

EFFECTIVENESS OF DISTRACTION TECHNIQUE ON PAIN RELIEF DURING INTRAVENOUS CANNULATION AMONG THE SCHOOL CHILDREN IN SELECTED PAEDIATRIC WARDS AT AIMS, KOCHI

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INTRODUCTION

Pain is one of the most frequent complaints experienced by pediatric population. Venipuncture is one of the most common procedures for administering medications, intravenous fluids of hospitalized children and 50% of them experience significant levels of distress during venipuncture. Pain management interventions, given to children undergoing acute painful procedures, include pharmacological and non-pharmacological interventions to relieve or minimize. Among these, the distraction technique, a non-pharmacological intervention can be an effective way of handling the children's behavioral response, since it is easy, economical and requires only limited training.

Statement of the Problem

A study to assess the effectiveness of distraction technique, on pain relief during the intravenous cannulation among the school children in selected Pediatric Wards at AIMS, KOCHI.

Objectives of the Study

1. To determine the pain score of the children, both in the experimental and control groups, who are undergoing the IV cannulation
2. Find the association between the level of pain and the selected demographic variables among the children in the control group

METHODOLOGY

Research Design

The research design used for the study was experimental design. In the post- test only the control group design was used.

Research Setting

Pediatric Medical Ward 'B' block at AIMS, Kochi.

Population

Target population

All school aged children who are undergoing venipuncture.

Accessible population

School aged children admitted in the Pediatric Ward at AIMS hospital

Sample and sampling technique

Sample

The sample consists of 60 school-aged children distributed in the experimental and control groups equally(30 in each group)

Sampling technique

Simple random sampling

Sample Selection Criteria

Inclusion criteria

- School children aged between 7 to 12 years, who are undergoing venipuncture.

Exclusion criteria

- Children who receive more than one prick of IV cannulation
- Children who are under pain medication
- Children who are critically ill
- Mentally challenged children.

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Intervention

The distraction technique was a video of Tom and Jerry cartoon for 20 minutes. Tom and Jerry are favorite cartoon shows used by children.. The animated cartoon of Tom and Jerry was chosen and was shown on the laptop to the subjects during the IV cannulation of 30 subjects.

Data collection instruments and Techniques

Tool consists of two sections.

Section A: Socio-demographic data

It consists of information related to the child, such as age, sex, diagnosis, education, birth order, previous hospitalization, reason for IV cannulation, and previous IV cannulation.

Section B: Oucher Pain Intensity Scale- Asian Version Male and Female (Pediatrics)

Oucher scale Asian version male and Asian version female were developed by Dr. Chao Yeh of Taiwan. It consists of both numerical and six picture photographic scale. This pain scale was used to assess the pain among the children aged five years and above. The score recorded 0-1 indicates the state of ‘no hurt’, 2-3 indicates ‘a little hurt’, 4-5 indicates ‘little more hurt’, 6-7 indicates ‘even more hurt’, 8-9 indicates ‘a lot more hurt’ and 10 indicates the ‘biggest hurt’.

Table 1: Time schedule

Time	Experimental group	Control group
10 minutes before IV cannulation	Starting the cartoon show. (Intervention-distraction)	No intervention given. (No distraction)
10 th minutes	Performed IV cannulation. Pain assessed using Oucher pain intensity scale at the time of insertion IV cannula. Cartoon show continued.	IV cannulation done. Pain assessed during the insertion of IV cannula using Oucher pain intensity scale.
20 minutes	Cartoon show finished.	
After the procedure	Child allowed to go to bed	Child allowed to go to bed

ANALYSIS AND INTERPRETATION OF DATA

The frequency and percentage distribution of the subjects, in the experimental and control group, was done using the descriptive statistics. The analysis and interpretation of the data collected are presented under the following sections.

Section I: Distribution of the subject’s characteristics.

Section II: Comparison of the pain level among the subjects in the experimental and control group.

Section III: Comparison of the pain scores among the subjects in the experimental and control group.

Section IV: Association between the pain levels among the children in the control group and the selected demographic variables.

Section I: Distribution of subject's characteristics.

Majority of the subjects in the experimental group, 17(56.7%) belonged to 7-9 age group and 13(43.3%) belonged to 9-12 age group where as in the control group, 18(60%) children belonged to 7-9 age group and 12(40%) belonged to 10-12 age group. With regard to gender, in the experimental group, 15 of them (50%) males and 15 female children equally distributed in the group. In the control group 17(56.7%) males and 13(43.3%) female

children comprised the group. In relation to the diagnosis, in the experimental group, the majority 22(73.3%) of them were cannulated with medical diagnosis only 2 of them were cannulated with surgical purpose. Where as, in the control group, 20(66.7%) children were admitted for medical diagnosis and 10 (33.3%) of them were admitted for surgical diagnosis. With regard to education, in the experimental group, 17(56.7%) were in the lower primary and 13(43.3%) were in the upper primary school. Whereas, in the control group, the majority of them 18(60%) of them were in the lower primary school and only 12(40%) were in the upper primary school.

