between pretest level of pre-operative anxiety level with their selected demographic variables.

Section 1: Description Of Demographic Variables Among Children Undergoing Surgery

Table 1.1: Frequency and percentage distribution of demographic variables among children undergoing surgery.
(n=60)

SR. NO.	DEMOGRAPHIC VARIABLES FOR CHILDRENS	EXPERIMENTAL GROUP (n=30)		CONTROL GROUP (n=30)	
		f	%	f	%
1	Age in years:				
	6-8	18	60	15	50
	9-10	11	36.7	15	50
	11-12	1	3.3	0	0
2	Gender:				
	Male	26	86.7	21	70
	Female	4	13.3	9	30
3	Education of child:				
	1-3 rd STD	16	53.3	17	56.7
	4-6 th STD	13	43.3	13	43.3
	7 th STD and above	1	3.3	0	0
4	Religion:				
	Hindu	26	86.7	29	96.7
	Islam	4	13.3	1	3.3
	Christian	0	0	0	0
	Others	0	0	0	0
5	Types of family:				
	Nuclear family	16	53.3	15	50
	Joint family	14	46.7	15	50
	Single parent	0	0	0	0
6	father Education:				
	Profession	0	0	1	3.3
	Graduate	4	13.3	1	3.3
	Intermediate/diploma	2	6.7	8	26.7
	High school	12	40	11	36.7
	Primary school	9	30	8	26.7
	Illiterate	3	10	1	3.3
7	Mother Education:				
	Profession	0	0	0	0
	Graduate	2	6.7	0	0
	Intermediate/diploma	2	6.7	0	0
	High school	7	23.3	7	23.3
	Primary school	18	60	19	63.3
	Illiterate	1	3.3	4	13.3
8	Father Occupation:				
	Profession	1	3.3	0	0
	Semi profession	3	10	4	13.3
	Clerical	0	0	1	3.3
	farm	8	26.7	2	6.7
	Skilled worker	18	60	21	70
	Unskilled worker	0	0	2	6.7
9	Mother Occupation:				
	Profession	2	6.7	0	0
	Semi profession	0	0	0	0
	Clerical	0	0	2	6.7
	Farm	7	23.3	13	43.3
	Skilled worker	9	30	14	46.7
	Unemployed	12	40	1	3.3
10	Family income:				
	47348 and above	0	0	0	0
	23674-47348	20	66.7	25	83.3
	17756-23674	8	26.7	4	13.3
	11837-17756	1	3.3	1	3.3
	7102-11837	1	3.3	0	0
	2391-7102	0	0	0	0
	<2390	0	0	0	0
11	Duration of hospitalization:				

	1 day	0	0	0	0
	2 days	18	60	25	83.3
	3 days	11	36.7	5	16.7
	4 days	1	3.3	0	0
12	Area of residence:				
	Urban	23	76.7	30	100
	Rural	7	23.3	0	0
13	Play activities:				
	Toys	21	70	19	63.3
	Video games	4	13.3	4	13.3
	Drawing	5	16.7	7	23.3

Section II: Description Of Pre-Test And Post Test Level Of Pre-Operative Anxiety Among Children Undergoing Surgery In Control Group And Experimental Group.

Table-2.1: Mean, SD and mean% of pretest level of pre-operative anxiety among children undergoing surgery in control group
(n=60)

Level of anxiety	Control group pre test				
	Max. score	Range	Mean	SD	Mean%
Separation anxiety	18	16-8	12.6	1.71	70
Social phobia	18	14-7	10.4	2.07	57.8
Obsession compulsive	18	10-2	5.5	1.96	30.6
Panic / agoraphobia	27	18-4	8.83	3.42	32.7
Physical injury	15	12-8	9.9	1.16	66
Generalized anxiety	18	15-8	11.93	1.74	66.3
overall	114	72-53	59.17	5.27	51.9

Table-2.2: Mean, SD and mean% of posttest level of pre-operative anxiety among children undergoing surgery in control group
(n=60)

Level of anxiety	Control group post test				
	Max. score	Range	Mean	SD	Mean%
Separation anxiety	18	16-8	12.53	1.74	69.6
Social phobia	18	14-7	10.37	2.07	57.6
Obsession compulsive	18	10-2	5.47	1.94	30.4
Panic / agoraphobia	27	18-4	8.8	3.42	32.6
Physical injury	15	12-7	9.87	1.22	65.8
Generalized anxiety	18	15-8	11.9	1.74	66.1
Overall	114	72-53	58.9	5.22	51.7

