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EFFECTIVENESS OF AUDIO VISUAL DISTRACTION ON PAIN AMONG CHILDREN UNDERGOING VENIPUNCTURE IN PEDIATRIC WARD OF SELECTED HOSPITALS: A QUASI EXPERIMENTAL STUDY.

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Abstract: Life is a precious gift by god and it should be handled with care. Nursing profession is one of the main professions responsible for the care, to care the life of people by providing preventive, curative, promotive, restorative and rehabilitative care. Children are major consumers of health care. Children always need that special care to live and succeed **Objectives:** 1) To assess the level of pain among children undergoing venipuncture in experimental group during intervention in selected hospitals. 2) To assess the level of pain among children undergoing venipuncture the control group in selected hospitals. 3) To compare the level of pain among children undergoing venipuncture between experimental and control group in selected hospitals. 4) To find out association between level of pain among children in experimental and control group with selected demographic variables. **Methodology:** a quasi experimental post test only control group design was adopted for the study. It was conducted over 60 pediatric (pre schooler age) patients and was selected by using Non probability purposive sampling technique and quota sampling techniques. **Result**: The study reveals that, In Experimental group (Group I) the mean score is 3.70 and standard deviation is 2.15 whereas, in Control group (Group II) the mean score is 7.83 and standard deviation is 1.48. The tabulated value for n=60 degree of freedom is 2.00. The calculated chi square value is 31.29. The calculated x^2 value is higher than tabulated value at 5% level of significance which is statistically acceptable level of significance. Hence the research hypothesis H1 is accepted and null hypothesis H0 is rejected. Thus, it is statistically interpreted that there is a significant difference between mean pain score of patients who receive Audio visual distraction..

Index Terms: Effectiveness, Selected Hospitals, Venipuncture, audio visual distraction, pain, children.

I. INTRODUCTION:

Today's children are tomorrow's citizens and healthy children are wealth of nation. Children below 15 years age make 40 % of the total population of India. Children not only represent large group but they are also vulnerable group or unique risk group, death rate in children is elevated in India due to multi causes like contagious disease , infection , congenital anomalies and accidents etc . [1] Distraction is defined as concentrating on an activity to prevent attention from focusing elsewhere, thereby, increasing the tolerance for pain by putting pain at the periphery of alertness. While the use of distraction is emerging in the pediatric medical setting, there has been little research conducted concerning the effects of child life-directed distraction. [2] Pain continues to be the most problematic and challenging sensory emotions, it affects the normal growth and development. It is defined as a universal unpleasant, subjective, sensory and emotional human experience. Because of its strong sensation, it alters the quality of life in children such as sleep, mobility, diet, emotional wellbeing and creativity.[3]

A. BACKGROUND OF THE STUDY :

Various Medical procedures are performed in hospital setting to diagnose the patient's condition potentially painful procedures can range from simple procedures, such as venipuncture to more invasive procedures, such as lumbar punctures and can occur in a variety of settings in the hospital. The pediatric healthcare community is committed ethically and morally to cause no harm to their patients' Medical procedures, particularly venipuncture is among the most common and painful experiences for children. [2]

B. NEED OF THE STUDY:

According to guidelines published by the United States Centers for Disease Control and Prevention in 2005, children are to receive roughly twenty nine IM injections by 6 years of age. These events are anxiety provoking and painful, especially for preschool children, who exhibit higher distress than older children. It was also reported that as many as 45% of three- to six-year- old children experience 'serious or severe distress' during these procedures. [2]

A randomized controlled trial of audiovisual distraction of pain management was conducted in toddlers and preschoolers children receiving in pediatric department. 300 children's (2–6years) were randomized into audiovisual distraction group (n = 100, watching cartoon films), intervention Group (n = 100, receiving psychological intervention) and control group (n = 100, without any Intervention). There was no significant difference (P >0.05) between the audiovisual distraction and the intervention groups for cooperation, venipuncture times and pain intensity (assessed with FLACC scale).

Audiovisual distraction was demonstrated to be effective in reducing Pain, improving patient cooperation and increasing success rate in venipuncture procedures.[6]

C. TITLE OF THE STUDY:

Effectiveness of Audio Visual Distraction on Pain among Children undergoing Venipuncture in pediatric ward of selected hospitals: A Quasi Experimental study.

