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**Original Research Article**

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**A TRUE EXPERIMENTAL STUDY TO ASSESS THE EFFICACY OF  
THERMO MECHANICAL STIMULATION DEVICE ON LEVEL OF PAIN  
DURING INTRAMUSCULAR IMMUNIZATION AMONG INFANTS AT  
SELECTED COMMUNITY HEALTH CENTRE, KHORDHA, ODISHA**

**\*Ms. Pusparani Loitam**

**Prof. Dr. Maneesh Kumar Sharma**

\*Corresponding Author's Email ID: bemloitam@gmail.com

**INTRODUCTION**

Childhood holds a very important place in the life of every human being. Children are the future of a country. Children remember pain, and may avoid future medical care because of painful experiences in a hospital or clinic. Untreated pain suffered early in life can have profound and long-lasting effects on social and physical development, and can cause permanent changes in the nervous system that will affect future pain experience and development.

Pain is a subjective experience among children. Pain may occur as a result of procedure.

Pain is a learned behavior, having psychological as well as physical components. Psychological component of pain is more curable by non-pharmacological modalities than the pain medications.

The degree of pain perception varies from child to child. Infants are considered as a problem age. The infants have limited ability to understand anything beyond the immediate event. They may see themselves as the cause of pain and fear mutilation, body invasion and loss of recently gained control. They may try to delay procedures until they feel some control over the situation. Participation in the procedure or making simple choices will assist the child to maintain some control.

## **OBJECTIVES OF THE STUDY WERE**

- 1.To assess the posttest level of pain perception after receiving immunization among the experimental group
2. To assess the posttest level of pain perception after receiving immunization among control group.
3. To assess the efficacy of thermo mechanical stimulation device on the posttest level of pain perception among experimental group.
4. To find out the association of posttest level of pain perception among experimental group and their demographic variables

## **HYPOTHESIS**

**H1:** There is a significant difference in the level of pain perception between experimental group and control group.

**H2:** There is a significant association between the level of pain perception and their selected demographic variables of infants in experimental group.

## **METHODOLOGY**

The modified conceptual framework for the present study was based on Ernestine Wiedenbach model of nursing practice-a helping art of theory-(1964). The research design adopted for the study was true experimental post-test only design. Sample size was 60(30 in experimental group, 30 in control group) in community health centre Mendhasal, Khordha. Sample were selected by random sampling methods. Demographic variables and FLACC Pain scale form was used for data collection.

## **RESULTS**

Finding of the study showed that in the post test in the experimental group majority 6(20%) were mild and moderate pain in age group, 8(26.6%) were mild pain in male group, 6(20%) were mild and moderate pain in birth order in family,8(26.6%) were moderate pain in Hindu religion, 6(20%) were moderate pain in primary care givers of mothers, 8(26.6%) were mild pain living in urban area. In control group, majority 10(33.3%) were severe pain in age group of 8 - 12 months, 13(43.3%) were severe pain in female group, 11(36.6%) were severe pain in one birth order in family,

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11(36.6%) were severe pain belongs to Hindu family, 8(26.6%) were severe pain in baby weight of 14.5 to 16 kg, 9(30%) were severe pain in primary care givers of mothers, 9(30%) were severe pain living in urban areas. experimental group the mean score was 3.2(SD=1.928), in control group the mean score was 7.6 (SD= 1.60), mean difference =3.6, 't value =12.88. It denotes hat there was a significant difference in the level of pain perception among pre-school children between experimental group and control. In experimental group it was inferred that there is a significant association between post- test level of pain and the selected background factors such as gender, baby weight and areas of living among infants.

## **CONCLUSION**

The findings of the study showed that the post- test level of pain scores was less in experimental group than the control group. There was a significant reduction in pain during immunization among infant children after thermo mechanical stimulation device. There was a significant association between post-test level of pain and the selected background factors such as gender, baby weight and areas of living among infants

## **KEY WORDS**

Thermo mechanical stimulation device, pain, intramuscular immunization, FLACC scale.

## **REFERENCE**

1. Assuma Beevi.T.M (2008) Infant Child Pain- Parenting Coping Model-A Model for Practice "Kerala Nursing Forum" vol 3, No 4 oct Pp 32
2. Barnhil BJ,et.al. (2007) Using pressure o decrease pain of intramuscular injections, "American Academy of Pediatrics" May; 119(5), Pp 52-58.
3. Chuung JW,et.al. (2002) An experimental study on the use of manual pressure to reduce pain in intramuscular injections, "Clinical Nursing", Jul; 11(4), Pp 457-461.
4. Chambers CT et.al. (2009), Psychological interventions for reducing pain and distress during routine childhood immunizations: A systematic review. "Journal of Clinical Therapeutics"; 31 suppl2: 77-103.

5. Dahlquist, (2002) Distraction intervention for preschoolers undergoing intramuscular injections and subcutaneous port access "Health Psychology" vol 21(1) Pp 94-99. Polit E Black T. Introduction to nursing research. 2<sup>nd</sup> edition. New Delhi: Lippincott Williams and Wilkins; 2008.
6. Sunder Rao, J Richard. An introduction to Biostatistics- A manual for student in health Sciences. 3<sup>rd</sup> edition. New Delhi: Hall of India Private Limited; 2005.