

Non-Pharmacological Pain Management Technique in Reduction of Pain Perception and Behavioral Distress during Venepuncture

Lissy John

Assistant professor, Dhanwantari Nursing College, No.41/3, Vinayak Nagar, Near Chikbanavar Railway Station, Hessarghatta Road, Chikbanavar, Bangalore - 560 090.

Abstract

Pain is the most common reason people present for health care, pain costs to society are exorbitant, and pain can have a widespread impact on all aspects of life. Attention plays an important role in the perception of painful stimuli. The subjective experience of pain requires a person to attend to and process painful sensory inputs. The present study has been designed to evaluate the effect of distraction technique in reducing the pain and behavioral distress in the children. Total 50 school age children participated during the study conducted at J.L.N Hospital and Research centre, Bhilai (C.G). Result confronted that audiovisual group perceived less pain and demonstrated less behavioral distress than the psychological intervention group.

Keywords: Efficacy; Audiovisual Distraction; Routine Psychological Support; Pain Behavioral Distress; School Age Children.

A comparative study to assess the efficacy of audiovisual distraction versus routine psychological intervention as a non-pharmacological pain management technique in reduction of pain perception and behavioral distress during venepuncture among school age children at J.L.N Hospital and Research centre, Bhilai, (Chhattisgarh).

Background

Freedom from pain should be a basic human right limited only by our knowledge to achieve it.

Pain, the disruption of comfort is a universal human experience, but no one can experience another person's pain. The International Association for the Study of Pain (IASP) defines pain as an unpleasant sensory and affective event that is related to potential or actual tissue damage. Unfortunately, children experience repeated pain as part of their regular health care. The main goal of pain management for

pediatric procedure is to minimize suffering and permit a successful procedure [1].

Need of the study

A traumatic care is the key philosophy of child care which guides nursing practice regardless of child's condition to promote the highest possible state of health preventing or minimizing bodily injury and pain is the most important principle to achieve the goal of traumatic care i.e., first don't harm. It is a basic need and right of all children.

Children of all age groups, including the newborns experience pain. Fear of body injury and pain are prevalent among children. Children have undergone various diagnostic and treatment procedure. These procedures cause tissue damage that produce pain. Children often do not understand why they must

Reprint Request: Lissy John, Assistant professor, Dhanwantari Nursing College, No.41/3, Vinayak Nagar, Near Chikbanavar Railway Station, Hessarghatta Road, Chikbanavar, Bangalore - 560 090.
E-mail: lissypinkyjohn@gmail.com

undergo a procedure or what to expect. They have virtually no control over the situation [2].

Lack of recognition of pain in children has occurred for a variety of reason. Young children have greater difficulty in verbally expressing their pain. The nurse is often unable to prevent pain but can do much to reduce the physical discomfort. Children appear to recover more quickly from tissue damage and they may seem to forget negative life events [3].

It is observed that neither the child is prepared for the procedures nor adequate pain relief measures are taken during painful procedure in children. The complaint about the pain is often neglected [4]. The prevention of pain is the best strategy for treatment but when this prevention is impossible as in the case of unavoidable procedure and tests, adequate pharmacological and non pharmacological for pain management should be vigorously promoted in the pediatric care units. Hence, the researcher is interested to conduct a study on non-pharmacological pain management technique in reduction of pain perception and behavioral distress during venepuncture [5].

Objectives

1. To assess the intensity of pain perceived by the children during venepuncture with administration of audiovisual distraction technique and routine psychological intervention.
2. To assess the behavioral distress by the children during venepuncture with administration of audiovisual distraction technique and routine psychological intervention.
3. To seek relationship between selected demographic factors with pain perception score in audiovisual distraction technique and routine psychological intervention group.
4. To seek relationship between selected demographic factors with behavioral distress score in audiovisual distraction technique and routine psychological intervention group.
4. To seek relationship between selected demographic factors with behavioral distress score in audiovisual distraction technique and routine psychological intervention group.
5. To compare the effectiveness of audiovisual distraction technique and routine psychological intervention in reducing pain perception during venepuncture.
6. To compare the effectiveness of audiovisual distraction technique and routine psychological intervention in reducing behavioral distress during venepuncture.
7. To identify the association between pain perception and selected demographic variables in audiovisual distraction technique group and routine psychological intervention group.
8. To identify the association between behavioral distress score and selected demographic variables in audiovisual distraction technique group and routine psychological intervention group.