Table-2.3: Mean, SD and mean% pretest level of pre-operative anxiety among children undergoing surgery in experimental group
(n=60)

Level of anxiety	Experimental pre test				
	Max. score	Range	Mean	SD	Mean%
Separation anxiety	18	15-9	12.2	1.65	67.7
Social phobia	18	14-7	10.43	2.07	57.9
Obsession compulsive	18	10-2	5.2	1.86	28.9
Panic / agoraphobia	27	15-4	8.33	2.52	30.8
Physical injury	15	13-8	10.03	1.25	66.9
Generalized anxiety	18	15-8	12.03	1.81	66.8
Overall	114	70-49	58.23	4.86	51.07

Table-2.4: Mean, SD and mean% in experimental group posttest level of pre-operative anxiety among children undergoing surgery in experimental group.

(n=60)

Level of anxiety	Experimental post test				
	Max. score	Range	Mean	SD	Mean%
Separation anxiety	18	9-2	5.5	1.83	30.6
Social phobia	18	6-1	3.5	1.19	19.4
Obsession compulsive	18	7-2	3.83	1.53	21.3
Panic / agoraphobia	27	22-13	5	3.18	18.5
Physical injury	15	7-1	3.5	1.50	23.3
Generalized anxiety	18	12-2	4.76	2.03	26.4
Overall	114	52-29	37.7	4.58	33.07

Section 3: Comparison Of The Pretest And Posttest Level Of Preoperative Anxiety Among Children Undergoing Surgery In Control Group Using Routine Care In Experimental Group Using Art Therapy.

Table-3.1: Comparison was found between control group pretest and posttest to effectiveness of art therapy in reducing pre-operative anxiety among children undergoing surgery.

(n=60)

Level of anxiety	Control group -pre			Control group-post			Mean difference
	Mean	SD	Mean%	Mean	SD	Mean%	
Separation anxiety	12.6	1.71	70	12.53	1.74	69.6	0.4
Social phobia	10.4	2.07	57.8	10.37	2.07	57.6	0.2
Obsession compulsive	5.5	1.96	30.6	5.47	1.94	30.4	0.2
Panic / agoraphobia	8.83	3.42	32.7	8.8	3.42	32.6	0.1
Physical injury	9.9	1.16	66	9.87	1.22	65.8	0.2
Generalized anxiety	11.93	1.74	66.3	11.9	1.74	66.1	0.2
Overall	59.17	5.27	51.9	58.9	5.22	51.7	0.2

Table-3.2: Comparison was found between pre and posttest in experimental group to effectiveness of art therapy in reducing pre-operative anxiety among children undergoing surgery.

(n=60)

Level of anxiety	Experimental -Pre test			Experimental -Post test			Mean difference
	Mean	SD	Mean%	Mean	SD	Mean%	
Separation anxiety	12.2	1.65	67.7	5.5	1.83	30.6	37.1
Social phobia	10.43	2.07	57.9	3.5	1.19	19.4	38.5
Obsession compulsive	5.2	1.86	28.9	3.83	1.53	21.3	7.6
Panic / agoraphobia	8.33	2.52	30.8	5	1.38	18.5	12.3
Physical injury	10.03	1.25	66.9	3.5	1.50	23.3	43.6
Generalized anxiety	12.03	1.81	66.8	4.76	2.03	26.4	40.4
Overall	58.23	4.86	51.07	37.7	4.58	33.07	18

Table-3.3: Frequency and percentage wise distribution to effectiveness of art therapy in reducing pre-operative anxiety among children undergoing surgery.

