# DISSERTATION

**ON**

# A STUDY TO ASSESS THE EFFECTIVENESS OF DIFFERENT PAIN MANAGEMENT PROGRAM DURING SURGICAL DRESSING AMONG PRESCHOOL CHILDREN AT PEDIATRIC TERTIARY CARE HOSPITAL, CHENNAI.

**M.Sc (NURSING) DEGREE EXAMINATION**
**BRANCH – II CHILD HEALTH NURSING**

**COLLEGE OF NURSING**
**MADRAS MEDICAL COLLEGE, CHENNAI – 600 003**

*A dissertation submitted to*
**THE TAMIL NADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI – 600 032**

*In partial fulfillment of the requirement for the award of degree of*
**MASTER OF SCIENCE IN NURSING**

**OCTOBER 2020**

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# CERTIFICATE

This is to certify that this dissertation titled, **"A STUDY TO ASSESS THE EFFECTIVENESS OF DIFFERENT PAIN MANAGEMENT PROGRAM DURING SURGICAL DRESSING AMONG PRESCHOOL CHILDREN AT PEDIATRIC TERTIARY CARE HOSPITAL, CHENNAI",** is a bonafide work done by **Ms. PRIYADARSHINI.M** M.Sc Nursing II year Student, College of Nursing, Madras Medical College, Chennai-03, submitted to the Tamil Nadu Dr.M.G.R. Medical University, Chennai in partial fulfillment of the requirement for the award of the degree of **MASTER OF SCIENCE IN NURSING BRANCH – II, CHILD HEALTH NURSING** under our guidance and supervision during the academic period from 2018 – 2020.

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*–William Arthur Ward*

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# ABSTRACT

Every child has an individual perception of pain, a neurologic response to tissue injury. Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage., Children feel much of the acute pain associated with medical conditions and procedures can be prevented or greatly relieved by effective pain management, which is every child's right.

Experiencing pain during change of dressing can raise a child' anxiety levels in subsequent change of dressings. In addition to the psychological effects, stress and pain can actually impair the healing process, resulting in delayed healing times and greater costs.

**TITLE**

A Study to assess the effectiveness of different pain management program during surgical dressing among preschool children at Pediatric Tertiary Care Hospital, Chennai.

**OBJECTIVES**

To assess the pre test level of pain during surgical dressing among children in experimental group and control group.

To evaluate the effectiveness of different pain management program during surgical dressing among children in experimental group and control group.

To compare the pretest and posttest level of pain during surgical dressing among children in experimental group and control group.

To associate the post test level of pain during surgical dressing among children and their selected demographic variables.

## METHODOLOGY

The study was conducted with 60 samples (children undergoing surgical dressing) in quantitative approach. Non randomized control trial design was selected; sample selection was done by purposive sampling technique and grouped into experimental and control group. Pre test level of pain was assessed by Wong bakers pain scale during dressing in both experimental and control group. After the pre-test,intervention was provided to the children in experimental group and routine care was given to children in control group during dressing and post test level of pain assessed after the intervention by same pain scale in both experimental group and control group.

## RESULTS

The finding of the study revealed that, Out of 60 samples, in experimental group the 't' value is 10.41 at the level of p=0.001, whereas in control group the 't' value is 1.87 at the level of p=0.001 by using student t test, this difference is large, hence it is statistically significant. In experimental group of children, reduction of pain was about 43.30% after having intervention , whereas in control group of children, reduction of pain was about , 6.70% after having routine care (95% CI). Therefore it is inferred that different pain management program helps in reducing pain during surgical dressing in children as distracter.

## CONCLUSION

The result of study shows that different pain management program was effective in reducing pain among preschool children undergoing surgical dressing.

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# LIST OF ABBREVIATTION

| ABBREVIATION | EXPANSION |
|---|---|
| CI | Confidence interval |
| DF | Degree of freedom |
| Fig | Figure |
| $H_1$ and $H_2$ | Research hypotheses |
| HRQOL | Health Related Quality Of Life |
| ICH | Institute of Child Health and Hospital For Children |
| NS | Not significant |
| P | Significance |
| SD | Standard Deviation |
| TENS | Transcutaneous electric nerve stimulation |
| WHO | World health organization |
| WBFPS | Wong Baker's Faces Pain Scale |
| $\chi^2$ | Chi square test |

# CHAPTER-I

# INTRODUCTION

*History will judge us by the difference we make in the everyday lives of children*

*-Nelson Mandela*

**According to UNFPA (2019),** children comprise 26% of total world population. Among that, India comprises about 27% of child population and they are the basic resource for the future mankind. Children are vulnerable to all kinds of illness. This vulnerability is mainly due to immature development of physical, intellectual and immune system, and they often get hospitalized due to their vulnerability. A child who faces hospitalization is no exception.

One of the most stressful situation in childhood is to be hospitalized and experience painful procedures. Expressions of these procedures can have lasting impressions on the little minds of children. While pediatric pain remains underreported and poorly understood, pediatric health professionals recognize that many children have pain in both acute and chronic forms. Many hospitalized children have painful conditions, and virtually all undergo some painful procedures.

Pain can have a huge impact on a child's life and all their family members. The intensity of the impact will depend on a number of factors, including the type and duration of the pain, the treatment required, and the disease or injury that is causing it.

Pain in preschool is a hurt, it does not relate pain to illness; may relate pain to an injury. They often believe pain is punishment or someone else is responsible for the pain. Children also are unable to understand why a painful procedure will help them feel better. ***Principles of Pediatric Nursing (2017).***

Since the primitive times, pain management has been inadequate in children. Earlier it was thought that children do not experience pain. Research has shown this to be a myth and the physiological response to pain is similar in children as it is in adults. Difference between children and adults are the clinical reactions and perceptions towards pain experienced by both.

***Jennifer.A.Rabbitts (2015)*** conducted a study to know the impact of surgery and postoperative pain on children's health-related quality of life (HRQOL) at Seattle Children's Research Institute, Seattle, Washington, during the initial weeks and months after surgery, among pediatric postsurgical population from baseline to 1-month follow-up. Over a 20-month period, parents of 915 children age 2–18 years (Mean=9.6 years), 50% male, 56% white, admitted to surgical services at a children's hospital enrolled in the study. Parent participants reported on socio demographics, child HRQOL and pain characteristics at baseline and 1-month post-discharge. The study shows that majority of children recovered to baseline by 1-month post-hospital discharge, 23% of children had a significant declination in HRQOL. Multivariate logistic regression analyses found that elder children (OR=2.1 for age 13–18), and presence of moderate-severe postsurgical pain at 1-month (OR=5.7) were significantly related to deterioration in HRQOL from baseline to 1-month follow-up (p's<0.05). While HRQOL returns to baseline for most children, a sizeable proportion have significant deterioration in HRQOL, which is associated with continued postsurgical pain at 1-month after hospital discharge from surgery.

***James & Ashwill, (2009)*** The Convention on the Rights of the Child recognizes 'the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illnesses. Procedural and post-operative pain management is important strategies to reach this goal. Analgesic and sedative drugs often reduce

procedural and postoperative pain in children. Children undergoing medical or surgical procedures often find emotion- focused coping strategies helpful. Interventions including hypnosis, distraction, and imagery may be effective alone or as adjuncts to pharmacological interventions.

Distraction can be used to improve the coping mechanism prior to treatment, to lessen the buildup of anxiety as much as possible, and also after treatment to help a child calm down again and get back to normal activities. Distraction attempts to draw the child's attention away from the treatment they are about to receive, by focusing their attention on something other than the treatment itself. The aim of this technique is to allow the children to feel more confident and secure during dressing, and to provide them with a mechanism to put any pain they feel at their "periphery of awareness." Distress does not necessarily have to be the inevitable outcome of painful procedures, such as dressing, and 17 distractions can be a simple yet powerful approach to help a patient through this process. Distraction should always last the length of the dressing period.

Distraction work best for short intense pain, lasting a few minute such as during an invasive procedure or while waiting for an analgesic to work. The reticular activating stimuli inhibit painful stimuli, if a person receives sufficient of excessive sensory input. With meaningful sensory stimuli, a person can ignore or become unaware of pain.

Nurses in pediatric hospital settings have are responsibility to reduce pain and anxiety as much as possible, while providing care to the child. Optimal pain management is the right of all children and the responsibility of all healthcare professionals. Thus to reduce the emotional and physical effects by painful interventions and to prevent long term results of pain in children, the nurses should be able to

manage the painful procedures. Among the pharmacological and non-pharmacological interventions (independent or complementary), non-pharmacological methods have been considered to be favorable strategies for pain management and research focusing on nurses use of non-pharmacological methods for relief of children's pain has increased in recent years. One of the effective non-pharmacological methods is distraction.

## BACKGROUND OF THE STUDY

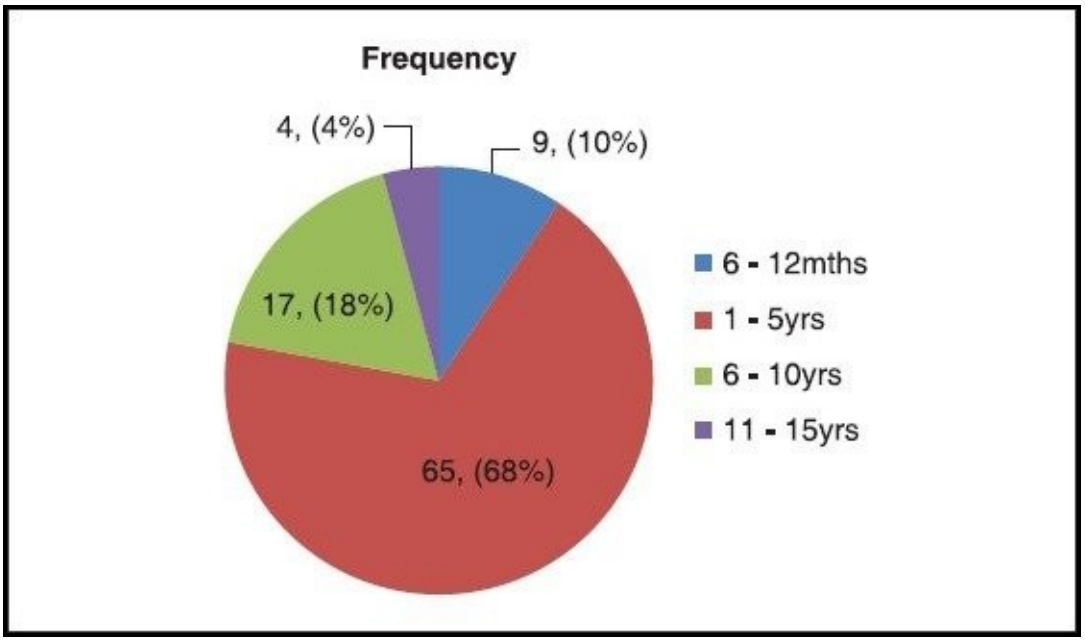



***Fig 1.1: Frequency of pain perception by age in children (India) (Ibironke Desa, 2018)***

The pain perception among children differs according to age of the child, pain in children are perceived in high intensity (68%) during the preschooler stage. At this age the children will able to express the pain through facial expression, verbalization, gestures. The pain perception can distracted among the preschool children.

Children still suffer pain during wound dressing procedure despite national guidelines. Assessing and managing pain are essential components of comprehensive wound care. Developmentally sensitive pain assessment tools are available to measure verbal, behavioral and

physiologic responses to pain. Holistic pain assessment includes pain intensity, location, description, relief measures, cultural background and the patient's developmental level and anxiety. Pharmacologic and non pharmacologic interventions should be combined to manage pain, based upon patient's response and nursing assessment. Nurses with a fundamental knowledge of pain assessment and management provide their patients with pain and symptom relief during wound care.

***According Wente (2013),*** Non-pharmacological approaches are an "integral part of the nursing care of all children suffering pain", and embrace cognitive-behavioral and physical approaches. The physical interventions embrace application of warmth and cold, massage and pressure, and Transcutaneous Electrical Nerve Stimulation (TENS). Whereas the cognitive-behavioral intervention is one reasonable psychological intervention that's effective in pain management. The aims of this intervention are to maneuver a child from a helpless and anxious situations, and painful state of affairs and empower the child to cope well. The psychological interventional approaches to reduce pain includes: the psycho instructional approach; deep respiration, distraction, relaxation, play therapy, guided imagery and hypnosis.

The most common invasive nursing procedure is surgical dressing which has a long track record of being painful, stressful for the children. In an effort to promote comfort during changing the surgical dressing nurses may use various techniques to reduce the discomfort of the patient. Among the various methods of pain management, relief of pain is basic need and right of all the people. Distraction has shown to be an effective non pharmacological pain management technique. Effective distraction technique may reduce pain through its distraction process, which the investigator has taken up for the study.

## NEED FOR THE STUDY

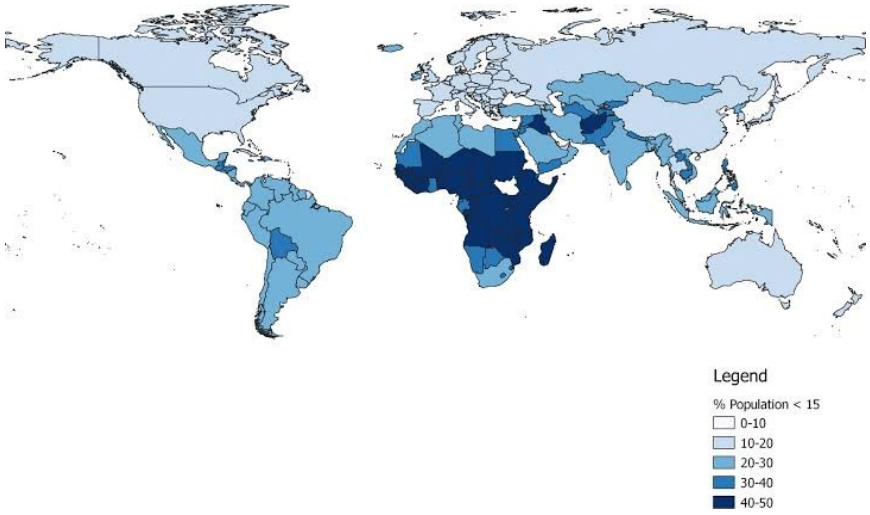



*Fig:1.2 Incidence of Pediatric Surgery (S. Shekherdimian, 2018)*

### Global Scenario

Among world population, America has rate of about 10 to 40% of pediatric surgery, Africa has more burden (40-50%)on surgical condition in pediatric cases .

### National scenario:

Among hospitalization of children, India comprises about 20-30% of children are undergoing surgical procedure.

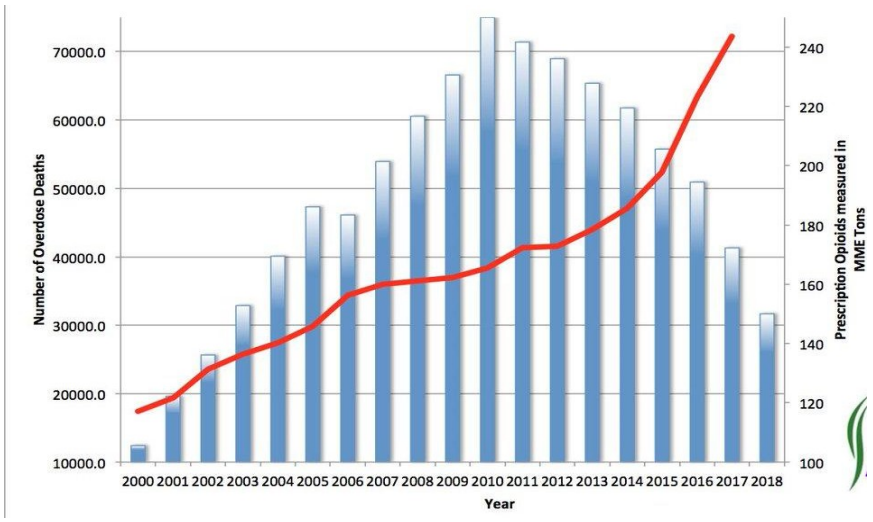



***Fig 1.3: Prevalence of death due to opioid overdose (Sprimger Link 2019)***

Worldwide use of opioid overdose during postoperative pain management leads to increase mortality rate in pediatric clients. This incidence of deaths emphasize the nurse to adapt various non pharmacological method to manage the pain among the pediatric patients. So the researcher interested to conduct the study on nonpharmalogical method (distraction) of pain management.

**RiaDancel, EdmundAllenLiles, Darren Fiore, (2017)** conducted a systemic review on acute pain management in hospitalized pediatric patients in United States.The reviews were searched through Cochrane Database and PubMed for articles published in the past five years regarding the treatment of acute pain in hospital pediatric patients focusing on large randomized or quasi randomized controlled trials, cohort trials, and meta-analyses. The results was categorized into non-pharmacological, localized, non-opiate pharmacological, and opiate based therapies. The above studies show that environmental and non-pharmacological methods of pain management are efficacious in pre schooler. Children benefit from active distraction more than passive distraction. Needleless methods of introducing non pharmological comfort measures alleviate the pain associated with many procedures to which hospitalized children are exposed. The shift towards use of non pharmacology focuses on novel means of utilizing multimodal intervention. Acute pediatric pain management has changed to emphasize multimodal and multidisciplinary therapy. In all children, non-pharmacological therapies should be employed routinely to reduce and manage pain.

Procedural pain is often managed with pharmacologic and non pharmacologic interventions or both (as integrative medicine); in some settings, no therapy is administered. Depending on the procedure,

pharmacological interventions such as opioids, non-steroidal anti-inflammatory drugs (NSAIDs), sedatives, local and general anesthesia can be used. Research studies have demonstrated the effectiveness of these drugs. However, in many developing countries, these drugs are not readily available,cause side effects and expensive. Therefore, nurses and parents have to restrain a child during a painful procedure. This can cause physical harm to the child. Even in areas where medications are available, it has been shown that pharmacologic interventions do not reduce the overall pain experience of children as they still complain of pain and remain distressed. Thus, research studies and clinical guidelines have recommended the use of nonpharmacologic interventions, which can be cheaper and more accessible.

***Søren Walther-Larsen (2017)*** conducted a prospective mixed-method cross-sectional survey took place at four university hospitals in Denmark. Enrolled 570 pediatric patients who were asked to report their pain experience and its management during the previous 24 hours. Children having moderate to severe pain, patient characteristics and analgesia regimes were reviewed. Two hundred and thirteen children (37%) reported that they had experienced pain in the previous 24 hours. Among 213, (24%) 134 children indicated moderate to severe pain and 43% would have preferred an intervention to alleviate the pain. The prevalence of moderate/severe pain was significantly higher in Children hospitalized for more than 24 hours, when compared to children admitted the same day. This study reveals high pain prevalence in children across all age groups admitted in four Danish university hospitals. The majority of children were in moderate to severe pain did not have a documented pain assessment, and evidence-based pharmacological and/or integrative (non-pharmacological) measures were not systematically administered to prevent or treat pain. Thus, practice changes are needed.

***Frederick T. O'Donnell (2014),***conducted a systemic review on knowledge of drug mechanisms as well as metabolic differences in infants and children compared with adults for the treatment of acute and chronic pain syndromes at university hospital, Missouri. Recent reports of adverse events in children receiving both opioid and non-opioid analgesics have prompted re-examination of some long standing pain medication regimens and prescribing practices. The incidence of pain is common among neonates, infants, and children, with an estimated 33–82% of hospitalized pediatric patients experiencing moderate to severe pain, especially following surgery or other painful procedures. Despite this, it has long been recognized that pain in pediatric populations is poorly assessed and undertreated or mismanaged, leading to adverse patient outcomes (both long-term and short-term) and increased healthcare expenditures. Attempts to improve analgesia through education include designation of pain as the fifth vital sign and the Children are at increased risk for adverse drug effects from analgesic therapy if proper vigilance and monitoring are neglected. Analgesics and anesthetics are responsible for the majority of adverse drug effects in hospitalized children. Although originally intended to guide management of pain, it has been expanded to other mechanisms of acute and chronic pain. Many pain management strategies, both pharmacologic and non-pharmacologic, are available to practitioners for the treatment of acute pain and procedural pain in children.

According to ***Merskey, 1999***, Physicians and nurses dealing with the health of children are responsible for the alleviation of their pain.

There are numerous pain reduction methods for children undergoing dressing; these are not widely used due to the increased time it takes for implementation or their cost and availability in medical offices/hospitals. Nursing interventions in the form of distraction can reduce the pain to a great extent. So the researcher has planned to test

the effectiveness of different pain management program among children undergoing surgical dressing. In this preview, the researcher planned for the present study.