D. OBJECTIVES:

1. Primary Objective-

To assess the effectiveness of audio visual distraction on pain among children undergoing venipuncture in pediatric ward of selected hospitals.

2. Secondary Objective-

- To assess the level of pain among children undergoing venipuncture in experimental group during intervention in selected hospitals.
- To assess the level of pain among children undergoing venipuncture the control group in selected hospitals.
- To compare the level of pain among children undergoing venipuncture between experimental and control group in selected hospitals.
- To find out association between level of pain among children in experimental and control group with selected demographic variables.

E. OPERATIONAL DEFINITION:

- **Effectiveness:** In this study, the effectiveness means due to audio visual distraction decreased level of pain among children undergoing venipuncture.
- **Audio Visual distraction:** In this study, audio visual distraction refers to the sensory visuals accompanied by audio animated cartoons motion picture that is shown to the 3-5 years of age children during the time of venipuncture in order to take the attention of pain away. It will start 5 minutes prior to the procedure and ends 5 minutes after the completion of the procedure.

- **Pain:** In this study, pain refers to the highly unpleasant physical sensation caused during venipuncture, it will be measured by FLACC pain rating scale .The pain score is 0 to 10.

- **Children:** In this study, Children between 3-5 years belong to the preschoolers admitted in pediatric ward of selected hospital.

- **Venipuncture:** In this study, venipuncture is the process of obtaining intravenous access for the purpose of intravenous therapy or for blood sampling of venous blood.

- **Pediatric ward**: In this study, a specialized unit or ward in which children was admitted.

- **Hospital:** In this study, an institution in which sick or injured children are given medical or surgical treatment.

F.HYPOTHESIS:

Will be tested at 0.05 level of significance

1) ***H0:*** There is no significant difference in pain level among children undergoing venipuncture in experimental and control group in selected hospitals

2) ***H1***: There is significant difference in pain level among children undergoing venipuncture in experimental group and control group in selected hospitals.

G. DELIMITATIONS:

The delimitations of the study are hospitalized patient who are:

1 Doing venipuncture in intensive care unit and operation theater

2 In the age group of above 5 year and below 3 year

3 Receiving analgesic injection.

4 Admitted in medical surgical and other specialty ward.

H. ETHICAL ASPECT:

The study proposal was accepted by the ethical committee of the institution, permission was obtained by the concerned authorities before conducting the study. Consent letter was be obtained by sample parents after explaining them the research process in their own language Confidentiality regarding the samples information was be maintained by using code numbers by the investigators.

I. REVIEW OF LITERATURE:

The literature review has been organized under the following heading,

- Literature related to painful procedures among preschool children.
- Literature related to various distraction therapies in reducing pain.
- Literature related to various distractions during venipuncture.
- Literature related to effectiveness of audio visual distraction on pain.

J. CONCEPTUAL FRAMEWORK :

The conceptual framework selected for the study was based on a Modified Roy's Adaption Model".

II. MATERIAL AND METHOD :

A. Research ***approach***: quantitative research approach is used.

B. ***Research design***: quasi experimental post test only control design.

C. Research ***Setting***: The presented study is conduct in selected hospitals of the city.

D. VARIABLES:

- ***Independent Variable:*** Audio visual distraction.
- ***Dependent variable:*** intensity or level of pain among children.
- **Demographic variables:** age (in years) , gender of child , child going to school, type of family , occupation of parents , monthly income(in Rs) , area of residence , number of child in family, order of child , previous experience of venipuncture , if yes …… .

E. POPULATION:

- ***Target population***: it includes all of the admitted preschooler children undergoing venipuncture.
- **Accessible population:** includes admitted preschooler children's in selected hospitals undergoing venipuncture are present during data collection.

F. SAMPLING:

- **Sample:** In this study sample consisted of 60 preschooler children who are admitted in pediatric ward of selected hospitals.
- ***Sampling Technique:*** In the present study non probability purposive sampling technique was used.

- For differentiating 60 samples in 30 experimental study and 30 control group with the help of quota sampling.

- **Sample size:** 60 pre schooler children having 30 experimental group and 30 control group who were available during the period of data collection were the sample for this study as mentioned inclusion criteria.