(n=60)

Level of anxiety	Experimental group				Control group			
	Pre test		Post test		Pre test		Post test	
	f	%	f	%	f	%	f	%
No anxiety < 60	21	70	30	100	19	66.7	19	66.7
Elevated anxiety >60	9	30	0	0	11	33.3	11	33.3
Overall	30	100	30	100	30	100	30	100

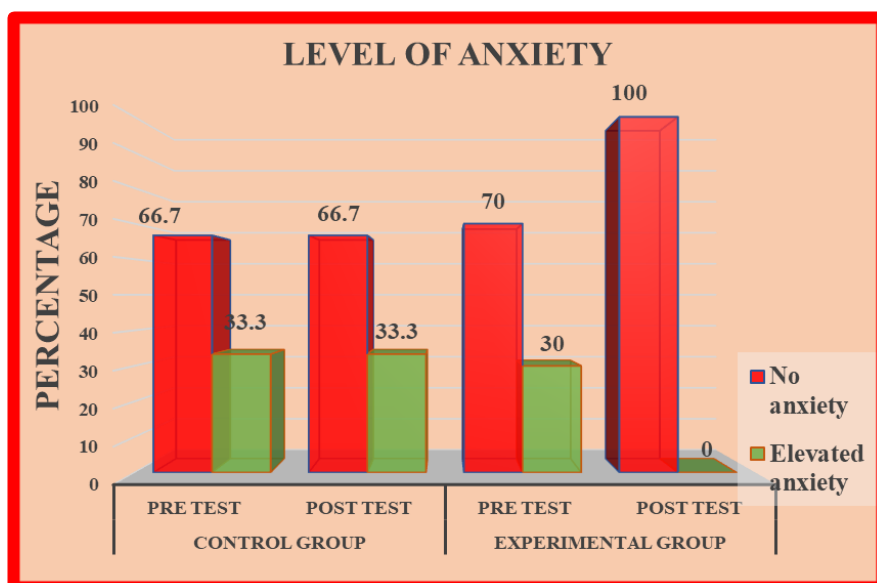


Table-3.4: Calculation of Unpaired “t”-test between pre and posttest level of anxiety among control group children undergoing surgery
(n=60)

Level of anxiety	Control group pre test		Control group post test		Mean difference	‘t’-value	P-value
	Mean	SD	Mean	SD			
Separation anxiety	12.6	1.71	12.53	1.74	0.07	1	0.325 (NS)
Social phobia	10.4	2.07	10.37	2.07	0.03	1	0.325 (NS)
Obsession compulsive	5.5	1.96	5.47	1.94	0.03	1	0.325 (NS)
Panic / agoraphobia	8.83	3.42	8.8	3.42	0.03	1	0.325 (NS)
Physical injury	9.9	1.16	9.87	1.22	0.03	1	0.325 (NS)
Generalized anxiety	11.93	1.74	11.9	1.74	0.03	1	0.325 (NS)
Overall	59.17	5.27	58.9	5.22	0.23	1.88	0.069 (NS)

*-P<0.05, significant and **-P<0.01 & ***-P<0.001, Highly significant null hypothesis H01 accepted.

Table-3.4: Calculation of Unpaired “t”-test between pre and posttest level of anxiety among control group children undergoing surgery
(n=60)

Level of anxiety	Control group pre test		Control group post test		Mean difference	‘t’-value	P-value
	Mean	SD	Mean	SD			
Separation anxiety	12.6	1.71	12.53	1.74	0.07	1	0.325 (NS)
Social phobia	10.4	2.07	10.37	2.07	0.03	1	0.325 (NS)
Obsession compulsive	5.5	1.96	5.47	1.94	0.03	1	0.325 (NS)
Panic / agoraphobia	8.83	3.42	8.8	3.42	0.03	1	0.325 (NS)
Physical injury	9.9	1.16	9.87	1.22	0.03	1	0.325 (NS)
Generalized anxiety	11.93	1.74	11.9	1.74	0.03	1	0.325 (NS)
Overall	59.17	5.27	58.9	5.22	0.23	1.88	0.069 (NS)

*-P<0.05, significant and **-P<0.01 & ***-P<0.001, Highly significant null hypothesis H01 accepted.