## ROLE OF PEDIATRIC NURSE

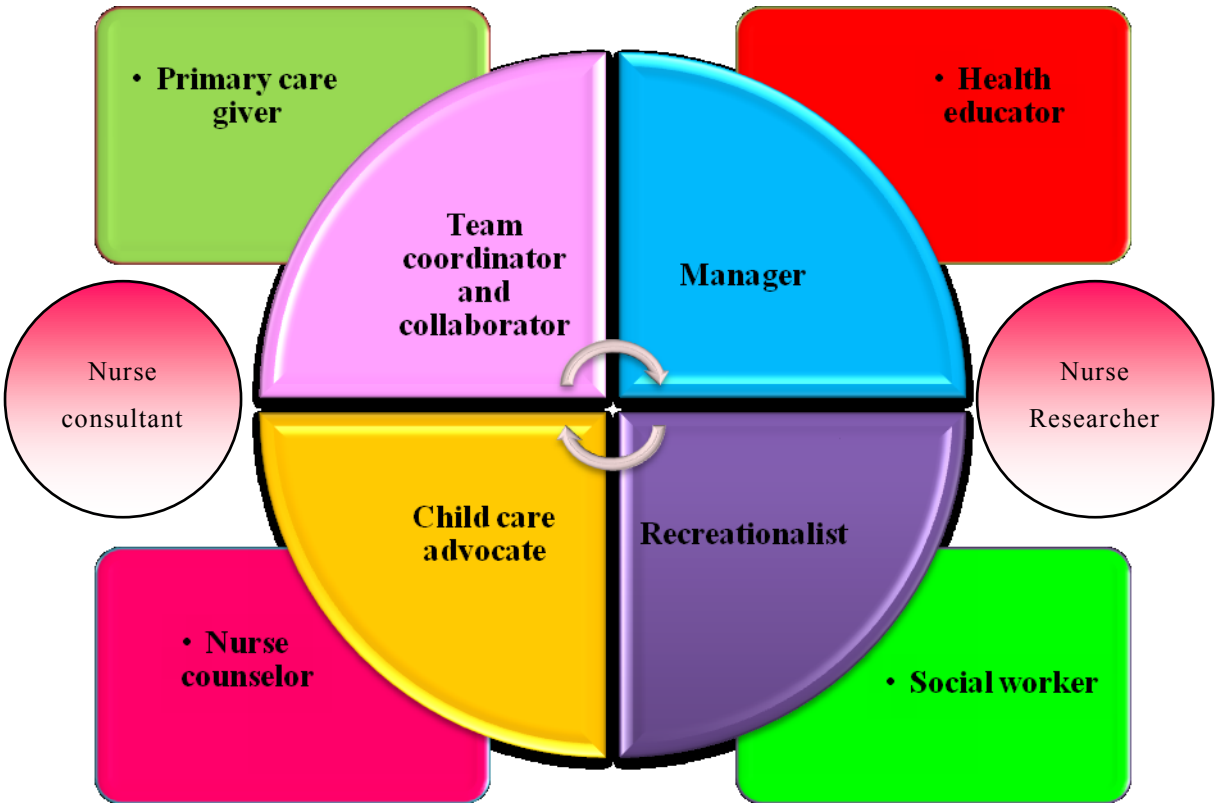



***Fig 1.1: Role of pediatric nurse***

The above model emphazise the primary responbility of nurse in caring the children by providing comfort and reducing pain during invasive procedure. Perception of pain among children were misunderstood and mismanaged. Based on the need, the Nurse researcher got interested and iniated a research study regarding pain management during surgical dressing among preschool children. Nurse researcher acts as a primary care provider to reduce the pain during surgical dressing among preschool children. By reducing the pain during surgical dressing, the child will get relief from anxiety and stress which indirectly promotes wound healing and hospitalization.

Nurse researcher play a tremendous role in caring children and acts as primary care giver to provide the holistic care to the child.

## 1.2 STATEMENT OF THE PROBLEM

A study to assess the effectiveness of different pain management program during surgical dressing among preschool children at paediatric tertiary care hospital, Chennai.

## 1.3 OBJECTIVES OF THE STUDY

1. To assess the pre test level of pain during surgical dressing among children in experimental group and control group.

2. To evaluate the effectiveness of different pain management program during surgical dressing among children in experimental group and control group.

3. To compare the pretest and posttest level of pain during surgical dressing among children in experimental group and control group.

4. To associate the posttest level of pain during surgical dressing among children and their selected demographic variables.

## 1.4 OPERATIONAL DEFINITIONS

***Assess:***

It refers to activity to estimate the outcome of the different pain management program during surgical dressing among preschool children.

***Effectiveness***

It refers to the process of evaluating the significant difference in the pain level of children in experimental group and control during surgical dressing after intervention.

***Different Pain Management Programme***

It refers to reducing pain through distraction techniques using kaleidoscope and distraction cards.

***Surgical Dressing***

It refers to dressing done in the surgical site or surgical wound to prevent invasion of micro organism.

***Preschool Children***

It refers children within the age group of 3-6 years admitted in the Paediatric Tertiary care hospital.

***Pediatric Tertiary Care Hospital***

Refers to a health care organization delivering health care through professionals in preventive, promotive and rehabilitative aspects.

## 1.5 HYPOTHESES

**$H_1$:** There will be a significant difference between the level of pain during surgical dressing among children in experimental group and control group.

**$H_2$:** There will be a significant association between the posttest level of pain during surgical dressing among children and their selected demographic variables.

## 1.6 ASSUMPTIONS

Pain is multifactorial

Behavioural responses to pain are most common during surgical dressing.

Children manifest a wide range of behavioural responses to painful stimuli.

Children's behavioural responses can be minimized using nonpharmacological measures.

Distraction techniques can reduce the pain.

Visual distractions capture the attention of the children better than auditory distractions of the child.

## 1.7 DELIMITATIONS

The following delimitations were set for the study:

Study is limited only to the children admitted in surgical ward at Paediatric Tertiary care hospital, Egmore, Chennai-08.

Study is limited to only 60 samples.

Data collection period is limited to 4weeks only.

## 1.8 CONCEPTUAL FRAMEWORK

A conceptual framework is a scientific theoretical approach to study the problems that are based on empirical evidence which emphasize selection, arrangement, and classification of its concept. By selecting an appropriate nursing conceptual framework helps the researcher to identify problems that are of significance to the discipline of nursing.

The Helping Art of Clinical Nursing was stated by **Ernestine Wiedenbach.** It defines nursing as the practice of identifying a patient's need for help through the observation of presenting behavior and symptoms, exploration of the meaning of these symptoms, determination of the cause of discomfort, the determination of the patient's ability to resolve the patient's discomfort, or determining if the patient has a need for help from the nurse or another health care professional. The nurse is a functioning human being who not only acts, but thinks and feels.

Within the model is the prescriptive theory based on three factors: the central purpose which the nurse recognizes as essential to the actual discipline, the prescription for the fulfillment of the central purpose, and the realities within the immediate situation that influence the central purpose.

**Widen Bach's Prescriptive Theory has 3 compeers or concepts**

**The central purpose**

The purpose which the practitioner recognizes as essential to the practice of discipline. In this study the researcher views the identification of the effectiveness of different pain management on pain reduction during surgical dressing as the central purpose.

**The prescription**

Prescription is for the fulfilment of the central purpose. It is directive of voluntary actions. Mutually understood and agreed upon action, recipient's directed action and practitioner directed action. In this study, the researcher refers prescription to the administer kaleidoscope and distraction cards to the children during dressing.

**Realities:**

According to the Wiedenbach's, the practice of nursing comprises a wide variety of services each directed towards the attainment of one of its five components. The five realities identified by wiedenbach's were agent, recipient, goal, mean and framework.

*Agent*

The agent is the practicing nurse who has the personal attributes, commitment, and competence to provide nursing care. In this study the

agent is the researcher who provides distraction cards and kaleidoscope to the children undergoing surgical dressing in selected hospital.

*Recipient*

The recipient is the one who receives the nursing actions. In this study recipients are the children between the age group of 3-6 years who receives surgical dressing.

*Goal*

The goal is the nurse desired outcome. In this study the goal is to reduce pain during surgical dressing.

*Means*

The means are the channels such as activities and devices used by the nurse to achieve the goal. In this study distraction cards and kaleidoscope is the means of distraction to reduce the pain.

*Framework*

It refers to the facilities in which the nurse provides care. In this study the frame work is the treatment room.

**According to Weidenbach, nursing practice has three components:**

a. Identification of patient's need for help

b. Ministration of the help needed

c. Validation that action taken was helpful to patient

***Step - I Identifying the Need for Help***

Identification involves individualization of the child, his experiences and recognition of the patient perception of his condition. In this study the investigator identifies the demographic variables, clinical

variables and assessment of pain using Wong Bakers Faces pain scale. The central purpose is to reduce pain effectively.

***Step - II Ministering the Need for Help***

Ministration is providing the needed help. It requires the identification of the need for help, the selection of a helping measure appropriate to that need, prioritizing the need and acceptability by the patient. Distraction cards and Kaleidoscope was provided to the children who receive surgical dressing.

***Step - III Validation that action taken for Help the child.***

Validation is evidenced that the client's functional ability will be restored as a result of the help given. It is validating that the needed help delivered in achieving the central purpose. This step involves the post assessment done after administering the help and analysis was done to make suitable decision and recommended action either to continue or modify the nursing action.

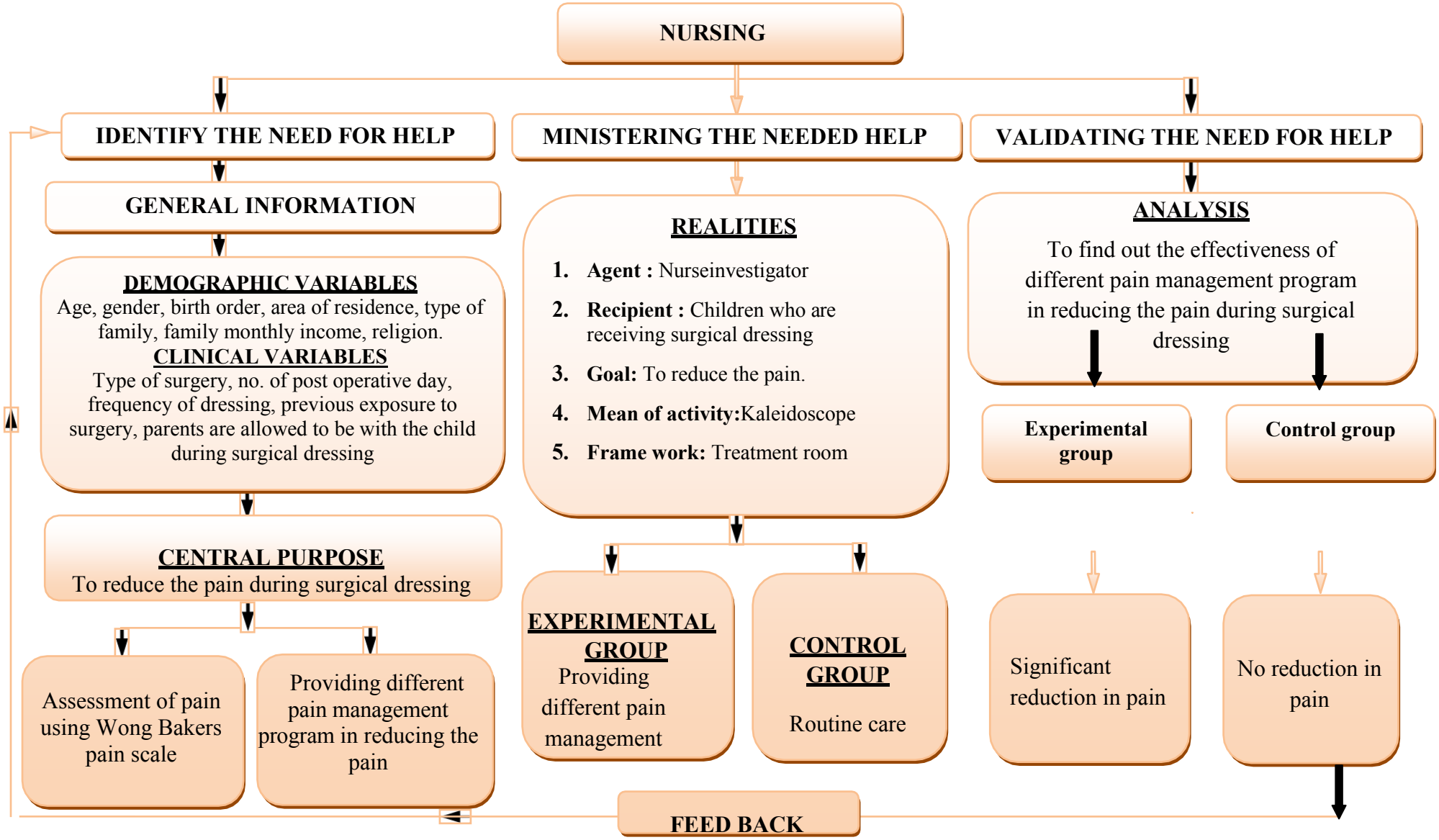



**FIGURE 1.4 MODIFIED CONCEPTUAL FRAMEWORK BASED ON ERNESTINE WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY (1964)**

# CHAPTER-II

# REVIEW OF LITERATURE

This chapter deals with the review of literature regarding pain management program during surgical dressing.

## REVIEW OF LITERATURE RELATED TO STUDY

Review of literature is a summary of the study conducted previously study topic. The purpose of review of literature is to discover what is already known and what others have attempted to find out. Therefore, an intense review of literature has been done from published and unpublished thesis, journals, audio visual materials and personal communications.

***In this study, literatures were divided into four categories as follows:***

2.1: Literature related to **non pharmacologic pain management**

2.2: Literature related to **various distraction therapies in reducing pain.**

2.3: Literature related to **different pain management program in reducing pain**

2.4: Literature related to the **reliability and validity of pain scale.**

## 2.1 LITERATURE RELATED TO NONPHARMACOLOGICAL PAIN MANAGEMENT

***Ariana Acuna (2019)*** conducted a systematic review of the literature using CINAHL to identify effective non-pharmacological pain relief interventions for pediatrics at Massachusetts. Criteria for inclusion in this study were: peer reviewed articles, full text, English, and the journal subsets: nursing/core nursing. The results of the studies demonstrated that distraction interventions which stimulated the

auditory and visual sense were the most effective in relieving pediatric pain. These included play, dancing, music, animated cartoons, and blowing bubbles. Parental involvement in these non-pharmacological interventions was also effective. Ineffective non-pharmacological interventions were those that stimulated the olfactory sense. Studies that compared non-pharmacological interventions to pharmacological pain management determined that they were equally as effective. Non-pharmacological pain relief interventions for pediatric patients can provide both short-term and long-term benefits. Providing education to registered nurses on non-pharmacological pain relief intervention are effective can decrease the use of drugs for pain management.

***Rabab EL-Sayed Hassan, Mohamed El-GhazalyWaly, Ohoud Yousef El-Sheikhand, FatmaMefrehAtia (2019)*** conducted a study to assess the effect of a Planned Play Program as a Nursing Intervention in Reducing Post-operative Pain among Children Undergoing Abdominal Surgeries in pediatric hospital at Saudi arbia. Quasi experimental research design was used. The study included 70 children of both gender and their caregivers. Four tools were used to collect data; an interview questionnaire sheet for mothers to collect socio- demographic data and clinical data about the child's health problem, physiological pain assessment tool to obtain baseline data and determine child's physiological response to pain, faces pain scale was used as a pain assessment tool for younger group (4-7 years), and FLACC behavioral scale for assessing the behavioral responses of children toward postoperative pain. The finding of this study showed that, children with abdominal surgeries who participate in a planned play program were expressed less postoperative pain intensity than those children who receive routine care. It was concluded that the planned play program had a positive effect on reducing post-operative pain of children undergoing abdominal surgeries. The study recommended planning systematic play

sessions to help the child coping with the emotional and physical pain resulting from hospitalization or surgical procedures.

***Piera Bergomi, Luigia Scudeller, Serena Pintaldi, Alberto Dal Molin (2018)*** conducted a study to evaluate two non‐pharmacological techniques, vibration combined with cryo therapeutic topical analgesia by means of the Buzzy device and animated cartoons, in terms of pain and anxiety relief during venipuncture in children in Italy. 150 children undergoing venipuncture were randomized into four groups: the 'no method' group, the Buzzy device group, the animated cartoon group and the combination of Buzzy and an animated cartoon group. Children's pain and anxiety levels along with parents' and nurses' anxiety levels were evaluated by means of validated grading scales. Overall children's pain increased less in the non‐pharmacological intervention groups as compared to the group without intervention. Notably, the difference was statistically significant in the animated cartoon group for children's perception of pain. Children's anxiety and parents' anxiety decreased more in non‐pharmacological interventions groups as compared to the group without intervention. The study showed the effectiveness of nonpharmacological methods of pain management during venipuncture. The study showed the effectiveness of nonpharmacological methods of pain control.

***Chitra (2016)*** conducted a study to assess the effectiveness of play therapy in reducing post-operative pain among children aged 2- 5 years who have undergone abdominal surgeries in ICH, Chennai. A quasi-experimental design was conducted, 60 (30 experimental &30 control group) were selected through Convenient sampling technique in Post-operative ward and S.I.C.U at ICH. Data were analyzed with both descriptive and inferential statistical methods. After play therapy majority (70%) of the children in experimental group and control group

revealed significant differences. The similar study can be replicated with larger samples for better generalization. The investigator concludes that the play therapy was found to be effective for children who have undergone abdominal surgeries and there was significant association between play therapy and reduced perception of pain during post-operative period.

***Ela J Hyland, et al, (2015)*** conducted a study to assess the effectiveness of (Child Life Therapy) CLT in regard to reducing pain and anxiety in children undergoing burn dressing changes in The Children's Hospital at Westmead, Australia. A prospective, randomized controlled trial was conducted, comparing CLT versus standard care in relation to pain and anxiety scores of children undergoing their initial burn dressing change. Pain and anxiety were assessed by an independent observer and questionnaires completed by the child, parent/caregiver and nursing staff. 50 subjects were recruited in each treatment group; median age 2.3 years (CLT) and 2.2 years (standard care). The median total body surface area (TBSA) burnt was 0.8% (CLT) and 0.5% (standard care). The majority were partial thickness dermal burns (88% CLT, 94% standard care). Rates of parent anxiety and pre-procedural child pain and anxiety were similar. Combined and scaled pain and anxiety scores in the CLT group were significantly less than in the standard treatment group ($p=0.03$). While pain was significantly better in the CLT group ($p=0.02$), fear scores, wound outcomes and the need for skin grafting were not statistically different in either group. The presence of a Child Life Therapist, with their ability to adapt to the environment, the child and their family, significantly reduced the experience of pain during pediatric burn dressings.

***Vijaya (2014)*** conducted a study to determine the effectiveness of play therapy in reducing post operative pain among children (2-5 yrs) in pediatric hospitals, Madurai. Qualitative research approach was adopted.

Tool comprised of 2 items. Part one included socio-demographic variables and part two included FLACC behavioral pain assessment scale - the acronym FLACC represents five categories namely face, leg, activity, cry, consolability. The pain was assessed using observation method. Responses in each category are scored between 0 and 2 for a maximum total score of 10. Results: The data were collected from 30 children. Majority of the children experienced moderate level of pain before play therapy and mild pain after play therapy. No significant association was found between post operative pain and the demographic variables. The findings concluded that majority of children experienced mild pain after play therapy. Hence play therapy is effective in reducing the post operative pain.

***Hong-Gu He, et al (2014),*** conducted a systemic review to synthesize current empirical evidence on the effectiveness of therapeutic play intervention in reducing perioperative anxiety, negative behaviors, and postoperative pain in children undergoing elective surgery and in reducing their parents' perioperative anxiety in Singapore. Systematic searches of electronic databases of the Cumulative Index to Nursing and Allied Health Literature, PubMed, ProQuest Dissertations and Theses, Scopus, and Web of Science and screening of the reference lists of included articles from these databases identified studies on the topic. Relevant studies were methodologically assessed and appraised by two independent reviewers using the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument. Six studies were identified. The outcome measurements were heterogeneous across all six studies. These studies had conflicting outcomes regarding the effectiveness of therapeutic play intervention in children's perioperative anxiety, negative behaviors, and postoperative pain. Two studies showed that the intervention significantly reduced parents' preoperative anxiety. The current empirical evidence on the effectiveness of therapeutic play

intervention in children's perioperative anxiety, negative behaviors, and postoperative pain is inconclusive. More studies on the effectiveness of therapeutic play intervention using rigorous designs and involving parents are needed.

