



Effect of Cartoon Animation on the Level of Pain During IV Cannulation Among Preschoolers in Selected Hospitals in Thiruvananthapuram District, Kerala.

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ABSTRACT

Aim of the study to assess the effect of cartoon animation on the level of pain during IV cannulation among preschoolers in selected hospitals in Thiruvananthapuram district. The objectives of the study was to evaluate the effect of cartoon animation on the level of pain during IV cannulation among preschool children in the experimental group. A sum of 60 samples (30 samples in experimental group and 30 samples in control group) were selected using non-probability purposive sampling technique. The research approach used in this study was quantitative research approach and research design adopted for the study was posttest only control group design. The data analysis was done by using descriptive statistics such as frequency, percentage, mean, standard deviation and inferential statistics such as Paired 't' test. The study result shows that in the experimental group majority of samples had mild pain (70%) and (30%) had moderate pain during cannulation and in the control group majority of samples were having moderate pain (60%) and (40%) are having severe pain during cannulation.

Keywords: Effect, Cartoon Animation, Pain, Preschooler

Introduction

Physically, emotionally, socially, and intellectually, every child is different. Through the transmission of attitudes, norms, and behaviors from the family and community, socialization takes place during the childhood years. Children require specialized care to survive, and they are significant consumers of health care. The socioeconomic situation and cultural and religious views of the family have an impact on the promotion and maintenance of the child's health [2].

Preschool, which lasts from three to five years of age, is seen as a crucial phase for a child's emotional, physical, and mental development.

This stage is marked by the maturation of bodily systems and the enhancement of both gross and fine motor skills. [3].

An unpleasant emotional experience brought on by a noxious stimuli is called pain. Depending on their age and cognitive process, each child reacts to it in a different way. Injuries, illnesses, surgeries, and other treatments can all cause pain [4]. Pharmacologic, nonpharmacologic, or a combination of both approaches can be used to manage pain in children. Intravenous (IV) placement and venipuncture are the most common procedures that nurses do that might cause anxiety in children [5]. The most frequent unpleasant procedure for a hospitalized child is venipuncture [8].

The most common nonpharmacological strategy employed by medical professionals to lessen procedural pain and discomfort is distraction. Distraction actively engages the youngster in the completion of the diverting chores while passively rerouting their focus away from the unpleasant input. Distraction techniques include vocal disruptions (slow, regular breathing), visual distraction (counting items, watching TV), and purposeful distraction (using toys). The most successful distraction technique is audiovisual, which includes cartoon distraction, which is easy to use and a good way to relieve pain and anxiety. When it comes to distraction techniques, audiovisual distractions like cartoon animation are straightforward, easy to use, and help children who are in pain or distressed [6].

According to a 2017 quasi experimental study carried out in India, all of the children in the control group had a severe pain score, while 56.7% of the experimental group's subjects had a pain score between 4-6 and 43.3% had a severe pain score [11]. A study conducted in India in 2016 revealed that the mean pain score for the experimental group was significantly lower at 4.6 compared to the control group's score of 7.7, resulting in a mean difference of 3.1 [8].

The researcher's study of the literature reviewed by the researcher noted the value of non-pharmacological methods in easing children discomfort during traumatic operations there are a variety of pain-reduction techniques and the researcher chose cartoon animation as one of them after observing how cartoon distraction affected the degree of discomfort experienced during IV cannulation.

Statement of the problem

A quasi-experimental study to assess the effect of cartoon animation on the level of pain during IV cannulation among preschoolers in selected hospitals in Thiruvananthapuram district, Kerala

Objectives

- To evaluate the effect of cartoon animation on the level of pain during IV cannulation among preschool children in the experimental group.

Hypothesis

H1: There is a significant difference on the level of pain during IV cannulation among the preschoolers in the experimental and control group.

Materials and methods

Research approach: Quantitative research approach. Research design: Quasi experimental post-test only control group research design. Setting of the study: This study was conducted at General Hospital Neyyattinkara in Thiruvananthapuram district. Study population: Preschoolers aged between 3-5 years. Sample size: 60.

Conceptual framework

Roy's adaptation model serves as the foundation for the study's conceptual framework, it identifies adaptation of patients as a critical phenomenon [19].