Table-3.4: Calculation of Unpaired “t”-test between pre and posttest level of anxiety among control group children undergoing surgery
(n=60)

Level of anxiety	Control group pre test		Control group post test		Mean difference	‘t’-value	P-value
	Mean	SD	Mean	SD			
Separation anxiety	12.6	1.71	12.53	1.74	0.07	1	0.325 (NS)
Social phobia	10.4	2.07	10.37	2.07	0.03	1	0.325 (NS)
Obsession compulsive	5.5	1.96	5.47	1.94	0.03	1	0.325 (NS)
Panic / agoraphobia	8.83	3.42	8.8	3.42	0.03	1	0.325 (NS)
Physical injury	9.9	1.16	9.87	1.22	0.03	1	0.325 (NS)
Generalized anxiety	11.93	1.74	11.9	1.74	0.03	1	0.325 (NS)
Overall	59.17	5.27	58.9	5.22	0.23	1.88	0.069 (NS)

*-P<0.05, significant and **-P<0.01 &***-P<0.001, Highly significant null hypothesis H01 accepted.

Table-3.5: Unpaired “t”-test was found between pre and posttest in experimental group to effectiveness of art therapy in reducing pre-operative anxiety among children undergoing surgery at svbch hospital.
(n=60)

Level of anxiety	Experimental group pre test		Experimental group post test		Mean difference	‘t’-value	p-value
	Mean	SD	Mean	SD			
Separation anxiety	12.2	1.65	5.5	1.83	6.7	16.01	p<0.001*** (HS)
Social phobia	10.43	2.07	3.5	1.19	6.93	16.48	p<0.001*** (HS)
Obsession compulsive	5.2	1.86	3.83	1.53	1.37	4.72	p<0.001*** (HS)
Panic / agoraphobia	8.33	2.52	5	1.38	3.33	6.45	p<0.001*** (HS)
Physical injury	10.03	1.25	3.5	1.50	6.53	16.94	p<0.001*** (HS)
Generalized anxiety	12.03	1.81	4.76	2.03	7.26	13.19	p<0.001*** (HS)
Overall	58.23	4.86	37.7	4.58	32.13	28.03	p<0.001*** (HS)

*-P<0.05, significant and **-P<0.01 &***-P<0.001, Highly significant

The table no:10 showed that 3.4 showed that calculated Unpaired “t”-test between pre and posttest level of anxiety in experimental group. The level of anxiety divided into category based on the Spence children’s anxiety scale that in separation anxiety the calculated mean difference was mean difference was 6.7, t value 16.01 and p value were < 0.001 that is highly significant. In social phobia mean difference was 6.93, t value was, 16.48 and p value were < 0.001 that is highly significant. In obsession compulsive mean difference was 1.37, t value was 4.72 and p value were < 0.001 that is highly significant. In panic/agoraphobia mean difference was 3.33, t value was 6.45 and p value were < 0.001 that is highly significant. In physical injury mean difference was 6.53, t value 16.94 and p value were < 0.001 that is highly significant. In generalized anxiety mean difference was 7.26, t value was 13.19 and p value were < 0.001 that is highly significant. The overall pretest mean was 58.23, SD 4.86 and the overall post mean was 37.7, SD Was 4.58, mean difference was 32.13, t value was 28.03 and p value were < 0.001 that is also highly significant in experimental group.

Table-3.6: Unpaired “t”-test was found between control and experimental group pretest to effectiveness of art therapy in reducing pre-operative anxiety among children undergoing surgery.
(n=60)

Level of anxiety	Control group pre test		Experimental group pre test		Mean difference	‘t’-value	P-value
	Mean	SD	Mean	SD			
Separation anxiety	12.6	1.71	12.2	1.65	0.4	0.921	0.361(NS)
Social phobia	10.4	2.07	10.43	2.07	0.03	0.06	0.951(NS)
Obsession compulsive	5.5	1.96	5.2	1.86	0.3	0.607	0.546(NS)

Panic / agoraphobia	8.83	3.42	8.33	2.52	0.5	0.643	0.522(NS)
Physical injury	9.9	1.16	10.03	1.25	0.13	0.43	0.668(NS)
Generalized anxiety	11.93	1.74	12.03	1.81	0.1	0.218	0.828(NS)
Overall	59.17	5.27	58.23	4.86	0.93	0.712	0.478(NS)