***Ana M. Ullán, et al, (2012)*** conducted a study to determine the effect of a program to promote play on postsurgical pain in pediatric patients in University Hospital of Salamanca, Spain. The research hypothesis was that children will manifest less pain if they are distracted through play during the postsurgical period. Study was carried out a randomized parallel trial with two groups, an experimental group and a control group. The control group did not receive any specific treatment, only the standard attention contemplated in the hospital. The parents of the children from the experimental group received instructions to play with their children in the postsurgical period and specific play material with which to play. The results obtained support the research hypothesis. On average, the children from the experimental group scored lower on a pain scale than the children from the control group. This occurred in the three postsurgical measurements of pain. It is concluded that the program to promote play can decrease children's perception of pain.

***Nilsson S., Hallqvist C., Sidenvall B. & Enskär K. (2011)*** conducted a study to document Children's experiences of procedural pain management in conjunction with trauma wound dressings in hospital, Canada. Thirty nine participants aged 5–10 were consecutively included in this study. The wound care session was standardized for all the participants, and semi‐structured qualitative interviews with open‐ended questions were conducted with all the children in conjunction with the procedure. All the interviews were transcribed verbatim and analyzed with qualitative content analysis. Four themes were identified: clinical competence, distraction, participation and

security. The children were helped to reach comforting activities to enhance pain management. Children require more than just analgesics in wound care. They also need to experience security and participation in this context. When children feel clinical competence in wound care, they trust the nurse to carry out the wound dressing and instead can focus on the distraction that increases their positive outcomes.

## 2.2:LITERATURE RELATED TO VARIOUS DISTRACTION THERAPIES IN REDUCING PAIN.

***Nicole Pope., et al (2018)*** conducted a qualitative descriptive study using an inductive approach. Fifteen children, aged 4–8 years who presented to the ED of an Australian tertiary pediatric hospital in acute pain were participated. Data were collected using draw, write, and tell (DWT) technique and analyzed using thematic analysis. Three themes emerged (1) "Security," (2) "My pain" with subthemes: "The pain feelings" and "My sad/happy feelings," (3) "Comfort and relief" with subthemes: "Taking my mind off it," "Resting" and "Hospital things." When in pain children needed to feel secure. Parents and nurses were important in fostering a secure environment for children. Children were capable of describing their pain and identified non pharmacological strategies to help their pain. Children as young as 4 years old can provide detailed accounts of their pain, which extends beyond physical dimensions to include visual, auditory, and sensory features. Nurses need to listen, be honest, and develop trust with children to be helpful. Non pharmacological pain‐relieving strategies can be implemented by parents and nurses in collaboration with the child.

***Made Pande Lilik Lestari, Dessie Wannda and Happy Hayati (2017)*** conducted a study to assess the effectiveness of using the distractions of cartoon-patterned clothes and bubble-blowing on the pain and anxiety of preschool children during venipuncture in the emergency department at Indonesia. Quasi-experimental, post-test only control

group design approach was used. The sample consisted of 57 preschool children who were due to undergo venipuncture and who were divided into 3 intervention groups. The results showed that distraction using bubble-blowing is effective in reducing pain and anxiety during venipuncture, while cartoon-patterned clothing is only effective in reducing anxiety. Distractions can refocus the attention of a child away from pain and anxiety during venipuncture. It can inhibit the transmission of pain impulses, such that these impulses are not transmitted to the brain. As a result, the sensation of pain is not experienced.

***Ibitoye M. Bukola, Dawson Paula, (2017)*** conducted a systematic review to ascertain the effectiveness of distraction as a procedural pain management technique in pediatric oncology patients in pediatric hospitals,United Kingdom. Using a comprehensive search strategy, MEDLINE, PsycINFO, Cochrane Library, AMED, CINAHL, Web of Science, and EMBASE electronic databases were searched for studies comparing distraction techniques to standard care/any intervention. Using the selected studies, a systematic review and meta-analysis of randomized controlled trials was conducted. Two hundred ninety-nine studies were identified, with seven randomized control trials identified as eligible for inclusion. Pain was assessed using self-report, observer-report, and physiological measures. A meta-analysis of four studies showed distraction as effective in reducing procedural pain, based on self-reported pain. A meta-analysis of three studies, based on pulse rates, demonstrated similar results. For observer-reported pain, limited evidence supported the effectiveness of distraction. This systematic review demonstrates that distraction is a promising intervention for procedural pain. Future research should assess effectiveness of distraction in varied populations.

***Sima Kaheni, Mohammad Sadegh Rezai, Masoumeh Bagheri-Nesami, Amir Hossein Goudarzian (2016)*** conducted a study to determine the effect of distraction on pain of dressing change in second degree burn in 3-6 year-old children at Iran. This randomized controlled trial study, was conducted on 80 hospitalized children with second degree burn in 2015. Playing a video computer game for children during the dressing change procedure was the intervention for the interventional group. Also the intensity of pain was measured by behavioral pain scale for children (FLCC scale) during dressing. This scale was completed for patients without no intervention in the control group during dressing. Pain intensity mean in the interventional group (2.575 ± 1.807) had significant changes in comparison with the control group (8.025 ± 1.187) ($P<0.001$). 70% of children in the control group experienced severe pain due to dressing change, but most children in the intervention group (77.5%) had a little pain. According to the results it seems that distraction intervention has a significant positive effect on the pain of dressing change in children. Further studies are recommended for the development of this technique in health care centers.

***Soad A. Abdelmoniem, Sara A. Mahmoud, (2016)*** conducted a study to compare the efficacy of different distraction techniques (passive, active, and passive-active) on children's pain perception during local anesthesia administration at Pediatric Dentistry and Dental Public Health Department, Egypt. A total of 90 children aged four to nine years, requiring inferior alveolar nerve block for primary molar extraction, were included in this study and randomly divided into three groups according to the distraction technique employed during local anesthesia administration. Passive distraction group: the children were instructed to listen to a song on headphones; Active distraction group: the children were instructed to move their legs up and down

alternatively; and Passive-active distraction group: this was a combination between both techniques. Pain perception during local anesthesia administration was evaluated by the Sounds, Eyes, and Motor (SEM) scale and Wong Baker FACESO Pain Rating Scale. There was an insignificant difference between the three groups for SEM scale and Wong Baker FACES Pain Rating Scale at P = 0.743 and P = 0.112 respectively. The examined distraction techniques showed comparable results in reducing pain perception.

***Diler Aydin, NejlaCanbulat Sahiner , EsraKaraca Ciftci, (2016)*** conducted a study to investigate three different distraction methods (squeezing a soft ball, balloon inflation and distraction cards) on pain and anxiety relief in children during phlebotomy in turkey. The study was a prospective, randomized controlled trial. The sample consisted of children (n = 120) who required blood tests. Data were obtained through face-to-face interviews with the children, their parents and the observer before and after the procedure. The children's pain levels were assessed and reported by the parents and observers, and the children themselves who self-reported using Wong-Baker FACES. The children's anxiety levels were also assessed using the Children's Fear Scale. One hundred and twenty children (mean age: 9·64 ± 2·07 years) were included. No difference was found between the groups in the self-, parent- and observer-reported procedural pain levels (p = 0·446, p = 0·467, p = 0·318 respectively). Furthermore, no significant differences were observed between the groups in procedural child anxiety levels according to the parents and observer (p = 0·323, p = 0·144 respectively). Pain and anxiety relief was seen in the three methods used during phlebotomy; however, no statistically significant difference was observed. This study contributes to the literature on non pharmacologic pain relief methods during phlebotomy in children.

***Chunlan Guo, Hongyan Deng, Jian Yang, (2015)*** conducted a study to assess the effect of virtual reality distraction on pain among patients with a hand injury undergoing a dressing change in natural science foundation, China. A randomized controlled trial was performed. In the first dressing change sequence, 98 patients were randomly divided into an experimental group and a control group, with 49 cases in each group. Pain levels were compared between the two groups before and after the dressing change using a visual analog scale. The sense of involvement in virtual environments was measured using the Pearson correlation coefficient analysis, which determined the relationship between the sense of involvement and pain level. The difference in visual analog scale scores between the two groups before the dressing change was not statistically significant ($t = 0{\cdot}196$, $p > 0{\cdot}05$), but the scores became statistically significant after the dressing change ($t = -30{\cdot}792$, $p < 0{\cdot}01$). The correlation between the sense of involvement in a virtual environment and pain level during the dressing was statistically significant ($R(2) = 0{\cdot}5538$, $p < 0{\cdot}05$). Virtual reality distraction can effectively alleviate pain among patients with a hand injury undergoing a dressing change. Better results can be obtained by increasing the sense of involvement in a virtual environment. Virtual reality distraction can effectively relieve pain without side effects and is not reliant on a doctor's prescription. This tool is convenient for nurses to use, especially when analgesics are unavailable.

***Yun Hua, et al, (2015)*** conducted a study to assess the effect of virtual reality distraction on alleviating pain during dressing changes in children with chronic wounds on their lower limbs Peking University First Hospital, Beijing, China. A prospective randomized study conducted in pediatric center in a tertiary hospital. Sixty-five children, aged from 4 to 16 years, with chronic wounds on their lower limbs. Pain and anxiety scores during dressing changes were recorded by using the

Wong-Baker Faces picture scale, visual analogue scale, and pain behavior scale, as well as physiological measurements including pulse rate and oxygen saturation. Time length of dressing change was recorded. Virtual reality distraction significantly relieved pain and anxiety scores during dressing changes and reduced the time length for dressing changes as compared to standard distraction methods. The use of virtual reality as a distraction tool in a pediatric ward offered superior pain reduction to children as compared to standard distractions. This device can potentially improve clinical efficiency by reducing length time for dressing changes.

***NejlaCanbulat Sahiner, MeltemDemirgoz Bal, (2015)*** conducted a study to investigate of three different distraction methods (distraction cards, listening to the music of cartoon and balloon inflation) on pain and anxiety relief of children during phlebotomy in Turkey. This study is a prospective, randomized, and controlled trial. The sample consisted of 6 to 12 years old children who require blood tests. Children were randomized into four groups as the distraction cards, the music, the balloon inflation, and the control. Data were obtained by conducting interviews with the children, their parents, and the observer before and after the procedure. The pain levels of the children were assessed by the parent and observer reports as well as self-report using the Wong-Baker FACES. The anxiety levels of children were assessed by parent and observer reports using Children Fear Scale. One hundred and twenty children (mean age: 9.1 + 1.6 years) were included. The self-reported procedural pain levels showed significant differences among the study groups (p ¼ .040). The distraction card group (2.33 + 3.24) had significantly lower pain levels (p ¼ .057) than the control group (4.53 + 3.23). The procedural child anxiety levels reported by the observer showed a significant difference among the study groups (p ¼ .032). All

the forms of distraction significantly reduced pain and anxiety perception.

***S. Nilsson et al (2013)*** conducted a study to test how distraction influences pain, distress and anxiety in children during wound care Kuopio University Hospital, Kuopio, Finland. Sixty participants aged 5–12 years were randomized to three groups: serious gaming, the use of lollipops and a control group. Self-reported pain, distress, anxiety and observed pain behaviour were recorded in conjunction with wound care. Serious gaming, an active distraction, reduced the observed pain behaviour and self-reported distress compared with the other groups. A sense of control and engagement in the distraction, together, may be the explanation for the different pain behaviours when children use serious gaming. Serious gaming is an active distraction, which, compared with passive distraction, can lead to a decrease in pain behaviour and reduce distress.

***Melba Roshini Lobo, Umarani.J (2013)*** conducted a study to assess the effectiveness of cartoon on children of 3 to 6 years of age who were undergoing venipuncture in selected hospitals of Mangalore. The study comprised of 60 preschoolers selected by convenience sampling method - 30 in experimental and 30 in control group. Animated cartoon was shown along with routine care for the experimental group and routine care was given to control group. Then the post venipuncture pain was assessed. The tool included was baseline proforma, Wong – Baker Faces pain scale. The study results revealed that there is significantly ($p<0.05$) less pain felt by the children who viewed cartoon during venipuncture than those children who did not receive it. The findings also revealed that there was no significant association between the level of pain and demographic variables. It was concluded that cartoon distraction is an effective distraction method for the children undergoing venipuncture.

## 2.3: LITERATURE RELATED TO THE EFFECTIVENESS OF DIFFERENT PAIN MANAGEMENT PROGRAM DEVICE IN REDUCING PAIN

***Remziye Semerci, Melahat Akgun Kostak (2020)*** conducted a study to determine the efficacy of distraction cards and a kaleidoscope in reducing pain during phlebotomy procedures among children in Trakya University, Edirne, Turkey. This randomized controlled study involved intervention groups and a control group. Data were obtained by the use of an information form and the visual analog scale. Data were analyzed with descriptive statistics as well as Kruskal-Wallis, Wilcoxon, and post hoc tests. During the phlebotomy, children in the control group experienced more pain than children in the distraction cards group and kaleidoscope group ($P < .001$). There was no significant difference between pain scores of the two intervention groups ($P > .05$). Both methods were found to be effective in reducing pain. It may be helpful to inform children and parents about the process before procedural interventions. Nurses would likely benefit from education on the use of distraction cards and kaleidoscope to be used during procedural interventions.

***TubaKoc Ozkan, Filiz Polat, (2019)*** conducted a study to determine the effect of two different distractions on pain perceptions and anxiety during venipuncture in children at Adiyaman University Midwifery Department, Adiyaman, Turkey. A randomized controlled study was used. A total of 139 children aged between 4 and 10 years were included in the study: 46 of them in virtual reality goggle group and 43 in the control group. An information form, the Children's Anxiety Scale, Visual Analogue Scale, and Wong-Baker Faces Pain Scale were used in the collection of data. Pain and anxiety scores were significantly lower in the virtual reality goggle and kaleidoscope group than in the control group ($P < .000$). The use of virtual reality goggle

and kaleidoscope methods during venipuncture is effective in reducing children's perception of pain and anxiety.

***Himali Raj Prajapati (2018)*** conducted a study to assess the effectiveness of kaleidoscope in reducing physical stress during venipuncture procedure among hospitalized pre-school children at selected hospital of Ahmedabad city, Gujarat state, total 40 samples selected by non-probability sampling techniques. The demographic data and observational behavioral pain scale was used to assess the pain level among the children and kaleidoscope is given to the child during the procedure. The data obtained were analyzed and interpreted in terms of frequency, percentage and chi-square. The calculated chi-square value (10.141) is greater than the tabulated chi- square value (7.815). In the overall and specific content area, the calculated chi-square value is greater than the tabulated chi-square value. The findings indicate that the kaleidoscope was an effective method of distraction technique during venipuncture procedure. Based on the findings, the following recommendations were offered for future research. The study can be replicated on a large sample, thereby; findings can be generalized for a large population. A similar study can be conducted on children undergoing invasive Pediatric procedures other than the access to IV line. It was concluded that kaleidoscope reduced physical stress of hospitalized preschool children during venipuncture procedure.

***Dipeesh Kunjumon, Vinil Upendrababu (2018)*** conducted a study to assess the effect of distraction method like kaleidoscope in managing pain in children during procedure like intravenous cannulation. The main objective of this study was to assess the effect of kaleidoscope on pain perception of children aged 4 -6 years during intravenous cannulation. The research approach adopted for this study was true experimental and the design was post test only control group design. The study was conducted in Upasana hospital, Kollam among 30

children aged 4 – 6 years who were admitted in the pediatric ward, with 15 children each in experimental and control group. After obtaining consent from caregivers, demographic data was collected and physiological parameters like heart rate and SPO2 were measured using pulse oximeter, five minutes prior to the cannulation. The children in the experimental group were introduced to kaleidoscope before the cannulation and were told to look through it during the procedure. During cannulation, the objective pain was assessed by using FLACC scale and the physiological parameters were again measured. Five minutes after the procedure, the children were asked to explain the pain during cannulation using Wong Baker Faces Pain Rating scale. The mean pain scores of experimental group was significantly less than that of the control group ($p<0.05$). There was a significant relationship between pain scores and variability in heart rate ($r=0.93$ according to FLACC scale & $r=0.85$ according to WBFPRS) and SPO2 ($r= 0.93$ according to FLACC scale & $r=0.86$ according to WBFPRS) of children during intravenous cannulation. To sum up, the kaleidoscope was shown to be effective in managing pain in children aged 4-6 years, during intravenous cannulation. So distraction can be used effectively in pain management of children.

***AyferKarakaya, DuyguGozen, (2016)*** conducted an experimental study determine the effectiveness of distraction on the pain level in children as they underwent venipuncture. The study sample consisted of children who underwent venipuncture at the Training and Research Hospital in Istanbul, Turkey. A total of 144 children were conveniently sampled and evenly randomized into two groups of 72 children each. The primary instrument used to test children's pain level was the Faces Pain Scale Revised (FPS-R). During the blood draw, the experimental group was given a kaleidoscope and told to look through it and describe what they saw, then rate their pain level on the FPS-R. Results showed

that during venipuncture, the pain level of the control group was significantly higher (FPS-R ¼ 3.27 ± 2.87) than the experimental group (FPS-R ¼ 1.80 ± 1.84; p ¼ .001) suggesting that distraction with a kaleidoscope is effective in reducing the pain children experience during venipuncture.

***Oliveira, Nátali, Linhares, Maria Beatriz Martins (2015)*** conducted a systematic review on the recent literature regarding the effectiveness of non pharmacological interventions for acute pain relief in children of preschool and school age in Washington. The literature review was performed by selecting scientific articles that are indexed in main databases. Analyzed 12 empirical articles: 7 were randomized controlled trials and 5 were clinical trials with no randomization. The pain outcomes of the studies included validity measures by self-report, hetero report, and behavioral observation. All 12 studies included at least 1 intervention that used a distraction strategy. Pain management that used audiovisual distraction, virtual reality, distraction with objects (e.g., cards, a kaleidoscope, and a soft ball), and distraction performed by parents or professionals, and multimodal distraction device interventions significantly reduced pain scores in children who underwent different painful procedures. The findings of the present review suggest that distraction may be recommended as a simple and efficient non pharmacological acute pain relief strategy to be implemented in clinical practice in pediatric care settings.

***SevilInal, HacerSonmezer, (2014)*** conducted a study to investigate two different distraction methods, distraction cards and kaleidoscope, on pain and anxiety relief of children during phlebotomy by prospective, randomized and controlled trial in three groups: the distraction cards group, the kaleidoscope and the control group. The sample consisted of 7-11-year-old children who required blood tests hospitals in Turkey. Data were obtained by interviewing the children

with their parents and the observer before and after the procedure. The pain levels of the children were assessed by the parent and observer reports as well as self report using the Wong Baker FACES Pain Rating Scale. The anxiety levels of children were assessed by parent and observer reports using Children Fear Scale. 188 children (mean age, 8.8±1.5 years) were included. The pain levels of children showed significant differences among the groups (p ¼ .005). Both the distraction card group (2.4 ±2.49) and the kaleidoscope group (3.10±2.16) had lower pain levels than the control group did (4.44±3.64). The distraction card group had the lowest pain levels (2.41±2.49) among all groups.

***Fatma GuducuTufekci, AydaCelebioglu, Sibel Kucukoglu (2009)*** conducted a study to assess the effect of distraction (looking through kaleidoscopes) to reduce perceived pain in children at Yakutiye Research Hospital Erzurum, Turkey, as an intervention-control group design. Children (n = 206), in whom venipuncture was applied in a laboratory for examination, were included. The data were obtained by a form determining introductory features of the children and Wong-Baker FACES Pain Rating Scale and Visual Analogue Scale evaluating the pain. Descriptive statistics was used in the assessment of the data and t-test was used in comparisons of dependent-independent groups. Pain levels of the children according to both scales in intervention group were lower than those of control group. But, it was detected that the distinction between score averages of intervention and control group of Wong-Baker FACES Pain Rating Scale, not Visual Analogue Scale, was statistically significant ($p < 0.001$). It was detected that the distraction made with kaleidoscope effectively reduced the perception of pain during venipuncture in children.

## 2.4: LITERATURE RELATED TO THE RELIABILITY AND VALIDITY OF PAIN SCALE

***Amit Khatri, Namita Kalraa, (2012)*** conducted a comparative study to compare the validation of pain measurement techniques using visual analogue scale (VAS) and Wong-Baker Faces Pain Rating Scale (WBFPS) among children aged 3-14 years undergoing dental extraction at University of Delhi, Delhi. A cross-sectional study was conducted on 180 patients, undergone dental extraction. The level of pain was assessed by both visual analogue scale (VAS) and Wong-Baker faces pain rating scale (WBFPS). Wong-Baker faces pain rating scale (WBFPS) was found to be more sensitive as compared to visual analogue scale (VAS).