Hypothesis

H₁: The mean pain score of children belonging to audiovisual distraction technique will be significantly lower than the mean pain score of children received routine psychological intervention.

H₂: The mean behavioral distress score of children belonging to audiovisual distraction technique will be significantly lower than the mean behavioral score of children received routine psychological intervention.

H₃: There will be significant association in pain perception after administration of audiovisual distraction technique and routine psychological intervention during venepuncture with selected demographic variables.

H₄: There will be significant association in behavioral distress after administration of audiovisual distraction technique and routine psychological intervention during venepuncture with selected demographic variables.

Research design: Quasi experimental non-equivalent post test only design

Interventional group (E ₁)	X ₁	O ₁
Interventional group (E ₂)	X ₂	O ₂

E₁ — Group receiving audiovisual distraction during venepuncture.

E₂ — Group receiving routine psychological intervention during venepuncture.

X₁ — Treatment (Audiovisual distraction).

X₂ — Treatment (Routine psychological intervention).

O₁ — Assessment of pain perception and behavioral distress after administration of audiovisual distraction.

O₂ — Assessment of pain perception and behavioral distress after administration of routine psychological intervention.

The interpretation of symbols is as follows:

Sampling: Non-Random Purposive sampling

Sample size: 50 pediatric children undergoing for venepuncture.

Variable

Dependent: Reduction of pain perception and behavioral distress during venepuncture among school age children.

Independent: Audiovisual distraction technique and routine psychological intervention.

Description of the tool

The tool consists of three sections that is Section A, Section B, and Section C.

Section A: Part - I deals with personal data such as age, gender, education, number of siblings, birth order and Part-II consist of data regarding of past illness and hospitalization of the child.

Section B: Part-I deals with the checklist consisted of the items to assess procedure has been done, any pharmacological measures applied, presence of caregiver during procedure and preparation of the child done before the procedure. Part -II consist of Faces pain rating scale (Wong -Baker, 2001).

Section C: Comprises of Behavioral distress checklist included 10 items which were to be marked against two options 'Yes' or 'No'.

Data analysis and interpretation

Section I

Distribution of the subjects according to socio-demographic variables by using frequency and percentage.

Section II

- A. Data analysis related to pain perceived by children during venepuncture with administration of audiovisual distraction technique and routine psychological intervention by using frequency and percentage.
- B. Data analysis related to behavioral distress by children during venepuncture with administration of audiovisual distraction technique and routine psychological intervention by using frequency and percentage.

Section III

Question wise item analysis of visual analog faces rating scale and behavioral distress checklist of subjects.

Section IV

- A. Demographic variables wise analysis of audiovisual distraction technique in relation to pain perception score.
- B. Demographic variables wise analysis of audiovisual distraction technique in relation to behavioral distress score.
- C. Demographic variables wise analysis of routine psychological intervention in relation to pain perception score.
- D. Demographic variables wise analysis of routine psychological intervention in relation to behavioral distress score.

Section V

- A. Comparison of effectiveness between audiovisual distraction technique versus routine psychological intervention in reduction of pain perception during venepuncture.
- B. Comparison of effectiveness between audiovisual distraction technique versus routine psychological intervention in reduction of behavioral distress during venepuncture.

Section VI

- A. Chi-square analysis for association of selected socio-demographic variables with pain perception in audiovisual distraction technique and routine psychological intervention group.
- B. Chi-square analysis for association of selected socio-demographic variables with behavioral distress in audiovisual distraction technique and routine psychological intervention group.