Section II: Comparison of pain scores among subjects in the experimental and control group
N=60

Dependent variable	Experimental group		Control group		Mean difference	't' value
	Mean	SD	Mean	SD		
Pain level	3.9	1.28	8.7	1.0	4.83	16.22**

t(58)=3.46

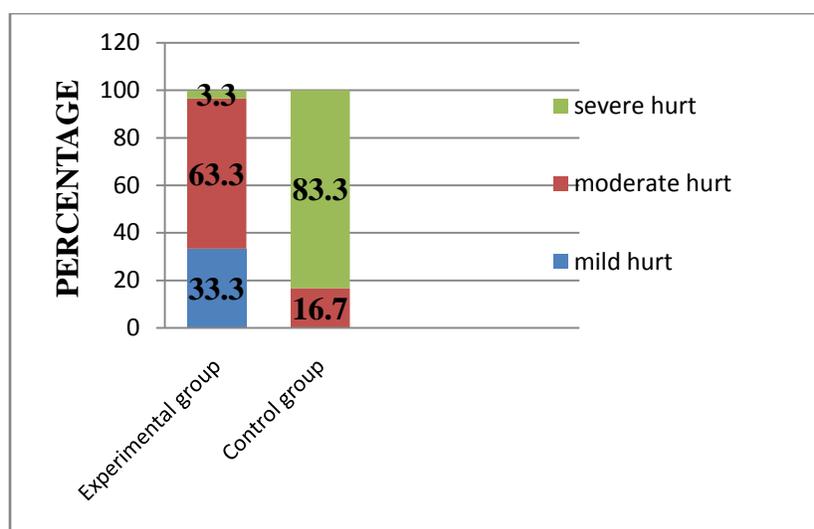
p<0.001

The above table depicts the fact that the 't' value of 16.22 with the mean difference in the pain score of experimental and control group is found greater than the table value of 3.46. On comparison the result is statistically significant at p<0.001.

Section IV: Association between the pain levels in control group children and the selected demographic variables.

In the present study, there was no association found between the pain level and the age, sex, diagnosis, education, birth order, reason for cannulation, and previous cannulation together.

Section III: Comparison of the pain level among the subjects in the experimental and control groups



The children, in the experimental group, who were distracted with cartoon, only 1(3.3%) had severe hurt and 19(63.3%) had moderate hurt, 10(33.3%) experienced mild hurt. Whereas the children, in the control group, who were not distracted with cartoon, a majority of 25(87.3%) had severe hurt and 5(16.7%) had moderate hurt. None of them had mild level pain.

DISCUSSION

The first objective of the study was to compare the pain score of experimental and control group.

The present study results showed the point that the pain score (Mean=3.9, SD=1.28), comparatively, were found less among the school-aged children, who received distraction technique during IV cannulation, than the pain score (Mean=8.7, SD=1.0) of the school-aged children who did not receive any distraction technique or $p < 0.001$ level.

The second objective of the study was to associate the pain level in the control group with the selected demographic variables.

In the present study the pain level was not associated with any of the demographic variables. The review also showed that the pain level was not associated with the demographic variables like, age and sex.

CONCLUSION

The study proved the fact that, the pain experiences got minimized / relieved for children who were distracted by cartoon video show during the intravenous prick for therapeutic purpose. The findings of the study strongly recommended that the cartoon show (distraction technique) could be implemented for routine nursing intervention for pediatric setting .

REFERENCES

1. Children's hospital of Philadelphia. *Kid's and Hospitals-Children's Miracle Network*. 2010; March.21(1):1-2
2. Morton NS. Pain assessment in children. *Pediatric Anaesthesia*.1997. 7(4): pp. 267–272.

3. McGrath PJ, Frager G. Psychological barriers to optimal pain management in infants and children. *The Clinical Journal of Pain*.1996; 12(2): pp. 135–141.
4. Abu-Saad HH, Hamers JPH. Decision-making and pediatric pain: a review. *Journal of Advanced Nursing*. 1997; 26(5):pp. 946–952, 1997.
5. Jill E Maclaren , Lindsey L Cohen. Intervention for pediatric procedure related pain in primary care. *Pediatric Child Health*. 2007 ; February :12(12):111-116
6. Peripheral venous cannulation of children: International journal of pediatrics. July 2003.pp:4
7. Bellieni CV, Cordelli DM. Analgesic effect of watching T V during venipuncture. *Journal of disease in childhood*.2006 December;91(12) :1015-1017

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