***Gregory Garra, et al (2010)*** conducted a prospective observational study of children with pain presenting to a suburban, academic pediatric ED in New Orleans. Children rated their pain severity on a six-item ordinal faces scale (WBS) from none to worst and a 100-mm VAS from least to most. Analysis of variance (ANOVA) was used to compare mean VAS scores across the six ordinal categories. Spearman's correlation (rho) was used to measure agreement between the continuous and ordinal scales. A total of 120 patients were assessed: the median age was 13 years (interquartile range [IQR] = 10-15 years), 50% were female, 78% were white, and six patients (5%) used a language other than English at home. The most commonly specified locations of pain were extremity (37%), abdomen (19%), and back/neck (11%). The mean VAS increased uniformly across WBS categories in increments of about 17 mm. ANOVA demonstrated significant differences in mean VAS across face groups. Post hoc testing demonstrated that each mean VAS was significantly different from every other mean VAS. Agreement between the WBS and VAS was excellent (rho = 0.90; 95% confidence interval [CI] = 0.86 to 0.93).

There was no association between age, sex, or pain location with either pain score. The VAS was found to have an excellent correlation in older children with acute pain in the ED and had a uniformly increasing relationship with WBS. This finding has implications for research on pain management using the WBS as an assessment tool.

# CHAPTER-III

# RESEARCH METHODOLOGY

This chapter explains the methodology in detail. It includes research design, setting of the study, sampling technique, tools, pilot study, data collection process and plan for the data analysis. The study was conducted to assess the effectiveness of different pain management program during surgical dressing among preschool children at paediatric tertiary care hospital, Chennai.

## 3.1. RESEARCH APPROACH

The research approach adopted for the study is quantitative approach.

## 3.2. RESEARCH DESIGN

The research design adopted for the study is quasi experimental research design (non randomized control group design)

| Group | Pre test | Intervention | Post test |
|---|---|---|---|
| Experimental group | $O_1$ | X | $O_2$ |
| Control group | $O_3$ | - | $O_4$ |

$O_1$ : Pre test assessment on level of pain among experimental group

X : Administering different pain management program using distraction cards and kaleidoscope

$O_2$ : Post test assessment on level of pain among experimental group

$O_3$ : Post test assessment on level of pain among control group

$O_4$ : Post test assessment on level of pain among control group

## 3.3. SETTING OF THE STUDY

The study was conducted in surgical ward at Institute of Child Health and Hospital for Children, Egmore, Chennai-08.

## 3.4. DURATION OF THE STUDY

The duration of data collection was four weeks from 20-01-2020 to 15-02-2020.

## 3.5. STUDY POPULATION

### *3.5.1 Target population*

The target population of the present study includes preschool children (3-6 years) who are undergoing surgical dressing in surgical ward, Institute of Child Health and Hospital for Children at Egmore, Chennai-08.

### *3.5.2 Accessible population*

The accessible population of the study includes preschool children (3-6 years) who are undergoing surgical dressing and available at the time of data collection.

## 3.6. STUDY SAMPLE

The preschool children who are undergoing surgical dressing admitted in surgical and who were fulfilling the inclusion criteria.

## 3.7. SAMPLE SIZE

The sample size was 60 includes preschool children (3-6 years) who are undergoing surgical dressing in surgical ward, Institute of Child Health and Hospital for Children at Egmore, Chennai-08.

## 3.8. CRITERIA FOR SAMPLE SELECTION

### *3.8.1. Inclusion criteria*

- Children whose mothers have given consent for them to participate in the study
- Children between the age group of 3-6 who are undergoing surgical dressing.
- Those who are available at the time of data collection

### *3.8.2 Exclusion criteria*

- Children who are critically ill
- Children who do not have visual coordination
- Children with hearing problems

## 3.9 SAMPLING TECHNIQUE

In this study Non-Probability, Purposive sampling technique was used to select the study subjects.

## 3.10. RESEARCH VARIABLES

### *3.10.1 Independent Variable*

It refers to different pain management program.

### *3.10.2 Dependent Variable*

It refers to level of pain among children during surgical dressing.

### *3.10.3 Demographic Variables*

Extraneous variables include age, gender, birth order, family income, area of residence, type of family, religion, type of surgery, no of post operative days, frequency of dressing, previous exposure, parents during dressing.

## 3.11. DEVELOPMENT AND DESCRIPTION OF THE TOOL

Data collection tools are the procedures or instruments used by the researcher to observe the key variables in the research problem

### 3.11.1 DEVELOPMENT OF THE TOOL

Appropriate tool has been developed after extensive review of literature and obtained expert opinion, content validity from medical, nursing and statistical experts. Construction of the tool, pre testing of the tool, reliability of the tool was ascertained by test-retest method.

### 3.11.2 DESCRIPTION OF THE TOOL

The tool for data collection consists of 3 sections

***Section - I***

It contain demographic variables which comprises of the items such as age, gender, birth order, family income, area of residence, type of family, religion, type of surgery, no of post operative days, frequency of dressing, previous exposure, parents during dressing.

***Section - II***

This section contain clinical data it includes type of surgery, no of post operative days, frequency of dressing, previous exposure, parents during dressing.

***Section III***

This section contains pain assessment tool- Wong baker's pain scale developed by Donna Wong and Connie Baker in 1988.

## SCORE INTERPRETATION OF PAIN SCORE

***Table 3.1: Pain score (Wong-Baker Facial pain rating scale)***

| S. No. | Level of pain score | Score |
|---|---|---|
| 1. | No pain | 0 |
| 2. | Mild pain | 1-3 |
| 3. | Moderate pain | 4-7 |
| 4 | Severe pain | 8-10 |

## 3.12 CONTENT VALIDITY

Validity of the tool was assessed using content validity. Content validity was determined by experts from Nursing and Medical. They suggested certain modifications in tool. After the modifications they agreed this tool for assessing effectiveness of different pain management program during surgical dressing among preschool children at pediatric tertiary care hospital, Chennai.

## 3.13 RELIABILITY OF THE TOOL

Reliability of the tool was assessed by using Inter-rater method. Pain score reliability correlation coefficient value was 0.92. This correlation coefficient was very high and it is good tool for assessing effectiveness of different pain management program during surgical dressing among preschool children at pediatric tertiary care hospital, Chennai.

## 3.14 ETHICAL CONSIDERATION

The study was proposed and submitted to the Institutional Ethical Committee, Madras Medical College and the committee approved the study with the reference no: EC.Reg.NO.ECR/270/Inst/TN/2013/RR-16/10112029. All respondents were carefully informed about the purpose of the study and their part during the study. Informed consent

for the study was obtained from all participants. Confidentiality of the subject's information was maintained. Thus the investigator followed the ethical guidelines, which were issues by the research committee. Necessary permission to conduct the study was requested and obtained from Director, Institute of Child health and Hospital for children, Chennai. The study was done without any violation of human rights.

***Human rights***

- The study was proposed among the experts of the Institutional Ethics Committee and got the permission to carry out the study.
- The study details was also explained to the Professor and Head of the Department, Department of Pediatric Surgery, Institute of Child health and Hospital for children, to carry out the study in the surgical ward and got the permission
- The content validity was received from the various experts in the child health nursing.

***Beneficence***

- Potential benefits and risks were explained to the mother of children.

***Dignity***

- Mothers were informed about the study in detail and ensured their participation.
- Informed consent was obtained from the parents.
- Freedom was given to the participants in opting to participate in the study or withdrawal from the study.

***Confidentiality***

- Confidentiality and anonymity pledge was ensured. The study participants were also ensured for maintaining the confidentiality of their details.

***Justice***

- The study participants were treated with justice.
- The distraction cards and kaleidoscope was given to the participants of the experimental group before the post test.

## 3.15 PILOT STUDY

The pilot study was conducted from 06.01.2020 to 11.01.2020 in Department of Pediatric Surgery, Institute Of Child Health And Hospital For Children. Formal permission was obtained from the authority. Purposive sampling technique was used to select the study subjects, Individual consent obtained from the mothers of each subjects after explaining the purpose of the study. The total sample size was 6 preschool children undergoing surgical dressing. The status of the sample was assessed by demographic variables. The pre test level of pain assessment was done to the sample using Wong baker's pain scale. After that different pain management program was given to the child during surgical dressing. The post test level of pain was assessed.

Data analysis was done using descriptive and inferential statistics. The level of pain perceived by child was 53.7%. The mean score was 6.78. The association between the pain among the samples and their selected variable was checked. Result showed that there was association between the level of pain and their demographic variables.

The findings of the study revealed that different pain management helps in reducing pain among the preschool children during dressing was feasible and applicable to conduct the main study in department of

pediatric surgery, ICH&HC. No modification was made after the pilot study.

## 3.16 DATA COLLECTION PROCEDURE

The plan of data collection for the proposed study is as follows:

- The study was conducted in surgical ward at Institute of Child Health and Hospital for Children Chennai.
- Permission has obtained from the Institutional Ethics Committee; Formal permission was obtained from the director and head of department at Institute of Child Health and Hospital for Children Chennai.
- Samples were drawn using convenient sampling technique, before the dressing, the researcher introduced her and explained the purpose of the study and confirmed the willingness of the mother and child to participate in the study by getting consent from them as per the inclusion criteria.
- Data collection procedure was done for a period of four weeks. Before pre test the child was taught to use the distraction cards and kaleidoscope. Pre test assessment was done using Wong baker's pain scale after removal of dressing.
- The child was given a distraction cards and kaleidoscope during surgical dressing after dressing the post test level of pain was assessed.
- Based on the criteria 8 – 10 subjects were selected each day. The subjects were assured of confidentiality of data collected.

*Table-3.2: Intervention Protocol*

| S. No | Protocol | Experimental group | Control group |
|---|---|---|---|
| 1 | Place | Department of Paediatric Surgery, Institute of Child Health And Hospital For Children, Chennai. 8. | Department of Paediatric Surgery, Institute of Child Health And Hospital For Children, Chennai. 8. |
| 2 | Intervention | Different pain management program | No intervention given. Routine care given |
| 3 | Duration | During the dressing | During the dressing |
| 4 | Time | 8am to 4pm | 8am to 4pm |
| 5 | Administrator | Investigator | Investigator |
| 6 | Recipient | Preschool children undergoing surgical dressing | Preschool children undergoing surgical dressing |

## 3.17 PLAN FOR DATA ENTRYY AND ANALYSIS

**Data entry**: Entered the data into the excel sheet and coding the data into SPSS statistical package system

**Analysis:** Collected data will be analyzed by descriptive and inferential statistics

### *3.18.1. Descriptive analysis*

- Frequency and percentage analysis will be used to describe demographic characteristics of preschool children.
- Mean and standard deviation will be used to assess level of pain during dressing.

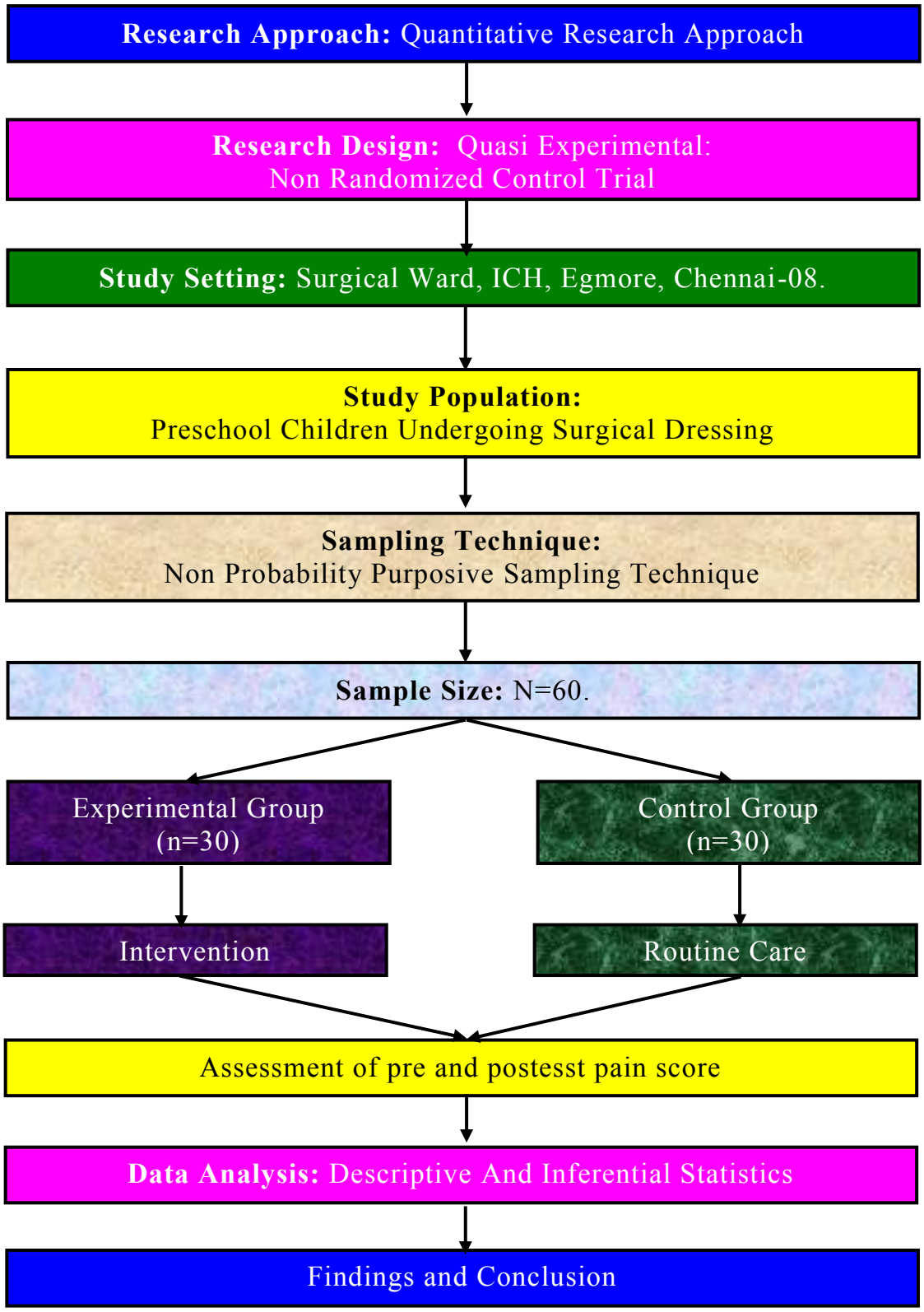
### *3.18.2. Inferential analysis*

- ❖ Chi Square' test is used to find out significant association between demographic variables and pain score.

- ❖ Paired't' test is used to analyze the effectiveness of different pain management program.

- ❖ Difference between pretest and posttest difference on effectiveness of study was analyzed using mean difference with 95% CI. $p<0.001$ was considered statistically significant

## FIGURE-3.1: SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY



# CHAPTER-IV

# ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the data obtained from the preschool children 3-6 years in surgical department, Institute of Child Health and Hospital for Children, Chennai. The analysis and interpretation is derived under 6 sections as given below:

## ORGANIZATION OF DATA

The collected data were tabulated and presented according to the objective under the following sections.

| | | |
|---|---|---|
| Section I | : | Description of demographic variables of study participants |
| Section II | : | Description of Pre test level of pain of study participants in experimental and control group |
| Section III | : | Description of Post test level of pain of study participants in experimental and control group |
| Section IV | : | Comparison of Pre test and Post test level of pain of study participants in experimental and control group. |
| Section V | : | Effectiveness of different pain management program in reducing pain |
| Section VI | : | Association between the post test level of pain and selected demographic variable in experimental and control group. |

## STATISTICAL ANALYSIS

- ❖ Demographic variables in categorical/dichotomous were given in frequencies with their percentages.
- ❖ Pain score were given in mean and standard deviation.
- ❖ Similarity of demographic distribution among experiment and control group was tested using chi square test.
- ❖ Level of Pain score between experiment and control group was analyzed using chi square test.
- ❖ Quantitative data Difference between experiment and control was analyzed using student independent t-test.
- ❖ Quantitative data Difference between pretest and posttest was calculated using student paired t-test.
- ❖ Qualitative data Difference between experiment and control was analyzed using student chi square test.
- ❖ Qualitative data Difference between pretest and posttest was calculated using Extended McNemar's test.
- ❖ Effectiveness and generalization of study result was given in percentage with 95% CI and mean difference with 95% CI.
- ❖ Simple bar diagram, Multiple bar diagram, simple bar with 2SE diagram were used to represent the data. A $p$-value of $\leq 0.05$ was considered statistically significant.

## SECTION I: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF STUDY PARTICIPANTS

***Table-4.1: Description of demographic variables of study participants.***

***N=60***

| Demographic variables | | Group(N= 60) | | | | Chi square test |
|---|---|---|---|---|---|---|
| | | Experiment (n=30) | | Control (n=30) | | |
| | | N | % | n | % | |
| Age in years | 3 years | 8 | 26.67% | 9 | 30.00% | $\chi 2=0.11$ p=0.99 DF=3 (NS) |
| | 4 years | 10 | 33.33% | 9 | 30.00% | |
| | 5 years | 8 | 26.67% | 8 | 26.67% | |
| | 6 years | 4 | 13.33% | 4 | 13.33% | |
| Sex of child | Male | 19 | 63.33% | 16 | 53.33% | $\chi 2=0.61$ p=0.43 DF=1 (NS) |
| | Female | 11 | 36.67% | 14 | 46.67% | |
| Birth order of the child | First | 12 | 40.00% | 13 | 43.33% | $\chi 2=0.31$ p=0.86 DF=2 (NS) |
| | Second | 11 | 36.67% | 9 | 30.00% | |
| | Third | 7 | 23.33% | 8 | 26.67% | |
| | Four and above | 0 | 0.00% | 0 | 0.00% | |
| Area of residence | Urban | 6 | 20.00% | 9 | 30.00% | $\chi 2=1.20$ p=0.55 DF=2 (NS) |
| | Sub urban | 7 | 23.33% | 8 | 26.67% | |
| | Rural | 17 | 56.67% | 13 | 43.33% | |
| Type of family | Nuclear family | 22 | 73.33% | 20 | 66.67% | $\chi 2=0.38$ p=0.83 DF=2 (NS) |
| | Joint family | 6 | 20.00% | 8 | 26.66% | |
| | Single parent | 2 | 6.67% | 2 | 6.67% | |

| Demographic variables | | Group(N= 60) | | | | Chi square test |
|---|---|---|---|---|---|---|
| | | Experiment (n=30) | | Control (n=30) | | |
| | | N | % | n | % | |
| Family monthly income | <Rs. 5000 | 1 | 3.33% | 3 | 10.00% | $\chi 2$=1.62 p=0.44 DF=2 (NS) |
| | Rs. 5000 - 10000 | 20 | 66.67% | 21 | 70.00% | |
| | Rs.10001 – 20000 | 9 | 30.00% | 6 | 20.00% | |
| | >Rs. 20000 | 0 | 0.00% | 0 | 0.00% | |
| Religion | Hindu | 17 | 56.67% | 18 | 60.00% | $\chi 2$=0.10 p=0.95 DF=1 (NS) |
| | Christian | 8 | 26.66% | 7 | 23.33% | |
| | Muslim | 5 | 16.67% | 5 | 16.67% | |

p>0.05 not significant

Table 4.1 shows the Demographic variables distribution of children those who are participated in experimental and control group.

Statistically there is no significant difference between experiment and control group. Similarity of Demographic variables distribution between experimental and control group was assessed using chi square test.

***Data presentation in the table 4.1 show the following***

**Age:** In experimental group, 8 (26.67%) children belongs to 3 years, 10 (33.33%) children belongs to 4 years, 8 (26.67%) children belongs to 5 years, 4 (13.33%) children belongs to 6 years. In control group, 9 (30.00%) children belong to 3 years, 9 (30.005) children belongs to 4 years, 8 (26.67%) children belong to 5 years, 4 (13.33%) children belongs to 6 years.

**Sex**:19 (63.33%) children belongs to male, 11 (36.67%) children belongs to female in experimental group., 16 (53.33%) children belongs to male, 14 (46.67%) children belongs to female in control group.

**Birth order of child**: In experimental group, 12 (40.00%) children belongs to first order, 11 (36.67%) children belongs to second order, 7 (23.33%) children belongs to third order, none of them belongs to four and above order. In control group, 13 (43.33%) children belongs to first order, 9 (30.00%) children belongs to second order, 8 (26.67%) children belongs to third order, none of them belongs to four and above order.

**Area of residence:**6 (20.00%) children were from urban area, 7 (23.33%) children were from suburban area, 17 (56.67%) children were from to rural area within experimental group., 9 (30.00%) children were from urban area, 8 (26.67%) children were from suburban area, 13 (43.33%) children were from rural area within control group.