Tools and Techniques of data collection

Data were collected using the FLACC behavior pain scale by observation the tool has two sections section A and section B. Section A contains questionnaire on socio demographic variables it includes the socio demographic variables such as age gender area of residence religion education status of the parents and monthly income caregiver present with the child during iv cannulation. Section B includes FLACC behavior pain scale and it has five criteria and is scored from 0-2 and the scores are added to get a total of 0 -10.

Data collection procedure

After getting the approval from Institute Ethics Committee, information regarding the research study was given and written permission was obtained from the concerned authority. Investigator first selected the subjects who fulfill the inclusion criteria. Then using purposive sampling technique, 60 samples were selected, and written assent was obtained from the caregivers of children after explaining the nature and purpose of the study. Data were collected using the FLACC behavior pain scale by observation.

Results

Section A: Demographic variables

When analyzing the demographic data, in age group it shows that 40% of subjects belongs to the age group of 4 years in both experimental and control groups. In gender 60% subjects were males in experimental group, whereas in the control group majority 53.33% were females. In the experimental and control group majority of samples were living in rural area i.e., 66.67% and 53.33% respectively. In experimental group 40% were Christians, and in the control group 43% were Muslims. In the experimental and control group, i.e. majority of samples father's educational status were higher secondary education 46.67% and 43% respectively. In the experimental and control group, majority of samples mother's educational status were higher secondary education 46.67% and 33.33% respectively. In the experimental and control group majority of samples belongs to the joint family 57% and 66.67% respectively. In the experimental and control group majority of samples were having a monthly income of Rs. 5000 – 10000/-, 43% and 57% respectively. In the experimental and control group majority of samples mothers were present with children during cannulation 43% and 50% respectively

Section B: Level of pain during IV cannulation among preschoolers

Sample distribution in the experimental group indicated that the majority 70 % undergo mild pain while 30% reported modest pain during the venipuncture. In control group most samples disclosed modest pain accounting for 60% while 40% experienced grievous pain during venipuncture.

(N = 60)

Level of pain	Experimental		Control	
	n	%	n	%
Relaxed and comfortable	0	0 %	0	0 %
Mild	21	70 %	0	0 %

Moderate	9	30 %	18	60 %
Severe	0	0 %	12	40 %
Total	30	100 %	30	100 %

Section C: Effect of cartoon animation on the level of pain during IV cannulation

The study results shows that there is significant difference on the level of pain during IV cannulation among the preschoolers in the experimental and control group ($p < 0.05$). Findings of the present study supports the research hypothesis 'there is a significant difference on the level of pain during IV cannulation among the preschoolers in the experimental and control group.

	Control group		Experimental group		t		
	Mean X_1	SD_1	Mean X_2	SD_2	SE	$p \leq 0.05$	p
Level of pain	6.03	1.25	2.97	1.25	0.323	9.47	2*
						$df = 58$	

*significant

Discussion

Aim of the study was to assess the effect of cartoon animation on the level of pain during IV cannulation among preschool children in selected Hospitals in Trivandrum district. Sample distribution in the experimental group indicated that the majority 70 % had mild pain while 30% reported modest pain during the venipuncture. In control group most samples disclosed modest pain accounting for 60% while 40% experienced grievous pain during venipuncture. The findings of this study was congruent with the results of an experimental study held in 2003 in Bangalore, India. The study shows that there is significant difference on the level of pain ($p < 0.05$) felt by the children who viewed animated cartoon during venipuncture than those who did not receive it.

Conclusion

The present assessed the effect of cartoon animation on the level of pain during intravenous cannulation among preschoolers. The study concluded that, in the experimental group indicated that the majority 70 % had mild pain while 30% reported modest pain during the venipuncture. In control group most samples disclosed modest pain accounting for 60% while 40% experienced grievous pain during venipuncture. Pain is an uncomfortable sensation and distractional interventions are designed to alleviate procedural pain. In pediatric patients distraction is a straightforward method that does not necessitate specialized training allowing it to be employed by nurses, parents or other healthcare personnel furthermore this approach poses no risks to children. Among distraction strategies animated cartoons emerges as a promising, economical non pharmacological method for diminishing pain sensation in preschool children undergoing venipuncture.

Nursing implications

- Nurses can take initiative to include diversion therapy before any painful procedures.
- Nurses can encourage other health professionals to provide diversion therapy to the children undergoing painful procedures.

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