*-P<0.05, significant and **-P<0.01 &***-P<0.001, Highly significant

The table no: 3.6 showed that calculated Unpaired “t”-test between control and experimental group pretest. The level of anxiety divided into category based on the Spence children’s anxiety scale that in separation mean difference was 0.4, t value 0.921 and p value were 0.361 that is no significant. In social phobia mean difference was 0.03, t value was,0.06 and p value was 0.951 that is no significant. In obsession compulsive mean difference 0.3, t value 0.607 and p value was,0.546 that is no significance. In panic/agoraphobia mean difference 0.5, t value was 0.643and p value 0.522 that is no significant. In physical injury mean difference was 0.13, t value 0.43 and p value was 0.668 that is no significant. In generalized anxiety mean difference 0.1, t value is 0.218 and p value 0.828 that is no significant .in control group pretest mean was 59.17, SD 5.27 and experimental group pretest mean was 58.23, SD Was 4.86, in control group and experimental group pretest the overall mean difference 0.93, t value was 0.712 and p value was 0.478 that is also no significant. Hence stated Null hypothesis H_{01} there is no significance difference between pretest and post test score of preoperative anxiety level of art therapy among children undergoing surgery at the 0.05 level of no significant was accepted and research hypothesis H_{A1} was rejected.

Table-3.7: Unpaired “t”-test was found between control and experimental group posttest to effectiveness of art therapy in reducing pre-operative anxiety among children undergoing surgery at svbch hospital.

(n=60)

Level of anxiety	Control group Post test		Experimental group post test		Mean difference	‘t’-value	P-value
	Mean	SD	Mean	SD			
Separation anxiety	12.53	1.74	5.5	1.83	7.03	15.25	p<0.001***(HS)
Social phobia	10.37	2.07	3.5	1.19	6.87	15.69	p<0.001***(HS)
Obsession compulsive	5.47	1.94	3.83	1.53	1.63	3.615	p<0.001***(HS)
Panic / agoraphobia	8.8	3.42	5	1.38	3.8	5.64	p<0.001***(HS)
Physical injury	9.87	1.22	3.5	1.50	6.37	17.98	p<0.001***(HS)
Generalized anxiety	11.9	1.74	4.76	2.03	7.13	14.58	p<0.001***(HS)
Overall	58.9	5.22	37.7	4.58	32.8	24.84	p<0.001***(HS)

*-P<0.05, significant and **-P<0.01 &***-P<0.001, Highly significant

The table no:3.7showed that the calculated Unpaired “t”-test between control and experimental group posttest. The level of anxiety divided into category based on the Spence children’s anxiety scale that in separation anxiety mean difference was 07.03, t value 15.25 and p value was <0.001 that is highly significant. In social phobia mean difference 6.87, t value was,15.69 and p value was <0.001 that is highly significant. In obsession compulsive mean difference1.63, t value 3.615 and p value was <0.001 that is highly significant. In panic/agoraphobia mean difference was 3.8, t value was 5.64 and p value <0.001 that is highly significant. In physical injury, mean difference was 6.37, t value 17.98 and p value was <0.001 that is highly significant. In generalized anxiety mean difference was 7.13, t value was 14.5 and p value< 0.001 that is highly significant. In control group posttest mean was 58.9, SD 5.22 and experimental posttest mean was 37.7., SD Was 4.58. The control group and experimental group over all mean difference was 32.8, t value was 24.84 and p value was < 0.001that is also highly significant. Hence stated the research hypothesis H_{A1} , there is a significant deference in pretest and posttest preoperative anxiety level of art therapy among children undergoing surgery at the 0.05 level of significance was accepted and null hypothesis H_{01} was rejected.

Section Iv: Association Between Pre-Test Level Of Pre-Operative Anxiety Level With Their Selected Demographic Variables.

Table 4.1: The table represents association between the preoperative anxiety among children undergoing surgery with selected demographic variables in control group.