**Type of family:** 22 (73.33%) children belongs to nuclear family, 6 (20.00%) children belongs to joint family, 2 (6.67%) children belongs to single parent in experimental group. 20 (66.67%) children belongs to nuclear family, 8 (26.66%) children belongs to joint family, 2 (6.67%) children belongs to single parent in control group.

**Family monthly income:** In experimental group, 1 (3.33%) children belongs to <Rs.5000 family income, 20 (66.67%) children belongs to Rs. 5000 – 10000 family income, 9 (30.00%) children belongs to Rs. 10001- 20000 family income, none of child belongs to > Rs.20000 family income. In control group, 3 (10.00%) children belongs to <Rs.5000 family income, 21 (70.00%) children belongs to Rs. 5000 – 10000 family income, 6 (20.00%) children belongs to Rs. 10001- 20000 family income, none of children belongs to > Rs.20000 family income.

**Religion:** In experimental group, 17 (56.67%) children belongs to Hinduism, 8 (26.67%) children belongs to Christianity, 5 (16.67%) children belongs to Muslim. In control group, 18 (60.00%) children belongs to Hinduism, 7 (23.33%) children belongs to Christianity, 5 (16.67%) child belongs to Muslim.

***Fig: 4.1: Cylindrical bar diagram shows the age distribution of children***

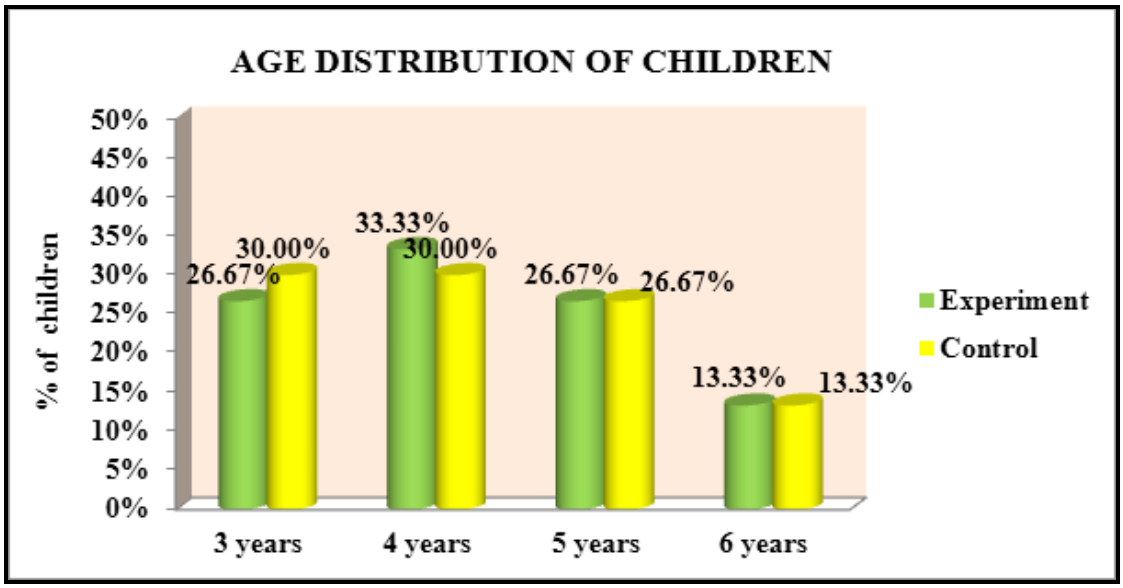



***Fig: 4.2: Cylindrical bar diagram shows the gender distribution of children***

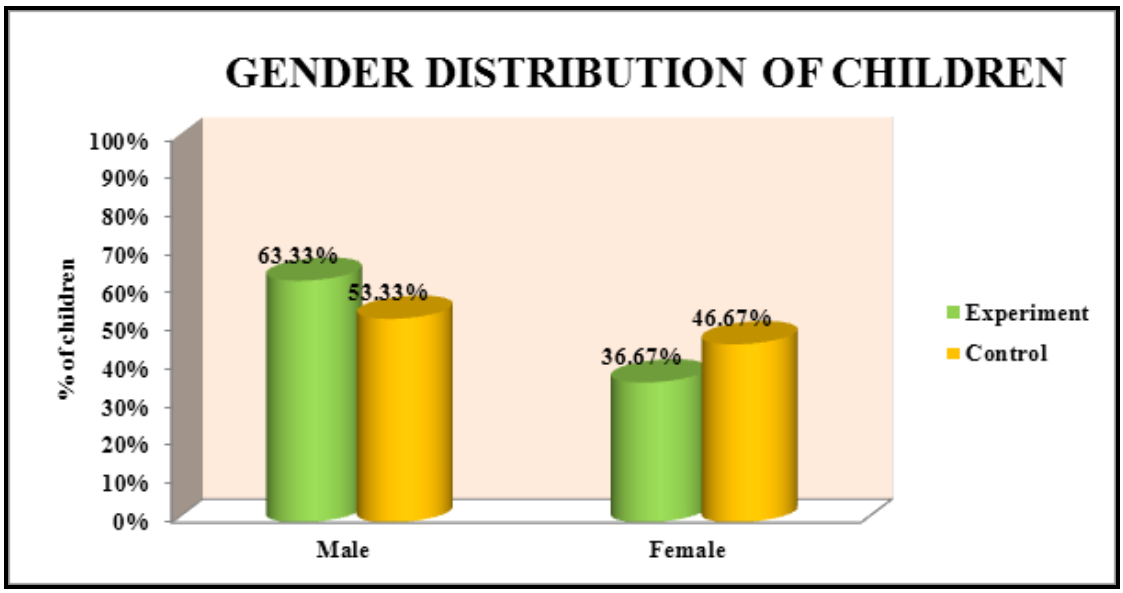


*Fig: 4.3: Bar diagram shows the birth order of children*

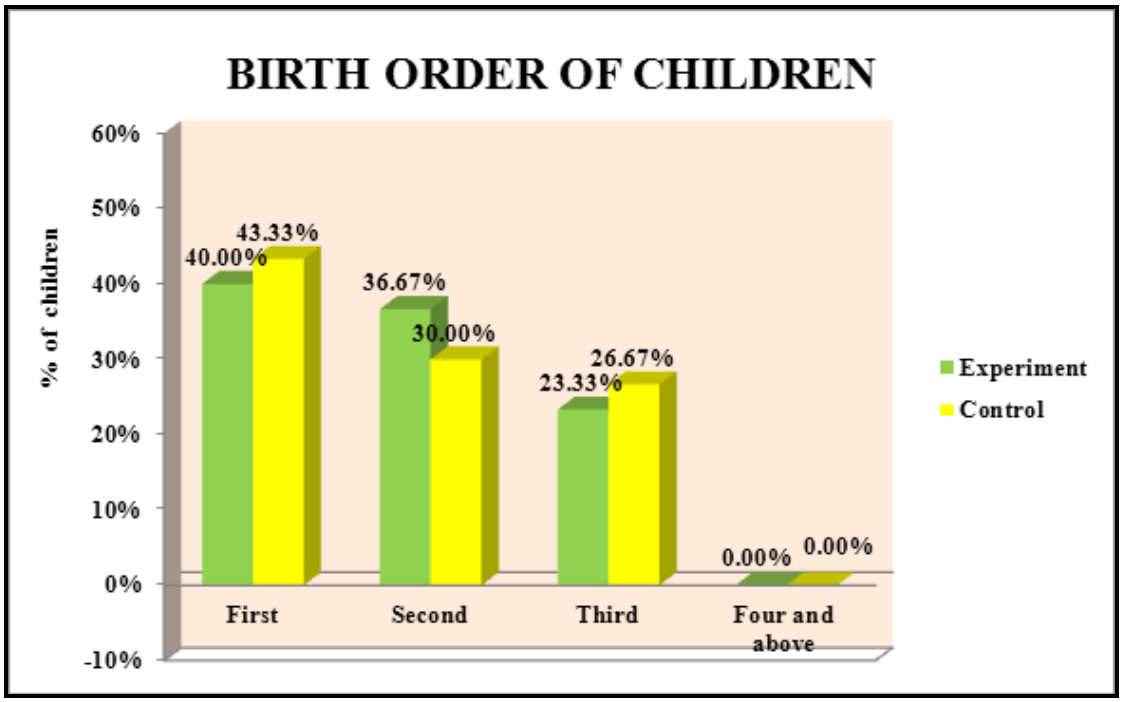



*Fig: 4.4: Bar diagram shows the area of residence of children*

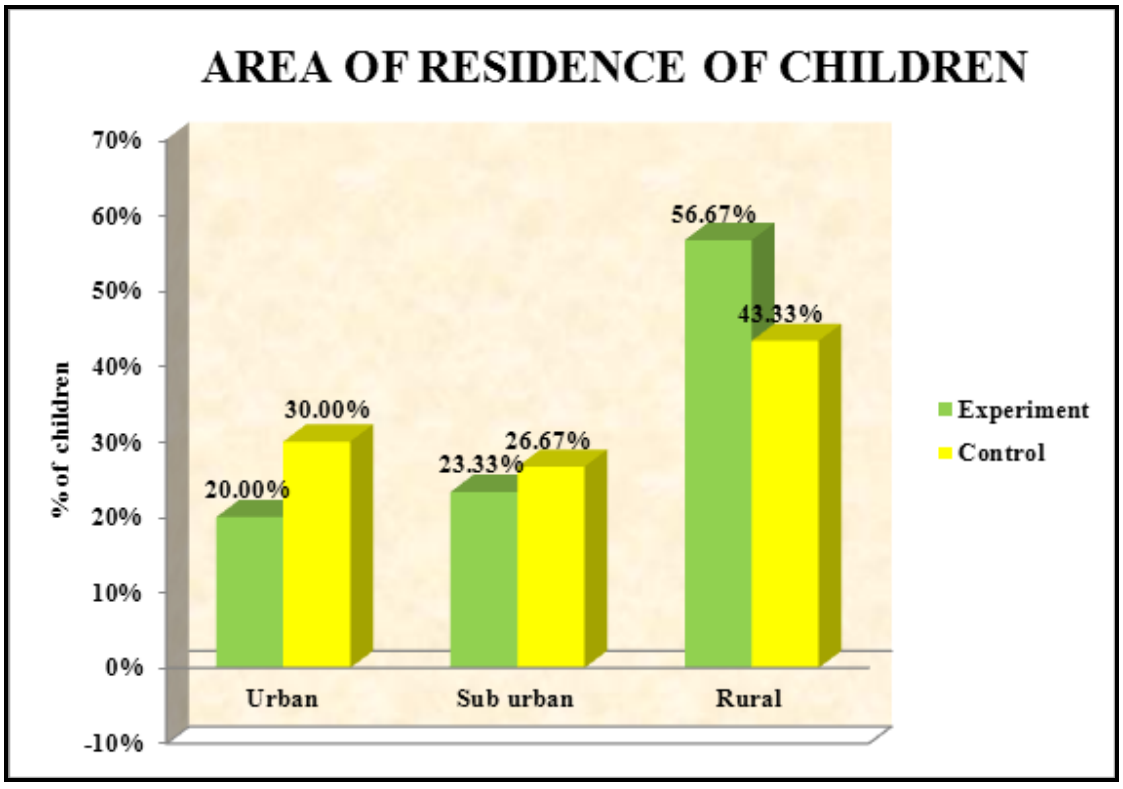


*Fig: 4.5: Bar diagram shows the type of family of children*

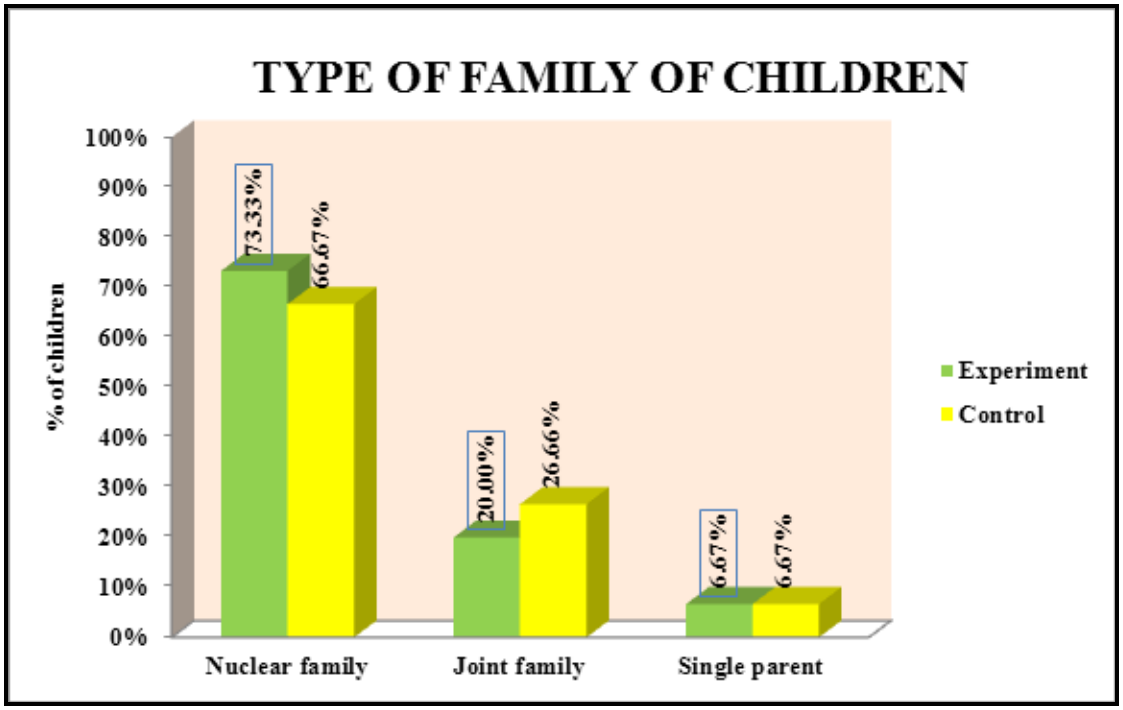



*Fig: 4.6: Cylindrical bar diagram shows the family monthly income of children*

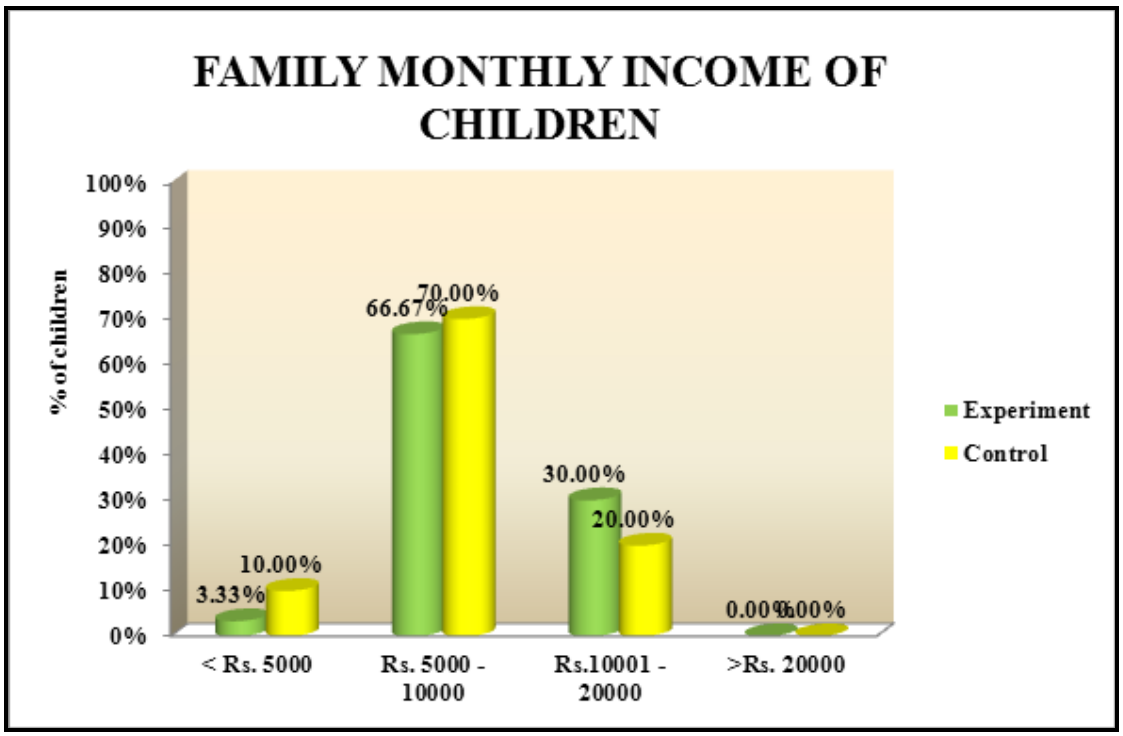


*Fig: 4.7: Bar diagram shows the religion of children*

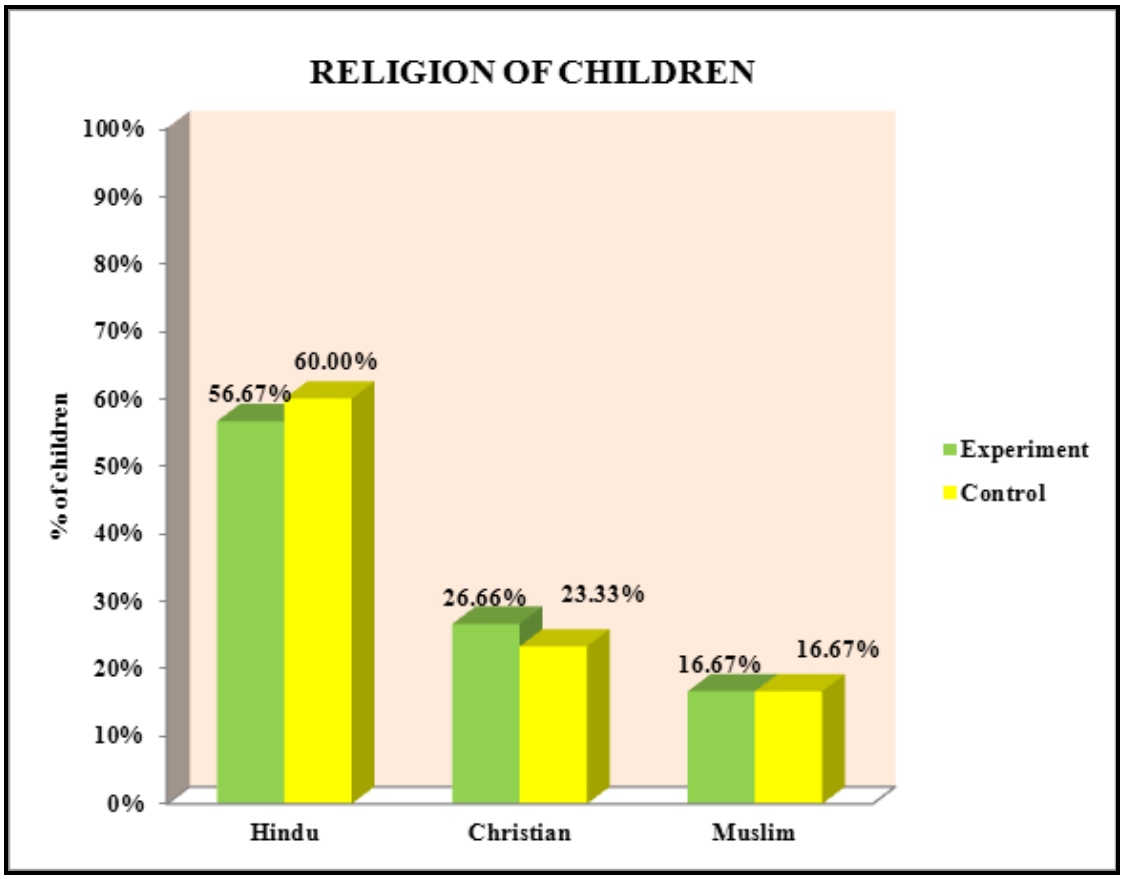


***Table- 4.2: Description of Clinical Variables***

| Clinical variables | | Group (N=60) | | | | Chi square test |
|---|---|---|---|---|---|---|
| | | Experiment (n=30) | | Control (n=30) | | |
| | | n | % | n | % | |
| Type of surgery | Major surgery | 19 | 63.33% | 19 | 63.33% | $\chi 2$=0.00 p=1.00 DF=1 (NS) |
| | Minor surgery | 11 | 36.67% | 11 | 36.67% | |
| Number of post operative day | Day 1 | 20 | 66.67% | 17 | 56.67% | $\chi 2$=1.42 p=0.49 DF=2 (NS) |
| | Day 2 | 10 | 33.33% | 12 | 40.00% | |
| | > 2 Days | 0 | 0.00% | 1 | 3.33% | |
| Frequency of surgical dressing | Once a day | 14 | 46.67% | 17 | 56.67% | $\chi 2$=1.43 p=0.49 DF=2 (NS) |
| | Twice a day | 15 | 50.00% | 13 | 43.33% | |
| | Thrice a day | 1 | 3.33% | 0 | 0.00% | |
| Any previous surgery | Yes | 6 | 20.00% | 11 | 36.67% | $\chi 2$=2.05 p=0.15 DF=2 (NS) |
| | No | 24 | 80.00% | 19 | 63.33% | |
| Parents allowed during dressing | Yes | 11 | 36.67% | 13 | 43.33% | $\chi 2$=0.27 p=0.60 DF=2 (NS) |
| | No | 19 | 63.33% | 17 | 56.67% | |

p>0.05 not significant

Table 4.2 shows the Clinical variables distribution of children those who are participated in experimental and control group. Statistically there is no significant difference between experiment and

control group. Similarity of clinical variables distribution between experimental and control group was assessed using chi square test.

