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## A study to assess the effectiveness of play therapy in reducing pain among children undergoing venipuncture at Sharda Hospital, Greater Noida. U.P

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### Abstract

**Background:** Pain in hospitalized children may be caused by the disease, treatment and procedures. In this context, it is consensus among most researchers that children should be treated and evaluated according to age group and cognitive development with adequate tools. So, it is up to the nursing team to be prepared to evaluate and treat pain with a holistic and more humanized view.

**Aim:** The aim of the study was to assess effectiveness of play therapy in reducing pain among children undergoing venipuncture.

**Objectives:** 1. To assess the level of pain among children undergoing venipuncture in control and experimental group. 2. To assess the effectiveness of play therapy among children undergoing venipuncture in experimental group. 3. To find association between level of pain of children with their selected socio demographic variables.

**Methodology:** 60 Children between the ages of 4-7 yrs with IV cannulation admitted in Sharda hospital, Greater Noida, Uttar Pradesh were selected by using Probability, simple random sampling method.

**Results:** The comparison of Frequency, Mean and Standard deviation between experimental and control group reveals that the level of pain in control group is more as compared to the experimental group. So the null hypothesis is rejected and research hypothesis is accepted.

**Keywords:** Effectiveness, play therapy, pain, children, venipuncture

### Introduction

Pain in hospitalized children may be caused by the disease, treatment and procedures. In this context, it is consensus among most researchers that children should be treated and evaluated according to age group and cognitive development with adequate tools. So, it is up to the nursing team to be prepared to evaluate and treat pain with a holistic and more humanized view <sup>[1]</sup>.

Relief of pain is a basic need and right of all children. Management of pain in the child must be individualized accordingly age, sex, birth order, cultural background, caregiver's support and past experiences of the child. The newborn baby, infants, and toddler are unable to localize and describe the severity of pain <sup>[2]</sup>.

Pain is assessed by pain scales such as Faces scale, Numeric scale, Behavioral scale, Behavioral /physiological. Face, Legs, Activity, Cry, Consolability (FLACC) scale is a measurement used to assess pain for children between the ages of 2 months and 7 years or individuals that are unable to communicate their pain. The scale is scored in a range of 0-10 with 0 representing no pain <sup>[3]</sup>.

Venipuncture is one of the most routinely performed invasive procedures and is carried out for any of five reasons: (1) to obtain blood for diagnostic purposes; (2) to monitor levels of blood components (3) to administer therapeutic treatments including medications, nutrition, or chemotherapy; (4) to remove blood due to excess levels of iron or erythrocytes (red blood cells); or (5) to collect blood for later uses, mainly transfusion either in the donor or in another person <sup>[4]</sup>.

Play therapy is generally employed with children aged 3 through 11 and provides a way for them to express their experiences and feelings through a natural, self-guided, self-healing process. As children's experiences and knowledge are often communicated through play, it becomes an important vehicle for them to know and accept themselves and others. This approach is common to young children <sup>[5]</sup>.

### Need for The Study

The nurse must be aware of the child's response to pain through assessment of behavioural responses and differentiation of crying. During the pre-school period, the child acquires the ability to verbally describe the pain experience. Depending on the cause of the pain experience, non-pharmacologic or pharmacologic interventions or both may be utilized. The nurse should provide explanation for what is happening to the school-age child [6].

Painful medical procedures such as immunizations, venipuncture and minor emergency department procedures such as laceration repair, compose a significant portion of the average child's experience with painful events. Inadequate relief of pain and distress during childhood painful medical procedures may have long-term negative effects on future pain tolerance and pain responses [7].

Quasi experimental study was conducted to determine the effect of video game play on pain of venipuncture in 3-6 year-old children. This study conducted on 80 hospitalized children. Playing a video computer game for children during the venipuncture procedures was the intervention for the interventional group. Also the intensity of pain was measured by behavioral pain scale for children (FLACC scale) during the procedure. Results- Pain intensity mean in the interventional group ( $2.65 \pm 1.577$ ) had significant changes in comparison with the control group ( $7.95 \pm 1.084$ ) 0% of children in the control group experienced severe pain due to venipuncture procedures [8].

Comparative study assessed the effectiveness of playing a computer game during venipuncture, compared with low-tech distraction by a nurse. Randomized controlled trial at the blood-drawing center of a tertiary-level children's hospital in Italy. Half of the 200 children played Angry Birds on a hand-held computer while the other half were distracted by a second, specifically trained nurse who sang to them, read a book, blew bubbles or played with puppets. Pain was measured using a faces pain scale for children aged 4-7 years and a numeric scale for children aged 8-13 years. Children reported significant pain in 16 cases (16%) in the hand-held computer distraction group and in 15 cases (15%) in the nurse-led low-tech distraction group ( $p = 0.85$ ). Playing a game on a hand-held computer meant that only one in six children reported pain during venipuncture, but it was not superior to being distracted by nurses. The results showed that video game play intervention has a significant positive effect on the pain of venipuncture procedures in children [9].