Demographic variables	Normal		Elevated Anxiety		χ^2 -value	p-value
	f	%	f	%		
1.Age in years:						
6-8	11	36.7	4	13.3	1.29 (df=1)	0.256 NS
9-10	8	26.7	7	23.3		
11-12	0	0	0	0		
2.Gender:						
Male	15	50	6	20	1.97 (df=1)	0.160 NS
Female	4	13.3	5	16.7		
3. Education of child:						
1-3 rd STD	12	40	5	16.7	0.88 (df=1)	0.346 NS
4-6 th STD	7	23.3	6	20		
7 th STD and above	0	0	0	0		
4.Religion:						
Hindu	18	60	11	36.7	0.598 (df=1)	0.439 NS
Islam	1	3.3	0	0		
Christian	0	0	0	0		
Others	0	0	0	0		
5.Types of family:						
Nuclear family	10	33.3	5	16.7	0.143 (df=1)	0.705 NS
Joint family	9	30	6	20		
Single parent	0	0	0	0		
6. father Education:						
Profession	1	3.3	0	0	3.96 (df=5)	0.554 NS
Graduate	0	0	1	3.3		
Intermediate/diploma	4	13.3	4	13.3		
High school	7	23.3	4	13.3		
Primary school	6	20	2	6.7		
Illiterate	1	3.3	0	0		
7. Mother Education:						
Profession	0	0	0	0	0.674 (df=2)	0.714 NS
Graduate	0	0	0	0		
Intermediate/diploma	0	0	0	0		
High school	5	16.7	2	6.7		
Primary school	11	36.7	8	26.7		
Illiterate	3	10	1	3.3		
8. Father Occupation:						
Profession	0	0	0	0	3.45 (df=4)	0.486 NS
Semi profession	2	6.7	2	6.7		
Clerical	0	0	1	3.3		
farm	1	3.3	1	3.3		
Skilled worker	14	46.7	7	23.3		
Unskilled worker	2	6.7	0	0		
9. Mother Occupation:						
Profession	0	0	0	0	1.63 (df=6)	0.652 NS
Semi profession	0	0	0	0		
Clerical	1	3.3	1	3.3		
Farm	7	23.3	6	20		
Skilled worker	10	33.3	4	13.3		
Unemployed	1	3.3	0	0		
10. Family income:						
47348 and above	0	0	0	0	0.89 (df=2)	0.641 NS
23674-47348	16	53.3	9	30		
17756-23674	2	6.7	2	6.7		
11837-17756	1	3.3	0	0		
7102-11837	0	0	0	0		
2391-7102	0	0	0	0		

<2390	0	0	0	0		
11.Duration of hospitalization:						
1 day	0	0	0	0	0.02	0.865
2 days	16	53.3	9	30	(df=1)	NS
3 days	3	10	2	6.7		
4 days	0	0	0	0		
12.Area of residence:						
Urban	19	63.3	11	36.7	0	1
Rural	0	0	0	0		(NS)
13.Play activities:						
Toys	11	36.7	8	26.7	0.67	0.714
Video games	3	10	1	3.3	(df=2)	NS
Drawing	5	16.7	2	6.7		

***p<0.05 significant, ** p<0.01 & ***p<0.001 Highly significant. Hence, null hypothesis H02 Was accepted and research hypothesis HA2 was rejected.**

IV. Discussion

A study result was consistent with the study done by Zoe Moula 2020. The study concluded that there were significant variations in terms of the duration, length, and frequency of art therapy. The shortest intervention (seven sessions) suggested significant improvements in all outcomes, whereas the longest intervention (25 sessions) did not show significant improvements; indeed, an arts group and a games group appeared to be more effective than art therapy. Art therapy can be effective in improving children's quality of life; anxiety; self-concept; problem-solving skills, attitudes towards school; emotional and behavioral difficulties.

A study result was consistent with the study done by Yuanyuan Liang, Wenjiao Huang, Xinyu hu, Meiling Jiang, Tian Liu 2021. The study findings revealed that preoperative anxiety rate of 220 children in the tertiary hospital was 67.6%. Multivariate analysis revealed that children who attended elementary school had a lower risk of preoperative anxiety compared to children who did not attend school [odd ratio (OR) =0.39, 95% confidence interval (CI), 0.19 to 0.79, P=0.010]. Children whose caregivers felt very worried experienced an increased risk of preoperative anxiety compared to children whose caregivers were not worried about the surgery at all (OR =3.40, 95% CI, 1.35 to 8.56, P=0.009). Children who were very resistant, cried violently, twisted their bodies during puncturing the needle were 5.8 times more likely to experience preoperative anxiety compared to children who were very cooperative. The risk of preoperative anxiety in children who cooperated with a staff member was about 1.5 times higher than that of children who were very cooperative.

V. Conclusion

The main conclusion drawn from the present study, most of the preoperative children had elevated anxiety >60 in control group of posttest and had No anxiety <60 in experimental group of posttest. These showed that the art therapy was effective to reduce the preoperative anxiety among children undergoing surgery in admitted in pediatric surgical ward.

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