***Data presentation in the table show the following***

**Type of surgery:** 19 (63.33%) children had undergone major surgery, 11 (36.67%) children had under gone minor surgery in experimental group. 19 (63.33%) children had undergone major surgery, 11 (36.67%) children had under gone minor surgery in control group,.

**Number of post operative days:** In experimental group, 20 (66.67%) children is in first post operative day, 10 (33.33%) children is in second post operative day, none of the children is in > 2 post operative days. In control group, 17 (56.67%) children is in first post operative day, 12 (40.00%) children is in second post operative day, 1 (3.33%) children is in > 2 post operative days.

**Frequency of dressing**: In experimental group, 14 (46.67%) children had dressing once a day, 15 (50.00%) children had dressing twice a day, 1 (3.33%) children had dressing thrice a day. In control group, 17 (56.67%) children had dressing once a day, 13 (43.33%) children had dressing twice a day, and none of the child had dressing thrice a day.

**Previous surgery**: 6 (20.00%) children undergone previous surgery, 24 (80.00%) children did not undergone previous surgery in experimental group. In control group, 11 (36.67%) children undergone previous surgery, 19 (63.37%) children did not undergone previous surgery.

**Parents allowed during dressing**: In experimental group, 11(36.67%) children was accompanied by parents during dressing, 19 (63.33%) children was not accompanied by parents during dressing. In control group, 13(43.33%) children was accompanied by parents during dressing, 17 (56.67%) children was not accompanied by parents during dressing.

*Fig: 4.8: Bar diagram shows the type of surgery of children*

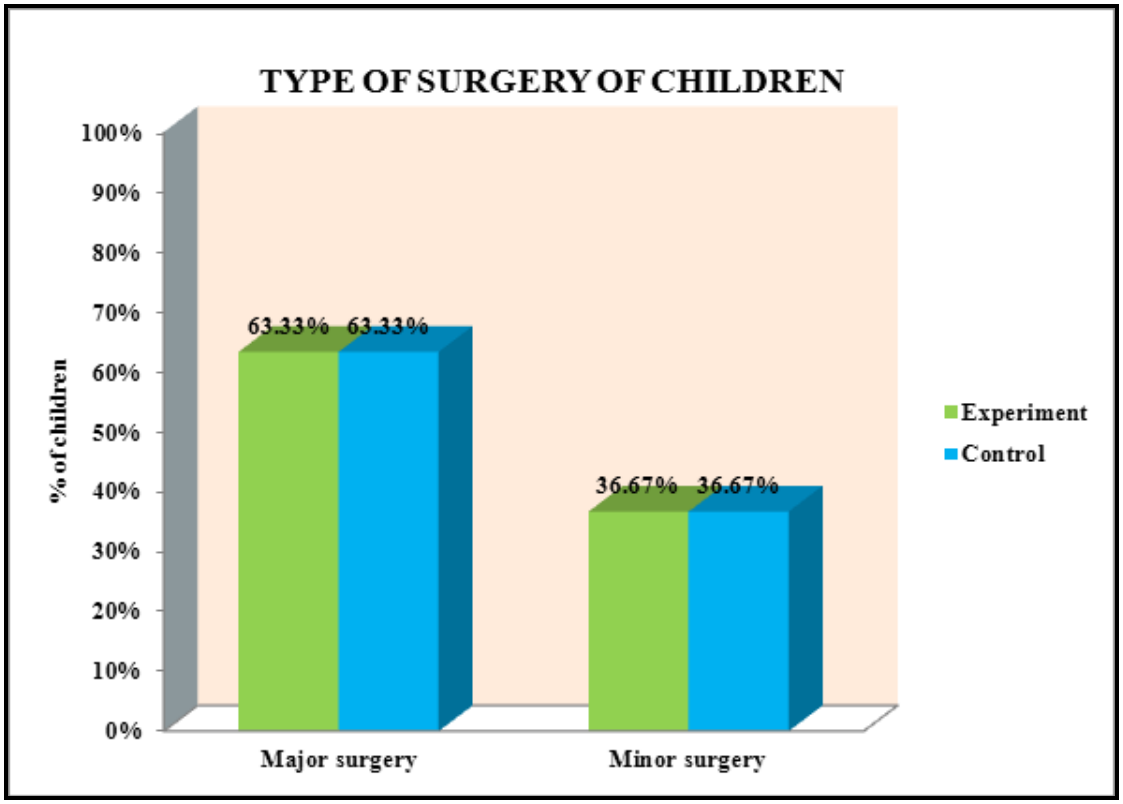



*Fig: 4.9: Bar diagram shows the number of post operative day in children*

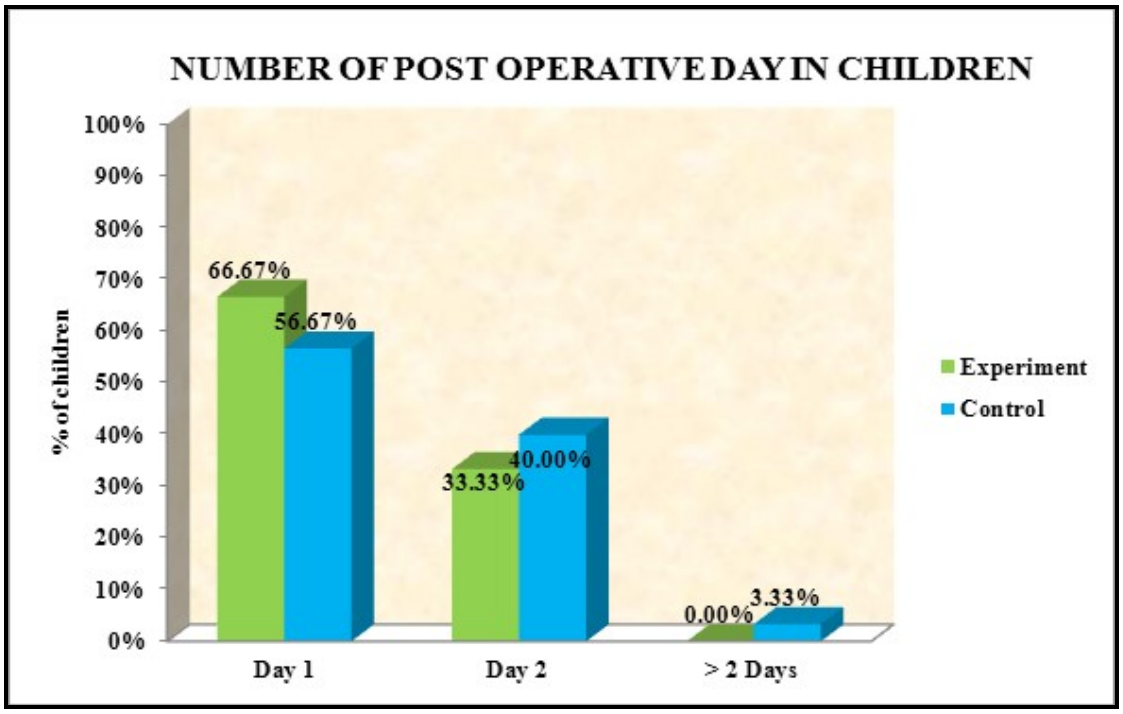


*Fig: 4.10: Bar diagram shows the frequency of surgical dressing in children*

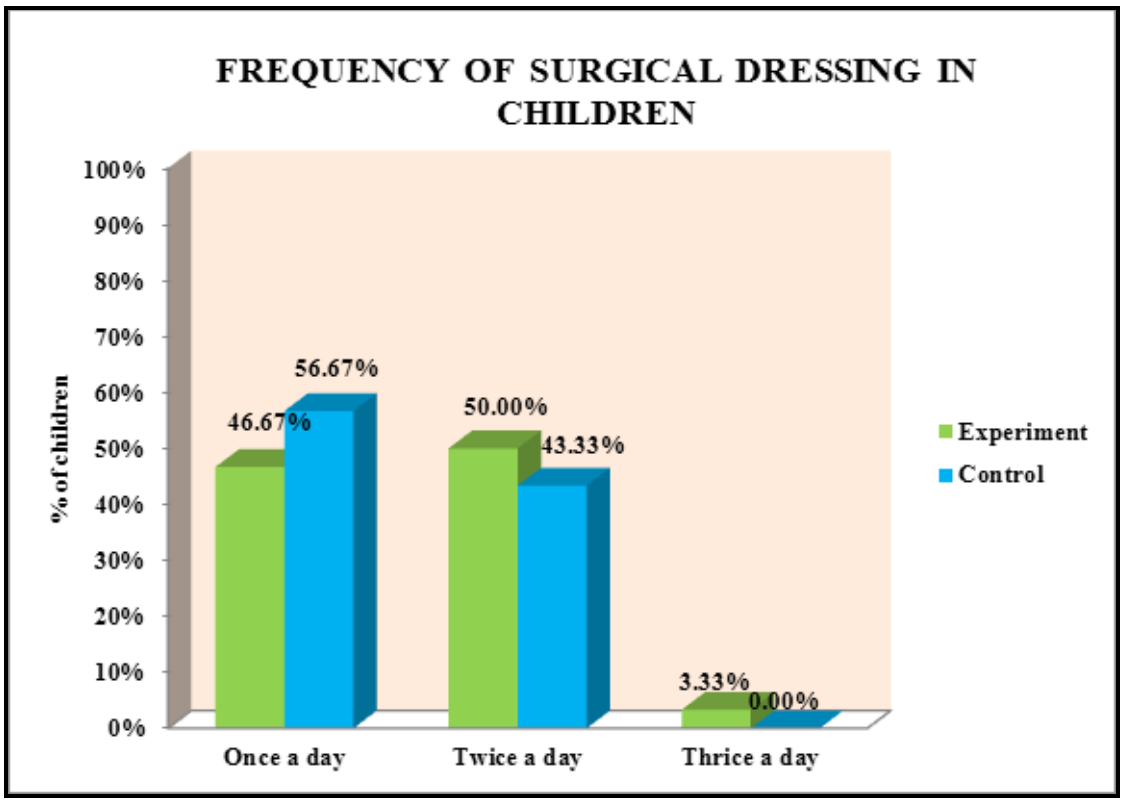



*Fig: 4.11: Bar diagram shows the previous surgery in children*

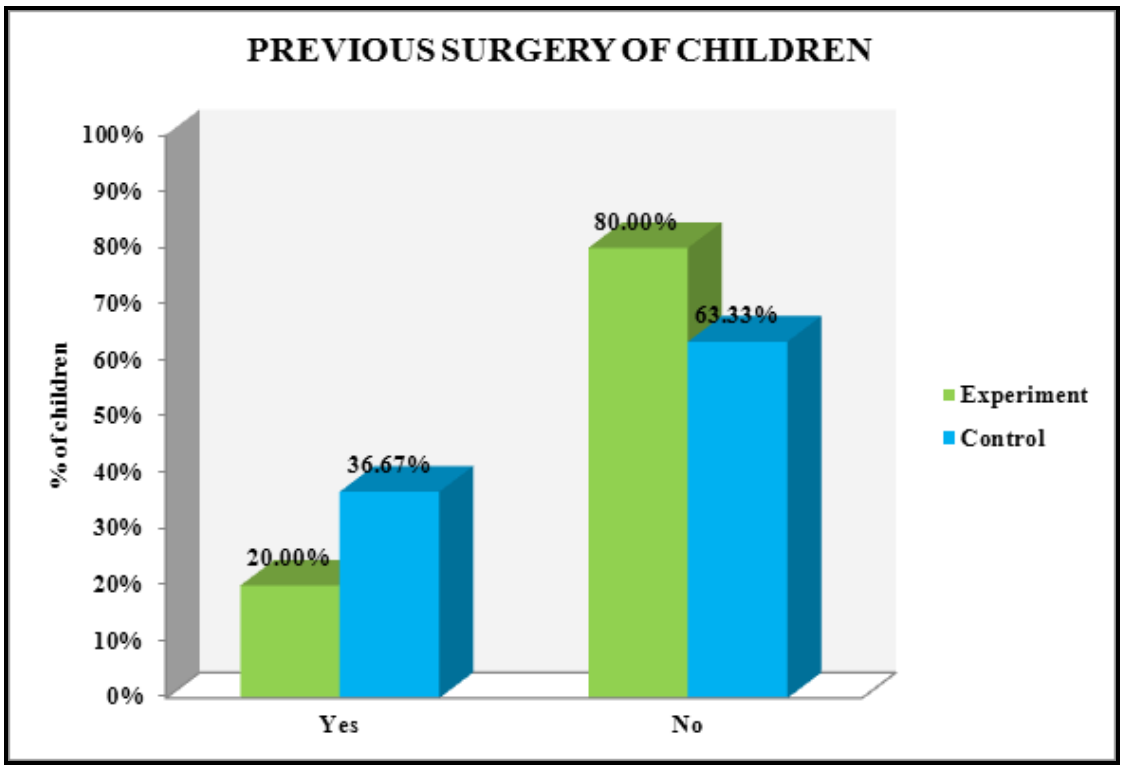
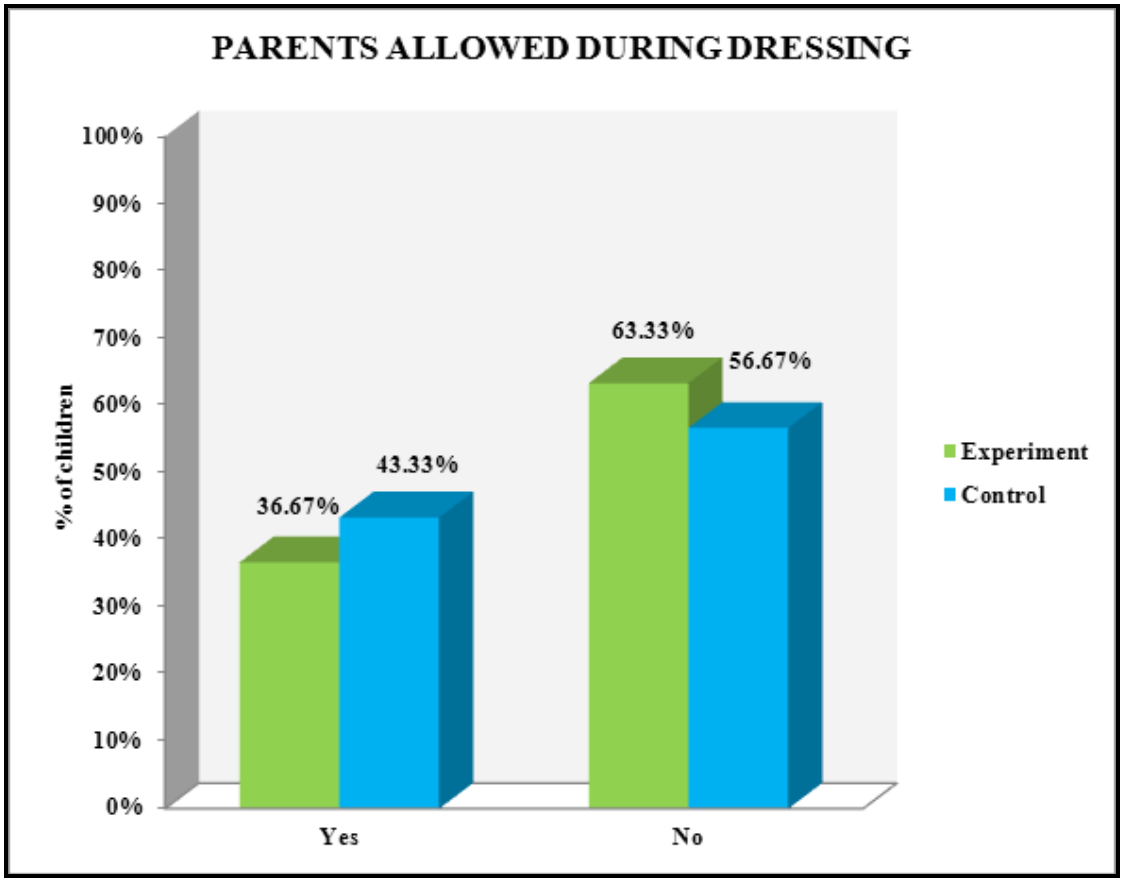


*Fig: 4.12: Bar diagram shows the parents allowed during dressing*



## SECTION-II: DESCRIPTION OF PRE-TEST LEVEL OF PAIN OF STUDY PARTICIPANTS IN EXPERIMENTAL AND CONTROL GROUP

***Objective-1: To assess the pre test level of pain during surgical dressing among children in experimental group and control group.***

***Table-4.3: Comparison of Pretest level of Pain score among children in experimental group and control group during surgical dressing***

| Level of Pain | Group | | | | Chi square test |
|---|---|---|---|---|---|
| | Experiment | | Control | | |
| | n | % | n | % | |
| No pain | 0 | 0.00% | 0 | 0.00% | $\chi 2=0.29 p=0.57$ DF=2(NS) |
| Mild pain | 0 | 0.00% | 0 | 0.00% | |
| Moderate pain | 10 | 33.33% | 12 | 40.00% | |
| Severe pain | 20 | 66.67% | 18 | 60.00% | |
| Total | 30 | 100.00% | 30 | 100.00% | |

$p>0.05$ not significant

Table 4.3 explains pretest level of pain score among children in experimental group and control group during surgical dressing. In Experiment group, none of the children are having no pain, none of them are having mild pain, 10 (33.33%) of them are having moderate pain and 20 (66.67%) of them are having severe pain. In control group, In pretest, none of the children are having no pain, none of them are having mild pain, 12 (40.00%) of them are having moderate pain and 18 (60.00%) of them are having severe pain. Statistical significance was calculated by using chi square test.

*Fig-4.13: Cylindrical bar diagram shows the comparison of pretest level of pain score among children during surgical dressing*

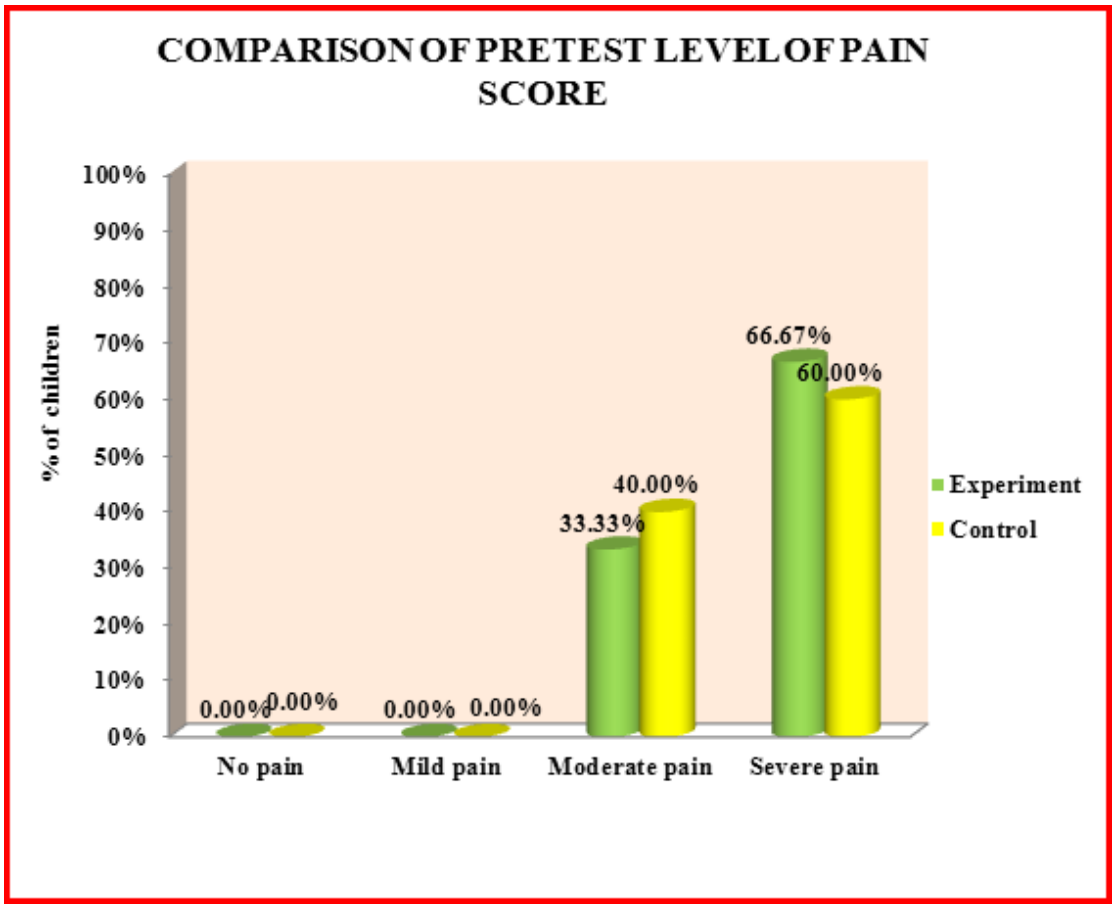


***Table-4.4: Comparison of Mean Pretest Pain Score of Experimental and Control Group***

| Group | N | Mean score | Std. Deviation | Mean Difference | Student's independent t-test |
|---|---|---|---|---|---|
| Experiment | 30 | 7.60 | 1.33 | 0.13 | t=0.38p=0.71 DF=58, significant |
| Control | 30 | 7.47 | 1.38 | | |

p>0.05 not significant

Table 4.4 shows the comparison of mean pretest pain scores between experimental and control group of children. Experiment group of children are having 7.60 score and control group children are having 7.47 score, so the difference is 0.13 score. This difference is small and it is statistically significant difference. Statistical significance was calculated by using student's independent 't'test.