G. SAMPLING CRITERIA:

A. *Inclusion criteria:*

It refers to the criteria that especially population characteristics.[70]

It refers to the criteria that specify population characteristics. In this study, inclusive criteria were, patients who are:

- Children of parents who are willing to participate in the study.
- Preschool children who are in between 3 to 5 years.
- In patients and outpatients with venipuncture.

B. *Exclusion Criteria:*

It is the criterion that involves people who does not possess the population characteristics,

in this study the exclusive criteria were children's who are:

- Preschool children who are having problems like Mental retardation, Cerebral palsy, Down syndrome.
- Preschool children who are dumf and dumb.
- Child with sensory problems.
- Parents will not be allowed during procedure.

H. DESCRIPTION OF THE TOOL:

- **Section I:** demographic variable on pain scale
- **Section II:** The scale is used to assess the intensity of pain by standardized FLACC pain scale.

- **Section III**: Constructed observational datasheet to identify the influence of participants, to assess the intensity of pain.

I. VALIDITY:

To ensure the content validity, the tool was distributed to 30 experts including child health nursing experts, community health nursing and statistician.

J. RELIABILITY:

Reliability was supported by three measurements properties internal consistency was excellent with a Cronbachs alpha of 0.9023band 0.9758(two raters), A test retest showed excellent intra rater reliability with a interclass correlation (ICC) of 0.97530. Inter rater reliability was acceptable with an ICC of 0.74576.

K. PILOT STUDY:

It was conducted on 6 preschooler children's and collected data was coded . tabulated and descriptive and inferential statistics used to analyze . The pilot study was feasible in terms of time, money and resources.

L. DATA COLLECTION:

Data collection Main study was done by following steps:-

- Permission will be obtained from the higher Authorities of the hospitals.
- Non Probability purposive sampling technique was done to select the sample for both, experimental and control group and quota sampling .
- Before procedure, self introduction was done by the investigator and purpose of study was explained.
- Consent of the sample was taken.
- Collection of the pain score reading on demographic variables in both experimental and control group.
- Intervention as audio visual distraction was given to the participants before during & after procedure.

➢ **For Experimental Group:-**

- Identify the site for venipuncture
- Observe and Prepare the environment
- Routine care / support given to the patient
- Before procedure maintain good rapport with child and his / her parents for good cooperation during study
- Administered audio visual distraction as intervention before 5 min prior to procedure, during and after post procedure for 5 min.
- Total 15 min audio visual distraction was provided to sample
- During procedure identify the samples facial expressions, levels of activity, movements etc with the help of Standardized tool i.e. FLACC pain scale.

➢ **For Control Group:-**

- Identify the site for venipuncture
- Observe and Prepare the environment
- Routine care / support given to the patient
- Before procedure maintain good rapport with child and his / her parents for good cooperation during study
- In this group , not provided audio visual distraction during venipuncture
- During procedure identify the samples facial expressions, levels of activity, movements etc with the help of Standardized tool i.e. FLACC pain scale.
- Post test will conducted in both the group and pain intensity was evaluated by FLACC pain scale and the observation checklist for assessment of pain which was observed for four observations on each sample in the both groups.

III. RESULT:

***SECTION I*: Distribution of children undergoing venipuncture with regards to demographic variables.**

Table IV-1: Table showing Frequency and Percentage wise distribution of children undergoing venipuncture according to their demographic characteristics: n=60 .

Demographic Variables	Experimental Group *n=30*		Control Group *n=30*	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Age (Yrs)				
3.1-4 yrs	20	(66.7%)	18	(60%)
4.1-5 yrs	10	(33.3%)	12	(40%)
Gender of the child				
Boy	20	(66.7%)	19	(63.3%)
Girl	10	(33.3%)	11	(36.7%)
Child goes to school				
Yes	22	(73.3%	23	(76.7%)
No	8	(26.7%)	7	(23.3%)
Area of residence				
Rural	10	(33.3%)	16	(53.3%
Urban	20	(66.7%)	4	(46.7%)
Urban Slum	0	(0%)	0	(0%)
Type of family				
Nuclear	15	(50%)	15	(50%)
Joint	12	(40%)	11	(36.7%)
Extended	3	(10%)	4	(13.3%)
Occupation of parents				
Government Service	3	(10%)	2	(6.7%)
Private Service	5	(16.7%)	6	(20%)
Homemaker	11	(36.7%)	12	(40%)
Self Employed	2	(6.7%)	6	(20%)
Labourer	9	(30%)	4	(13.3%)
Other	0	(0%)	0	(0%)
Monthly family income(Rs)				
<10000 Rs	3	(10%)	3	(10%)
10001-15000 Rs	2	(6.7%)	7	(23.3%)
15001-20000 Rs	13	(43.3%)	12	(40%)