### Problem Statement

A study to assess the effectiveness of play therapy in reducing pain among children undergoing venipuncture" at Sharda Hospital, Greater Noida. UP.

### Objectives

1. To assess the level of pain among children undergoing venipuncture in control and experimental group.
2. To assess the effectiveness of play therapy among children undergoing venipuncture in experimental group.
3. To find association between level of pain of children with their selected socio demographic variables.

### Research Hypotheses

H<sub>1</sub>-There will be significant difference in pain levels in

experimental group than the control group after administration of play therapy.

H<sub>2</sub>-There will be significant association between the levels of pain with selected socio demographic variables.

### Delimitations

The study is delimited to,

1. Children undergoing IV cannulation.
2. Children between the ages of 4-7 yrs.
3. Children admitted at selected at Hospital at Greater Noida. UP.

### Methodology

#### Research Approach

A quantitative approach was adopted to determine the research study.

#### Research Design

The present study was conducted by using post-test only control group design.

#### Setting

The study was conducted at Sharda hospital, Greater Noida, Uttar Pradesh.

#### Population

##### Target population

The target population for the present study includes children aged between 4-7 yrs.

##### Accessible population

The population for the present study included the children between the age group of 4-7 years admitted in pediatric ward of Sharda Hospital.

#### Sample

Samples in this study are children undergoing venipuncture at Sharda Hospital and who fulfilled the inclusion criteria.

#### Sample Size

The sample size was 60 Children; 30 assigned to experimental group and 30 assigned to control group.

#### Sampling Technique

Probability simple random sampling technique was adopted to select the samples.

#### Sampling Criteria

##### Inclusion criteria

1. Children who are in the age group 4-7 years.
2. Children who are undergoing venipuncture
3. Children who are cooperative.

##### Exclusion criteria

1. Children who are critically ill.
2. Children with neurological deficit.
3. Children who have undergone any type of surgery.

#### Description of The Tool

##### The Tool consists of two parts

**Part I:** Demographic variables:

**Part-II:** Section-II: Revised FLACC pain assessment Scale.

**Score Interpretation**

Score	Level of pain
0	No distress/Pain
1-3	Mild distress/Pain
4-7	Moderate distress/Pain
8-10	Severe distress/Pain

**Variables of The Study**

**Independent variable:** Play therapy.

**Dependent variable:** Level of pain.

**Demographic Variables**

Demographic variables such as age, gender, no. of siblings, educational status of children, previous hospitalization and number of IV injections received earlier.

**Data analysis and discussion**

**Table 1:** Frequency and percentage distribution of level of pain in experimental group and control group with mean difference and standard deviation. (N=60)

S. No	Level of pain	Experimental group			Control group		
		n	Mean	S.D	n	Mean	S.D
1.	Mild pain	-	-		14	0.46	2.51
2.	Moderate pain	-	0.33	1.79	16	0.52	2.87
3.	Severe pain	20	0.66	3.59	-	-	-

**Table 2:** Effectiveness of play therapy among children undergoing venipuncture in experimental group (N=60).

Category	Mean	S. D	‘t’ value	‘p’ value
Experimental group	2.53	0.507	9.10	0.001
Control group	3.66	0.79		

**Major Findings of The Study**

- Regarding the level of pain in experimental group, for mild level of pain the frequency was n2=14, median M2=0.46 and standard deviation SD2=2.51. For moderate level the frequency was n2=16, median M2=0.52 and SD2 = 2.87. In control group, frequency of moderate level of pain was n1=10, median M1=0.33 and standard deviation SD1=1.79. For severe level the frequency was n1=20, median M1 is 0.66 and SD1 is 3.59.
- In experimental group, the mean value is 2,53 and standard deviation is 0.507, where as in control group the mean value is 3.66 and standard deviation is 0.479. Therefore it can be seen that there is mean difference of 1.13 between experimental and control which shows the effectiveness of intervention. The ‘t’ value is 9.10 and ‘p’ value is <0.001. The comparison of Frequency, Mean and Standard deviation between experimental and control group reveals that the level of pain in control group is more as compared to the experimental group. So the null hypothesis is rejected and research hypothesis is accepted.
- There was no significant association between the level of pain and selected demographic variables. So the null hypothesis was accepted and research hypothesis was rejected.

**Conclusion**

The study concluded that there was a significant reduction in pain among children underwent venipuncture during play therapy. Thus it proved to be an effective treatment for pain. Therefore, this intervention should be promoted as an institutional policy and implemented as a routine care for all children undergoing venipuncture as a diversional therapy to reduce pain.

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