## SECTION-III: DESCRIPTION OF POST TEST LEVEL OF PAIN OF STUDY PARTICIPANTS IN EXPERIMENTAL AND CONTROL GROUP

***Objective-2: To evaluate the effectiveness of different pain management program during surgical dressing among children in experimental group and control group.***

***Table-4.5: Comparison of Posttest level of Pain score among children in experimental group and control group during surgical dressing***

| Level of Pain | Group | | | | Chi square test |
|---|---|---|---|---|---|
| | Experiment | | Control | | |
| | n | % | n | % | |
| No pain | 7 | 23.33% | 0 | 0.00% | $\chi 2=31.86 p=0.001^{***}$ DF=2(S) |
| Mild pain | 11 | 36.67% | 0 | 0.00% | |
| Moderate pain | 12 | 40.00% | 17 | 56.67% | |
| Severe pain | 0 | 0.00% | 13 | 43.33% | |
| Total | 30 | 100.00% | 30 | 100.00% | |

***p≤<0.001very high significant

Table 4.5 describes posttest level of pain score among children in experimental group and control group during surgical dressing. In Experiment group, in posttest, 7 (23.33%) of the children are having no pain score, 11 (36.67%) of the children are having mild pain score, 12 (40.00%) of them are having moderate pain score and none of them are having severe pain score. In control group, In posttest, none of the children are having no pain score, 11 (36.67%) none of the children are having mild pain score, 17 (56.67%) of them are having moderate pain score and 13 (43.33%) of them are having severe pain score. Statistical significance was calculated by using chi square test.

*Fig-4.14: Cylindrical bar diagram shows the comparison of posttest level of pain score among children*

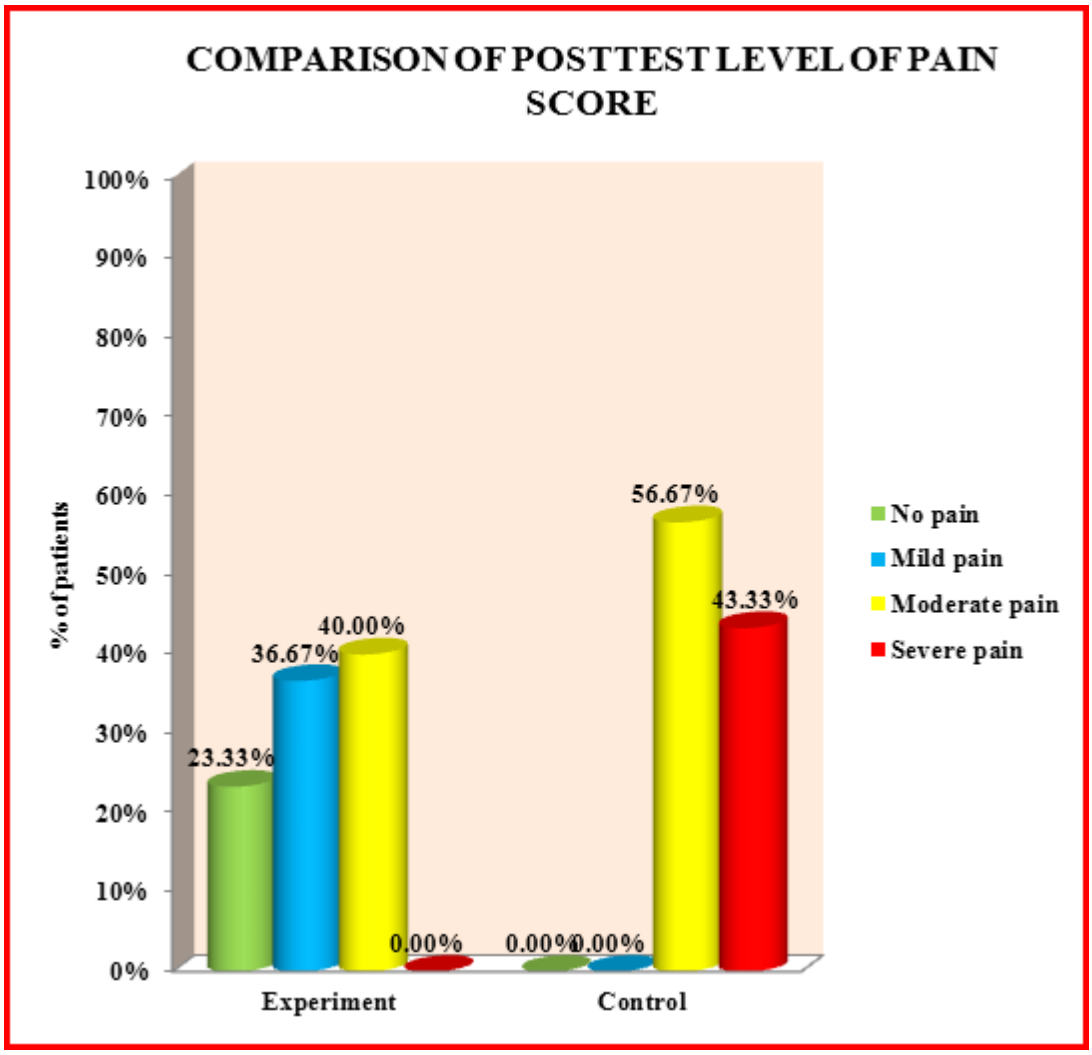


***Table-4.6: Comparison of Mean Posttest Pain Score of Experimental and Control Group***

| Group | N | Mean score | Std. Deviation | Mean difference | Student's independent t-test |
|---|---|---|---|---|---|
| Experiment | 30 | 3.27 | 2.21 | 3.53 | t=7.50p=0.001*** DF=58, significant |
| Control | 30 | 6.80 | 1.32 | | |

***p≤<0.001 significant

Table 4.6 shows the comparison of mean post test pain score between experimental and control group of children during surgical dressing. Experiment group of children are having 3.27 score and control group children are having 6.80 score, so the difference is 3.53 score. This difference is large and it is statistically significant difference. Statistical significance was calculated by using student's independent 't'test.

## SECTION-IV: COMPARISON OF PRE-TEST AND POST TEST LEVEL OF PAIN OF STUDY PARTICIPANTS IN EXPERIMENTAL AND CONTROL GROUP.

***Objective-3: To compare the pretest and posttest level of pain during surgical dressing among children in experimental group and control group.***

***Table-4.7: Comparison of Pretest and Posttest level of Pain score among children during surgical dressing in Experiment group***

| Level of Pain | Group | | | | Extended McNemar's test |
|---|---|---|---|---|---|
| | Pretest | | Posttest | | |
| | n | % | n | % | |
| No pain | 0 | 0.00% | 7 | 23.33% | $\chi 2=24.92 p=0.001^{***}$ DF=2(S) |
| Mild pain | 0 | 0.00% | 11 | 36.67% | |
| Moderate pain | 10 | 33.33% | 12 | 40.00% | |
| Severe pain | 20 | 66.67% | 0 | 0.00% | |
| Total | 30 | 100.00% | 30 | 100.00% | |

***p≤<0.001 significant

Table 4.7 explains pretest and Posttest level of pain among children during surgical dressing in Experiment group. In pretest, none of the children are having no pain, none of them are having mild pain, 10 (33.33%) of them are having moderate pain and 20 (66.67%) of them are having severe pain. In posttest, 7 (23.33%) of the children are having no pain score, 11 (36.67%) of the children are having mild pain score, 12 (40.00%) of them are having moderate pain score and none of them are having severe pain score. Statistically there is a significant difference between pretest and posttest pain score among experiment group. Pretest and Posttest level of Pain statistical significance was calculated by using Extended McNemar's chi square test.

*Fig-4.15: Multiple bar diagram shows the comparison of pretest and posttest level of pain score among experiment group children*

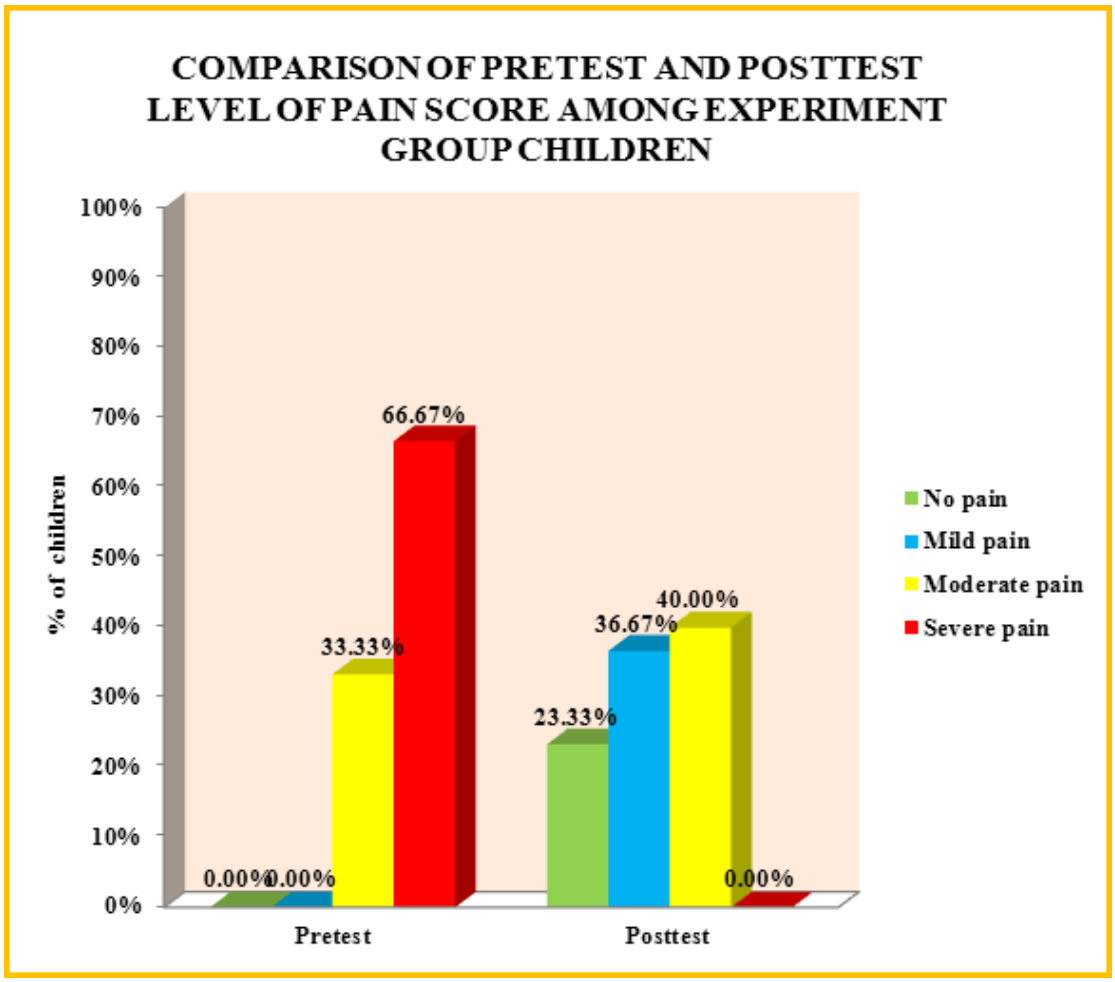


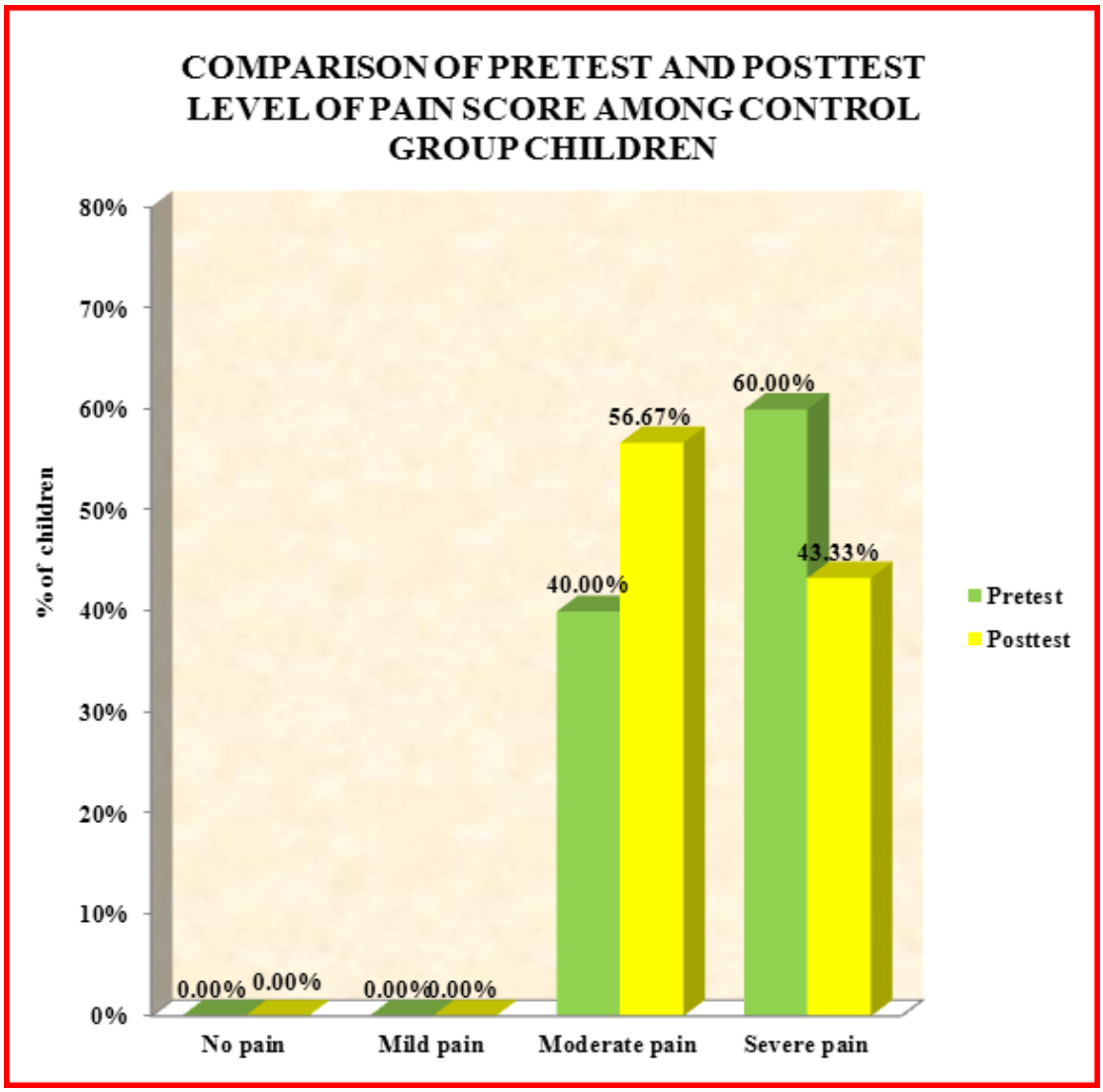
***Table-4.8: Comparison of pretest and posttest level of pain score among children during surgical dressing in control group***

| Level of Pain | Group | | | | Extended McNemar's test |
|---|---|---|---|---|---|
| | Pretest | | Posttest | | |
| | n | % | n | % | |
| No pain | 0 | 0.00% | 0 | 0.00% | $\chi 2=1.93 p=0.16$ DF=1(NS) |
| Mild pain | 0 | 0.00% | 0 | 0.00% | |
| Moderate pain | 12 | 40.00% | 17 | 56.67% | |
| Severe pain | 18 | 60.00% | 13 | 43.33% | |
| Total | 30 | 100.00% | 30 | 100.00% | |

p>0.05 significant

Table 4.8 explains Pretest and Posttest level of pain among children during surgical dressing in control group. In pretest, none of the children are having no pain, none of them are having mild pain, 12 (40.00%) of them are having moderate pain and 18 (60.00%) of them are having severe pain. In posttest, none of the children are having no pain, none of them are having mild pain, 17 (56.67%) of them are having moderate pain score and 13 (43.33%) of them are having severe pain score. Statistically there is no significant difference between pretest and posttest pain score among control group. Pretest and Posttest level of Pain statistical significance was calculated by using Extended McNemar's chi square test.

*Fig-4.16: Multiple bar diagram shows the comparison of pretest and posttest level of pain score among control group children*



## SECTION-V: EFFECTIVENESS OF DIFFERENT PAIN MANAGEMENT PROGRAM IN REDUCING PAIN

***Table-4.9: Comparison of mean pretest and posttest pain score (experiment)***

| Group | N | Mean score | Std. Deviation | Mean difference | Student's paired t-test |
|---|---|---|---|---|---|
| Pretest | 30 | 7.60 | 1.33 | 4.33 | t=10.41p=0.001*** DF=29, significant |
| Posttest | 30 | 3.27 | 2.21 | | |

***p≤<0.001 significant

Table 4.9 shows the comparison of mean pretest Pain score and posttest mean pain score among experimental group children during surgical dressing.

On an average, in pretest, experimental group children are having 7.60 score and in posttest they are having 3.27 score, so the difference is 4.33 score. This difference is large and it is statistically significant Statistical significance was calculated by using student's paired 't'test.

***Fig: 4.17: Plot diagram shows the comparison of mean pretest and posttest mean pain score among experimental group children***

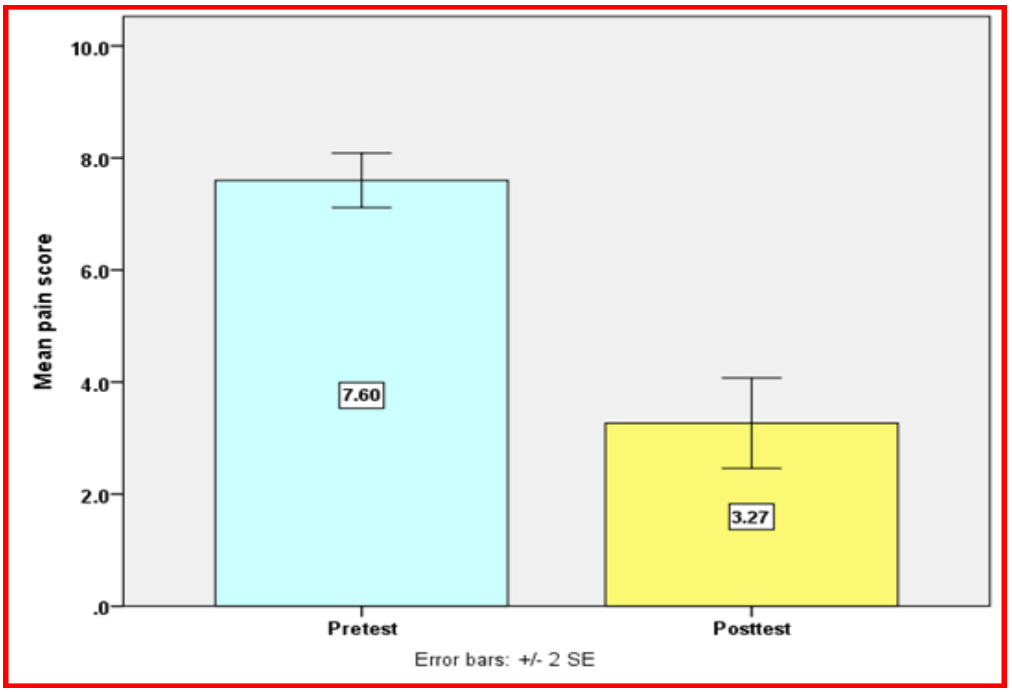


***Table-4.10: Effectiveness of different Pain management program and Generalization of pain reduction in experimental group***

| Test | Maximum score | Mean score | % of Mean score | Mean Difference of pain reduction score with 95% Confidence interval | Percentage Difference of pain reduction score with 95% Confidence interval |
|---|---|---|---|---|---|
| Pretest | 10 | 7.60 | 76.00% | 43.30 (3.48 – 5.18) | 43.30% (34.80% – 51.80%) |
| Posttest | 10 | 3.27 | 32.70% | | |

Table 4.10 exhibis the effectiveness of different Pain management program and Generalization of pain reduction in experimental group. In experimental group of children are reduced 43.30% pain score after having intervention. Differences and generalization of pain reduction score between pretest and posttest score was calculated using and mean difference with 95% CI and proportion with 95% CI.