>20000 Rs	12	(40%)	8	26.7%)
Number of children in the family				
One	7	(23.3%)	15	(50%)
Two	19	(63.3%)	13	(43.3%)
Three	4	(13.3%)	2	(6.7%)
More than three	0	(0%)	0	(0%)
Order of the child				
First	11	(36.7%)	17	(56.7%)
Second	17	(56.7%)	12	(40%)
Third	2	(6.7%)	1	(3.3%)
More than third	0	(0%)	0	(0%)
Exposure to venipuncture				
Yes	27	(90%)	27	(90%)
No	3	(10%)	3	(10%)
Hospitalization	**n=27**		**n=27**	
Present	9	(33.3%)	6	(22.2%
Previous	18	(66.7%)	21	(77.8%)

SECTION –II: **Assessment of level of pain among children undergoing venipuncture in pediatric ward of selected hospital.**

Table IV. 2(A) Table showing that assessment with level of pain score in experimental group:

N=30

Level of pain score	**Score Range**	**Level of Pain Score**	
		Frequency (f)	**Percentage (%)**
Relaxed and comfortable	0	2	6.67
Mild Discomfort	1-3	14	46.67
Moderate Pain	4-6	10	33.33
Severe discomfort pain	7-10	4	13.33
Minimum score		0	
Maximum score		9	
Mean pain score		3.70 ± 2.15	

Table IV. 2 (B) Table showing that assessment with level of pain score in control group:

N=30

Level of pain score	Score Range	Level of Pain Score	
		Frequency (f)	Percentage (n)
Relaxed and comfortable	0	0	0
Mild Discomfort	1-3	0	0
Moderate Pain	4-6	6	20
Severe discomfort pain	7-10	24	80
Minimum score		5	
Maximum score		10	
Mean pain score		7.83 ± 1.48	

SECTION – III: **Comparison of pain among children undergoing venipuncture in pediatric ward of selected hospitals.**

Table IV. 3. Comparison of pain score in between two groups. **(n=60)**

n=30 **n=30**

Level of pain score	Score Range	Level of Pain Score		ᵡ2-value
		Control Group	Experimental Group	
Relaxed and comfortable	0	0(0%)	2(6.67%)	
Mild Discomfort	1-3	0(0%)	14(46.67%)	
Moderate Pain	4-6	6(20%)	10(33.33%)	
Severe discomfort pain	7-10	24(80%)	4(13.33%)	
Minimum score		5	0	31.29
Maximum score		10	9	
Mean pain score		7.83 ± 1.48	3.70 ± 2.15	p=0.0001,S

SECTION IV: **Description of association of level of pain score among children with venipuncture in experimental group and control group in relation to demographics variables:**

Table IV.4. (A) Table showing association of **experimental group** with demographics variables:

n=30

SR. NO	Demographic Variables	Calculated value		Df	Table value	Level of Significance	Significance
		P-value	Chi square $_X2$				
1.	Age (yrs)	0.028	9.06	3	7.82	<0.05	S
2.	Gender	0.28	3.77	3	7.82	>0.05	NS
3.	Going to school	0.20	4.61	3	7.82	>0.05	NS
4.	Area of Residence	0.11	5.86	3	7.82	>0.05	NS
5.	Type of Family	0.51	5.22	6	12.59	<0.05	NS

6.	Occupation of Parents	0.86	6.88	12	21.03	<0.05	NS
7.	Monthly family income (Rs)	0.26	11.17	9	16.92	>0.05	NS
8.	Number of children in the family.	0.80	3.02	6	12.59	<0.05	NS
9.	Order of the Child	0.60	4.52	6	12.59	>0.05	NS
10	Exposure to Venipuncture	0.81	0.95	3	7.82	>0.05	NS
11	Hospitalization	0.18	4.87	3	7.82	>0.05	NS

