



## "A STUDY TO ASSESS THE EFFECT OF ORAL 25% GLUCOSE ON LEVEL OF PAIN DURING THE SELECTED INJECTBLE VACCINATIONS AMONG INFANTS AT IMMUNIZATION CENTRE IN SELECTED HOSPITALS OF METROPOLITAN CITY."

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**KEYWORDS :** Injectable pain, vaccination, analgesic effect, infants, 25% glucose, oral stimulation, neonatal infants pain scale..

### INTRODUCTION

Pain is a universal issue that often originates from disease processes, diagnostic procedures, treatments, and preventive interventions like vaccination. A thorough review of the literature indicates that both preterm and full-term infants have the ability to respond to pain and harmful stimuli by mid-gestation. Given these findings, healthcare providers must identify safe and effective interventions to alleviate the effects of procedural pain. It is essential to relieve pain in infants; firstly, for ethical reasons, and, secondly, because pain can lead to decreased oxygenation, hemodynamic instability, or increased intracranial pressure. Recent research has shown that even short-term pain can have lasting negative effects in healthcare settings. Analgesia is not routinely provided to infants undergoing painful procedures such as vaccination. The pain associated with vaccination has become a source of anxiety and distress for children receiving it. Fortunately, various methods are now available to reduce procedural pain in newborns, such as oral sugar solutions.

### Objectives Of The Study

#### Primary Objective:-

To assess the Effect of 25% oral glucose on level of pain during the selected injectable vaccinations among infants in experimental and control group.

#### Secondary objectives- :

To determine association between level of pain with the selected demographic variables in experimental and control group of infants.

### Primary Hypothesis

**H0:** There will be no significant effect of 25% oral glucose on reducing level of pain during the selected injectable vaccinations among infants in experimental and control group.

**H1:** There will be significant effect of 25% oral glucose on reducing level of pain during the selected injectable vaccinations among infants in experimental and control group.

### Secondary Hypothesis

**H01:** There will be no significant association between reducing level of pain with selected demographic variables in experimental and control group of infants.

**H2:** There will be a significant association between reducing level of pain with their selected demographic variables in experimental and control group in infants.

### Methodology

This study employed a quantitative research design, specifically a randomized control trial (true experimental, two-group, post-test only design), to evaluate the effect of 25% oral glucose on pain reduction during measles rubella vaccination in infants. Population and Sampling:

The population comprised infants visiting the immunization center of a selected hospital in a metropolitan city. A total of 60 infants who met the inclusive criteria were randomly assigned to either the experimental group (n=30) or the control group (n=30) using a randomization table.

**Setting:** The study was conducted at a selected immunization center in a metropolitan city.

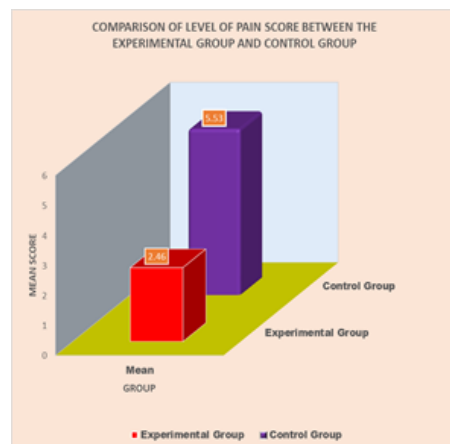
**Data Collection:** Demographic data was collected using a standardized tool, and the Neonatal Infant's Pain Scale (NIPS) was used to assess pain levels. A 10-point observation checklist was employed to record variables.

**Variables:** The independent variable was 25% glucose administration (experimental group) versus no intervention (control group). The dependent variable was the level of pain during measles rubella subcutaneous vaccination.

### Data Analysis:

Descriptive and inferential statistics were used to analyze the data, including mean, standard deviation, unpaired 't' test, one-way ANOVA test, and Karl Pearson correlation coefficient (intra-class).

### RESULTS



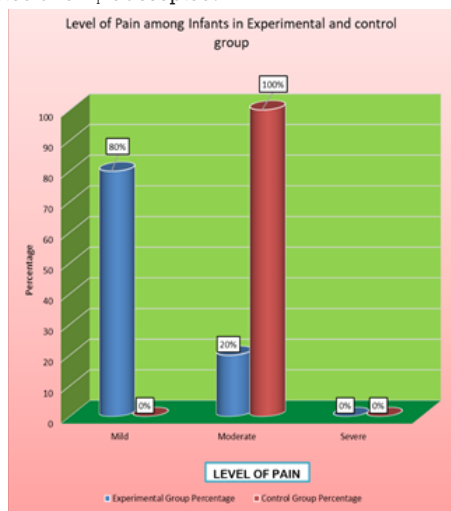
**Figure:** Comparison of Level of Pain score between the Experimental group and control group

Study result shows that mean score of Level of Pain of Infants at immunization Centre in experimental group was 2.46 and in control group was 5.53. It indicates that, in experimental group infants were having mild pain after administration of oral 25 % of glucose whereas in control group infants were having moderate type of pain.

The above table depicts that mean Level of Pain score of Infants at immunization Centre in experimental group was 2.46 and in control group it was 5.53. The mean score in

experimental group shows less Level of Pain after Oral 25% Glucose. From the above table, it is evident that the calculated 't' value is greater than the table value of 't' at 0.05 level. This indicates that Oral 25% Glucose is effective in reducing the Level of Pain among Infants at immunization Centre. Hence  $H_0$  is rejected and  $H_1$  is accepted.

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**Figure 4.7:** Level of Pain of subject's in Experimental and control

The study results show that, 80 % of the Infants in experimental group were having mild pain after administration of oral 25 % glucose. 20 % of the Infants in experimental group and 100 % of the Infants in control group were having moderate pain. The difference between experimental group and control group on Level of Pain indicates that Oral 25% Glucose was effective in improving the Level of Pain of the Infants at immunization Centre. Hence  $H_0$  is rejected and  $H_1$  is accepted.

There was no association of demographic variable between experimental and control group in reducing level of pain.

## CONCLUSION

During the study, it was noted that all of the infants were unaware of the intervention but were provided with a sweet oral 25% glucose solution prior to vaccination. The results of the study indicated that there was a significant decrease in the level of pain experienced by the neonatal infants during Injectable vaccination, as observed through the neonatal infants pain scale (behavioral pain score) in the post-test. This suggests that oral glucose had a significant effect on reducing the level of pain associated with injectable vaccination in the experimental group as compared to the control group, and this difference was statistically significant. Therefore, the research hypothesis ( $H_1$ ) was accepted, and the null hypothesis ( $H_0$ ) was rejected.

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