Compare the effectiveness between audiovisual distraction technique versus routine psychological intervention in reduction of pain perception during venepuncture

Data presented in Table 1 reveals that the mean percentage score of the audiovisual distraction technique in reduction of pain perception is 2.4(9.6 %) which is less than the routine psychological

Table 1**N= 50**

Groups	Mean score	Mean score percentage %	Mean D	SD	SE	't' value
Group I Audiovisual distraction group	2.4	9.6	1.8			
Group II Routine psychological intervention	3.16	12.64	2.67	6.34	0.89	3.04

*Significant at 0.05 level

t value df (48) = 1.96 p<0.05

intervention group 3.16 (12.64%). The calculated 't' value is 3.04 was found statistically significant for df (48) at 0.05 level which is greater than the table value. Therefore, it can be said that distraction technique is effective in reducing pain perception during venepuncture in selected sample subjects.

Compare the effectiveness between audiovisual distraction technique versus routine psychological intervention in reduction of behavioral distress during venepuncture.

Data presented in Table 2 reveals that the mean percentage score of the audiovisual distraction

Table 2**N=50**

Group	Mean score	Mean score percentage %	Mean D	SD	SE	't' value
Group I Audiovisual distraction group	3.04	12.16	2.5			
Group II Routine psychological intervention	5.6	22.4	5.07	13.3	1.883	4.02

*Significant at 0.05 level

t value df (48) = 1.96 p<0.05

technique in reduction of behavioral distress during venepuncture is 3.04 (12.16 %) which is less than the routine psychological intervention group 5.6 (22.4%). The obtained mean deviation in both the group is 2.5 audiovisual distraction group and 5.07 in routine psychological intervention group. The calculated 't' value is 4.02 was found statistically significant for df (48) at 0.05 level which is greater than the table value. Therefore, it can be said that distraction technique is effective in reducing behavioral distress during venepuncture in selected subjects.

There was no significant association between the reduction in pain perception with selected variables and behavioral distress with selected variables. Thus, the findings of the study revealed that audiovisual distraction technique has been significantly effective in reducing pain perception and behavioral distress irrespective of difference in age, sex, previous hospitalization and cause of fear.

Implications

Pediatric nursing is no more task-oriented, fragmented care but it demands of nurse to provide holistic health care to the children. A traumatic care is the key element of such care which involves preventing and relieving pain. The result of this provides several implications for nursing practice.

Nursing practice

Organizing in-service training program for practicing nurse on pain assessment and management in children including pharmacological and non- pharmacological technique will be of paramount importance and of great value of managing the pain in children. Pain assessment and pain management through distraction technique should be made mandatory in all pediatric units. Standards for pain management should include the use of distraction technique, hence, providing a traumatic care to the children in all health care setting.

Nursing education

Education about pain management is critical for achieving changes in practice. The pediatric nurse tends to be equipped to act as to advocate the child with regard to pain management in order to assess and alleviate pain for children of all ages. It is therefore to ensure that sufficient time is allocated with in nursing courses for pain management.

Nursing administration

Nurse administrators should also develop nursing practice standards, protocols and manual, staff development program for assessment and

management of pain in children of various age groups which should include distraction technique as an important strategy to relieve the pain of children.

Nursing research

Emphasis should be planned on the publication of findings of research on distraction technique to disseminate the research based evidence for various nursing personnel. The utilization of such research findings must be encouraged towards the goal of a traumatic care for all the children.

Outcome of the study

Based on the findings recommendations were proposed for future researchers. The study could be replicated on a large sample, for making broad generalization and similar study may be done on children undergoing other invasive pediatric procedures other than the selected one i.e. venepuncture. Also a similar study may be done

using different distractors comparative study can be conducted with different or variety of distractors to see the effect of distraction technique during different developmental stages of children.

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