Table IV.4. (B) Table showing association of **Control group** with demographics variables:

n=30

Key: **S- SIGNIFICANT** **NS- NON SIGNIFICANT**

SR. NO	**Demographic Variables**	**Calculated value**		**Df**	**Table Value**	**Level of Significance**	**Significance**
		P-value	**Chi square X^2**				
1.	Age (yrs)	0.13	2.22	1	3.84	<0.05	NS
2.	Gender	0.85	0.03	1	3.84	>0.05	NS
3.	Going to school	0.51	0.41	1	3.84	>0.05	NS
4.	Area of Residence	0.85	0.03	1	3.84	>0.05	NS
5.	Type of Family	0.95	0.08	2	5.99	<0.05	NS
6.	Occupation of Parents	0.34	4.47	4	9.49	<0.05	NS
7.	Monthly family income (Rs)	0.61	1.80	3	7.82	>0.05	NS
8.	Number of children in the family	0.44	1.61	2	5.99	<0.05	NS
9.	Order of the Child	0.78	0.49	2	5.99	>0.05	NS
10	Exposure to Venipuncture	0.36	0.83	1	3.84	>0.05	NS
11	Hospitalization	0.71	0.13	1	3.84	>0.05	NS

IV. DISCUSSION :

The study was conducted to assess the effectiveness of audio visual distraction on pain among children undergoing venipuncture in pediatric ward of selected hospitals of the city In this chapter, different aspects of the study in terms of analysis and interpretation are discussed. The study reveals that, In Experimental group (Group I) the mean score is 3.70 and standard deviation is 2.15 whereas, in Control group (Group II) the mean score is 7.83 and standard deviation is 1.83. Mean median score and standard deviation values are compared and unpaired t- test is applied at 5% level of significance. The tabulated value for n=60 degree of freedom is 2.00. The calculated chi square value is 31.29. The calculated 't' value is higher than tabulated 't' value at 5% level of significance which is statistically acceptable level of significance. Hence the research hypothesis H1 is accepted and null hypothesis H0 is rejected. Thus, it is statistically interpreted that there is a significant difference between mean pain score of patients who receive Audio visual distraction. As mean median pain score for intensity of pain in Experimental group (Group I) is 3.70, which is less than mean median pain score for intensity of pain in control group (Group II) which is 7.83, it shows that Audio visual distraction is more effective for reducing intensity of pain among preschoolers receiving venipuncture .

In the present study it was found that, Analysis also reveals that there is significant association of intensity of pain in experimental groups with Age.

V. CONCLUSION:

Thus it was concluded that effectiveness of audio visual distractions was found that effective in reducing the level of pain among preschooler's children undergoing venipuncture in pediatric ward of selected hospitals. Hence based on the above cited findings, it was concluded undoubtedly that the pain intervention by the investigators in the form of audio visual distraction helped the staff nurses to reduce the intensity of pain during venipuncture among preschoolers children's and improve the knowledge and practice regarding procedures of venipuncture and help the nurses to provide good quality of care and help the nurses to maintain standard of care in pediatric setting as result of a traumatic care.

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VII. REFERENCES:

[1] Salina S J, effectiveness of cartoon on painful procedures among pre schoolchildren in a selected hospital, at kanyakumari District. (Dissertation) RUGHS, 2017

[2] Park K, preventive and social medicine, 18th edition, New Delhi, Bhanaridas Bharat publication, 2008, Page no: 388.

[3] Parul Datta, A text book of pediatric nursing, 2nd edition India jayvee brother's publications, 2007, page no – 137-141.

[4] Wang, Z.X., Sun L. H., & Chen, A. P. (2008). The efficacy of non-pharmacological methods of pain management in school-age children receiving venepuncture in a paediatric department: a randomized controlled trial of audiovisual distraction and routine psychological intervention. Swiss medical weekly, 138(39-40), 579–584.

Available form:

https://pubmed.ncbi.nlm.nih.gov/18853287 cited on 11/2/2021 at 8:00pm.

5) Susan Maharjan, Bhima Uma Maheswari, Manju Maharjan, Effectiveness of Animated Cartoon as a Distraction Strategy on Level of Pain among Children Undergoing Venipuncture at Selected Hospital International Journal of Health Sciences and Research Vol.7; Issue: 8; August 2017.

Available form:

https://www.researchgate.net/publication/319207150 cited on 12/2/2020 at 4:00pm