***Table-4.11: Comparison of mean pretest and posttest pain score (control)***

| Group | N | Mean score | Std. Deviation | Mean difference | Student's paired t-test |
|---|---|---|---|---|---|
| Pretest | 30 | 7.47 | 1.38 | 0.67 | t=1.87p=0.07 DF=29, not significant |
| Posttest | 30 | 6.80 | 1.32 | | |

p<0.07not significant

Table 4.11 shows the comparison of mean pretest pain score and posttest mean pain score among control group children during surgical dressing. On an average, in pretest, control group children are having 7.47 score and in posttest they are having 6.80 score, so the difference is 0.67 score. This difference is small and it is not statistically significant difference. Statistical significance was calculated by using student's paired 't'test.

*Fig-4.18: Plot diagram shows the comparison of mean pretest and posttest mean pain score among control group children*

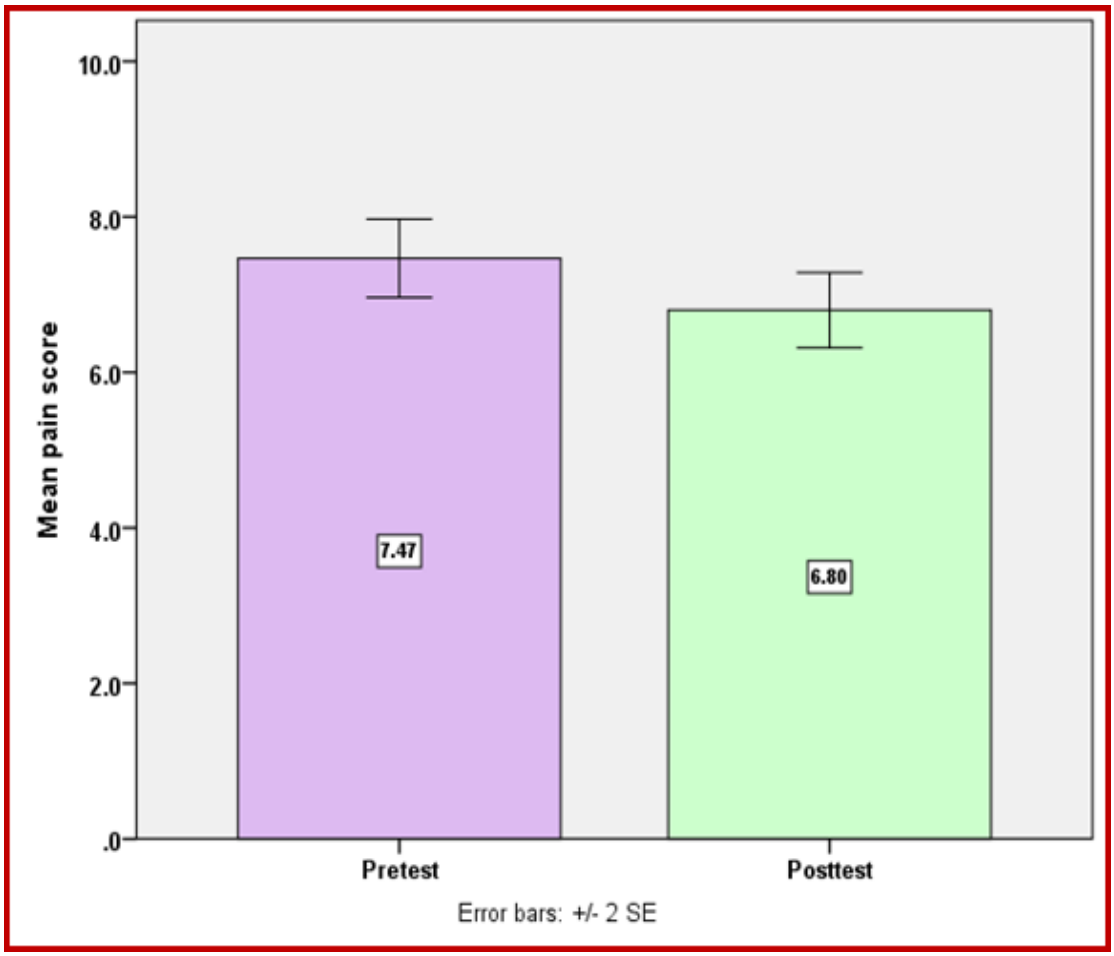


***Table-4.12: Effectiveness of different Pain management program and Generalization of pain reduction in control group***

| Test | Maximum score | Mean score | % of Mean score | Mean Difference of pain reduction score with 95% Confidence interval | Percentage Difference of pain reduction score with 95% Confidence interval |
|---|---|---|---|---|---|
| Pretest | 10 | 7.47 | 74.70% | 0.67 (-0.02 – 1.34) | 6.70% (-0.20% – 10.34%) |
| Posttest | 10 | 6.80 | 68.00% | | |

Table 4.12 shows the effectiveness of different Pain management program and Generalization of pain reduction score in control group. In control group of children are reduced 6.730% pain score after having routine care. Differences and generalization of pain reduction score between pretest and posttest score was calculated using and mean difference with 95% CI and proportion with 95% CI.

***Table-4.13: Comparison of pretest and posttest level of pain in experimental and control group during surgical dressing.***

| Observation | Experimental group (n=30) | | | |
|---|---|---|---|---|
| | **Mean** | **SD** | **'t' value** | **Pain reduction (%)** |
| Pretest | 7.60 | 1.33 | t = 10.41is significant as table value is 2.0 for df=29 at p<0.05. | **43.30%** |
| Posttest | 3.27 | 2.21 | | |

| Observation | Control group (n=30) | | | |
|---|---|---|---|---|
| | **Mean** | **SD** | **'t' value** | **Pain reduction (%)** |
| Pretest | 7.47 | 1.38 | t = 1.87 is not significant as table value is 2.0 for df=29 at p<0.05. | **6.07%** |
| Posttest | 6.80 | 1.32 | | |

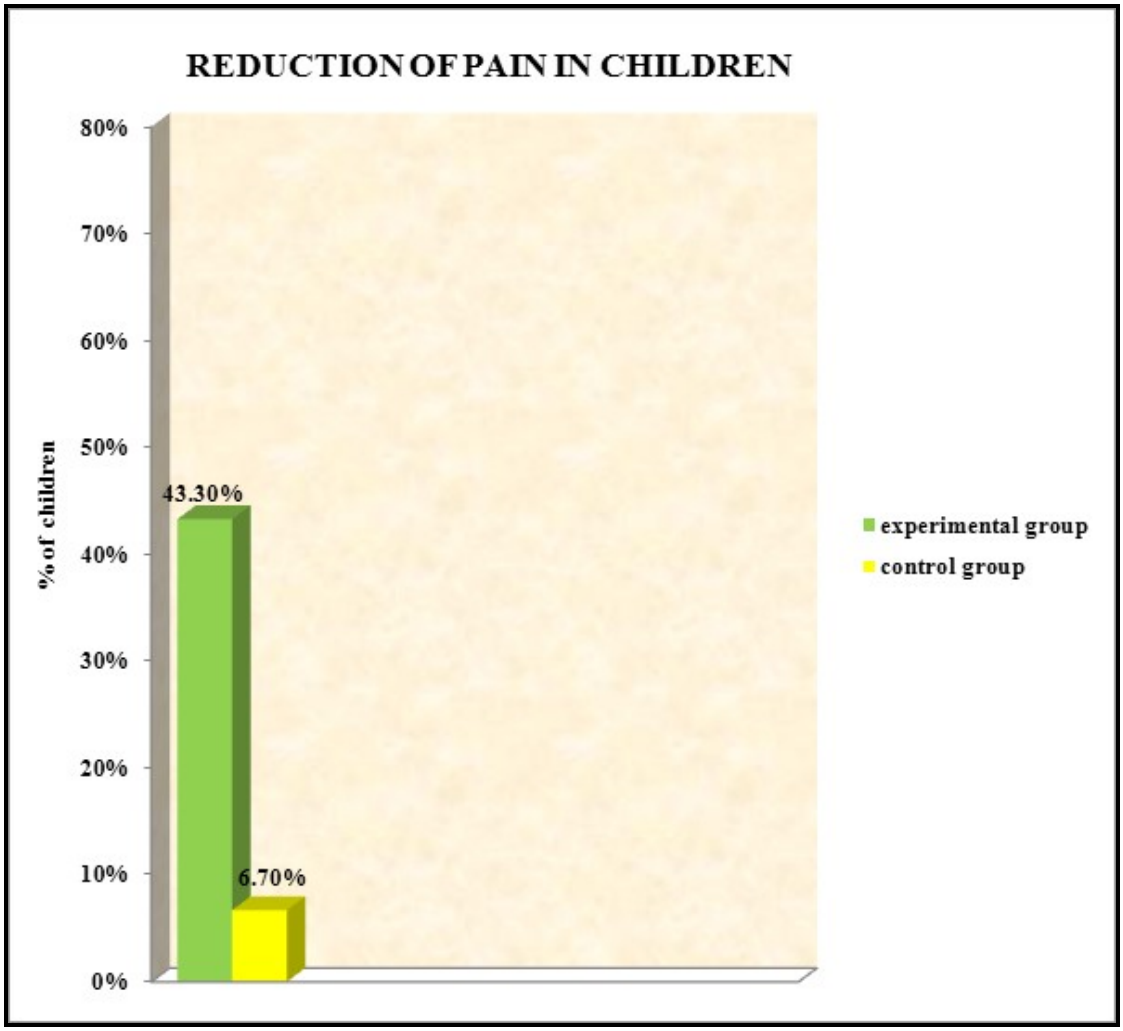
***Statistical test-1***

$H_1$: There will be a significant difference between the level of pain during surgical dressing among children in experimental group and control group.

***Inference***

Here $H_1$ is accepted. From the above test, it is seen that the't' value (10.41) is more than the table value (2.0) for DF= 29. Hence there is significant difference between the intensity of pain score observed in experimental and control group during surgical dressing. Therefore it is inferred that different pain management program helps in reducing pain during surgical dressing among preschool children as distracter.

***Fig-4.19: Bar diagram shows the level of pain reduction in children among experimental group and control group.***



## SECTION-VI: ASSOCIATION BETWEEN THE POSTTEST LEVEL OF PAIN ANDSELECTED DEMOGRAPHIC VARIABLE INEXPERIMENTAL AND CONTROL GROUP.

***Objective-4: To associate the posttest level of pain during surgical dressing among children and their selected demographic variables.***

***Table-4.14: Association between posttest level of pain score and Demographic variables of children among Experiment group***

| Demographic variables | | Posttest level of Pain score | | | | | | | | n | Chi square test |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No pain | | Mild pain | | Moderate pain | | Severe pain | | | |
| | | n | % | N | % | n | % | N | % | | |
| Age in years | 3 years | 0 | 0.00% | 2 | 25.00% | 6 | 75.00% | 0 | 0.00% | 8 | $\chi 2=12.49$ p=0.05* DF=6 (S) |
| | 4 years | 1 | 10.00% | 3 | 30.00% | 6 | 60.00% | 0 | 0.00% | 10 | |
| | 5 years | 3 | 37.50% | 5 | 62.50% | 0 | 0.00% | 0 | 0.00% | 8 | |
| | 6 years | 3 | 75.00% | 1 | 25.00% | 1 | 25.00% | 0 | 0.00% | 4 | |
| Birth order of the child | First | 0 | 00.00% | 5 | 41.67% | 7 | 58.33% | 0 | 0.00% | 12 | $\chi 2=10.61$ p=0.05* DF=2 (S) |
| | Second | 3 | 27.27% | 3 | 45.45% | 5 | 27.27% | 0 | 0.00% | 11 | |
| | Third | 4 | 57.14% | 3 | 42.86% | 0 | 0.00% | 0 | 0.00% | 7 | |
| | Four and above | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | 0.00% | 0 | |

Table 4.14 describes the association between posttest level of pain score and selected demographic variables of children among experiment group. In experimental group, the posttest level of pain was associated with the age (**$\chi 2=12.49$**) and birth order (**$\chi 2=10.61$**). Elder children and more birth order children are having mild pain score than others. Statistically there is a significant difference. It was confirmed using chi-square test.

*Fig-4.20: Cylindrical bar diagram shows the association between posttest level of pain score and age of children among experiment group*

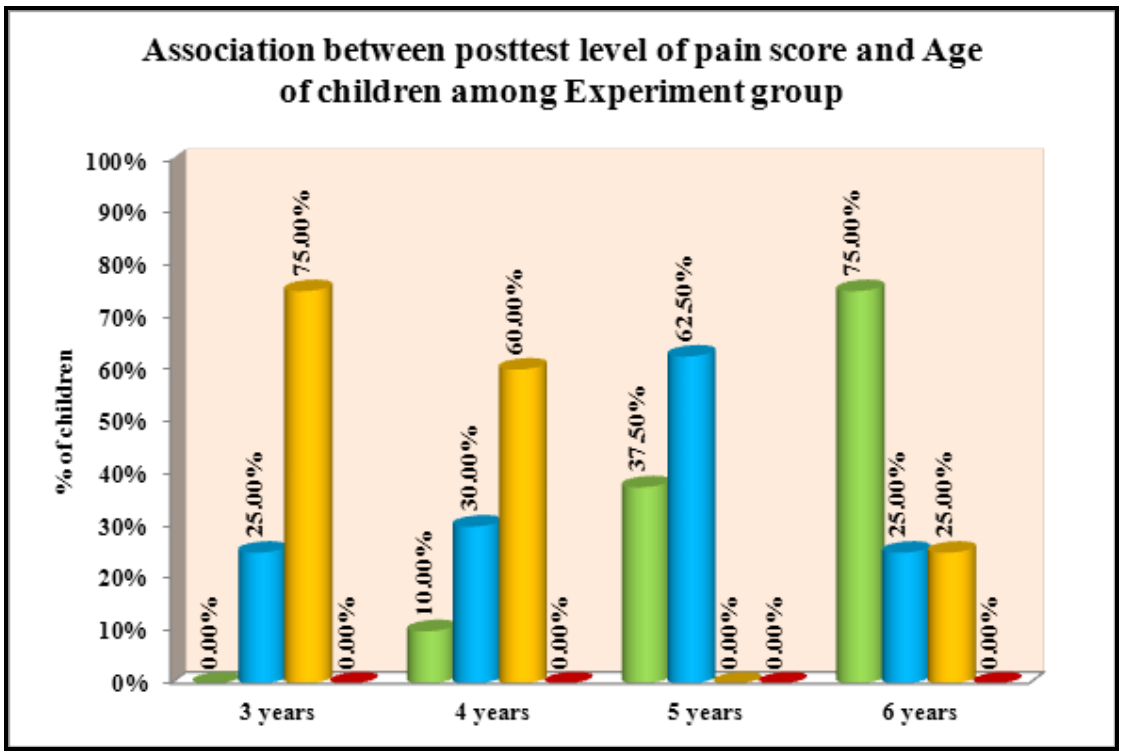



*Fig: 4.21: Cylindrical bar diagram shows the association between posttest level of pain score and birth order of children among experiment group*

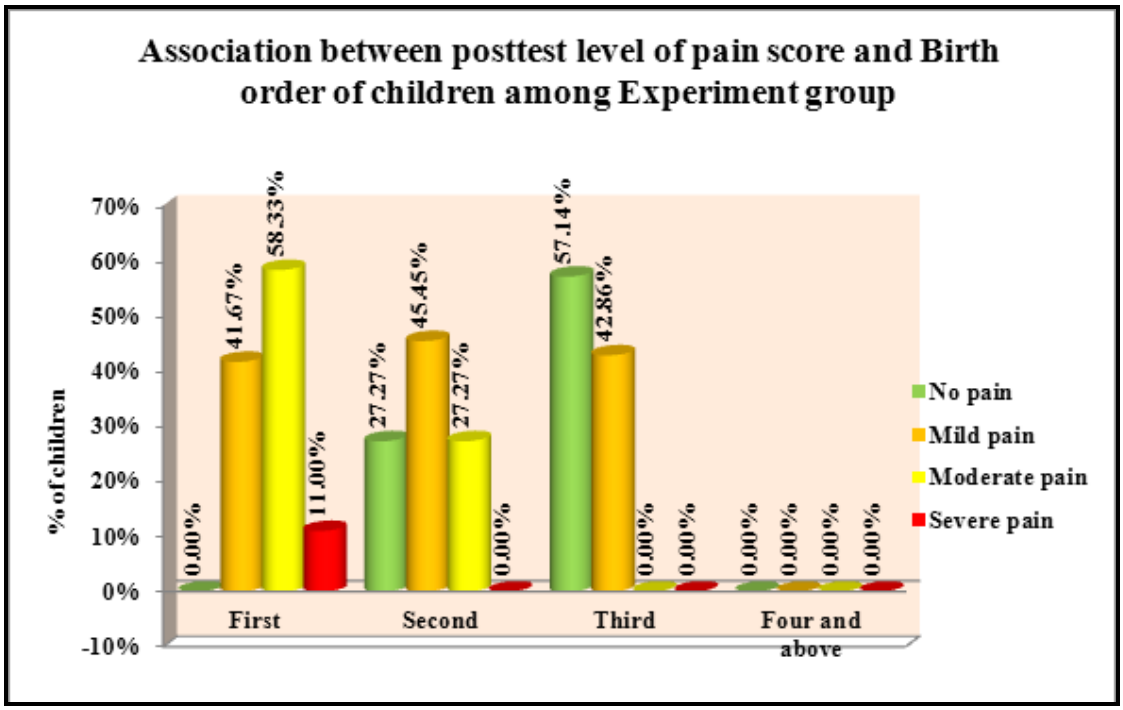


***Table-4.15: Association between posttest level of pain score and Clinical variables of children among Experiment group***

| Clinical variables | | Posttest level of Pain score | | | | | | | | n | Chi square test |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No pain | | Mild pain | | Moderate pain | | Severe pain | | | |
| | | n | % | N | % | n | % | n | % | | |
| Type of surgery | Major surgery | 1 | 5.26% | 8 | 42.11% | 10 | 52.63% | 0 | 0.00% | 19 | $\chi 2=9.73$ p=0.01** DF=2 (S) |
| | Minor surgery | 6 | 54.54% | 3 | 27.27% | 2 | 18.18% | 0 | 0.00% | 11 | |
| Frequency of surgical dressing | Once a day | 6 | 42.86% | 6 | 42.86% | 2 | 14.28% | 0 | 0.00% | 14 | $\chi 2=9.57$ p=0.05* DF=2 (S) |
| | Twice a day | 1 | 6.67% | 5 | 33.33% | 9 | 60.00% | 0 | 0.00% | 15 | |
| | Thrice a day | 0 | 0.00% | 0 | 0.00% | 1 | 100.00% | 0 | 0.00% | 1 | |

Table 4.15 describes the association between posttest level of pain score and selected clinical variables of children among experiment group. In experimental group, the posttest level of pain was associated with the type of surgery ($\chi 2=9.73$) and frequency of dressing ($\chi 2=9.57$). Minor surgery children and once a day dressing children are having more mild pain than others. Statistically there is a significant difference. It was confirmed using chi-square test.

*Fig-4.22: Cylindrical bar diagram shows the association between posttest level of pain score and type of surgery of children among experiment group*

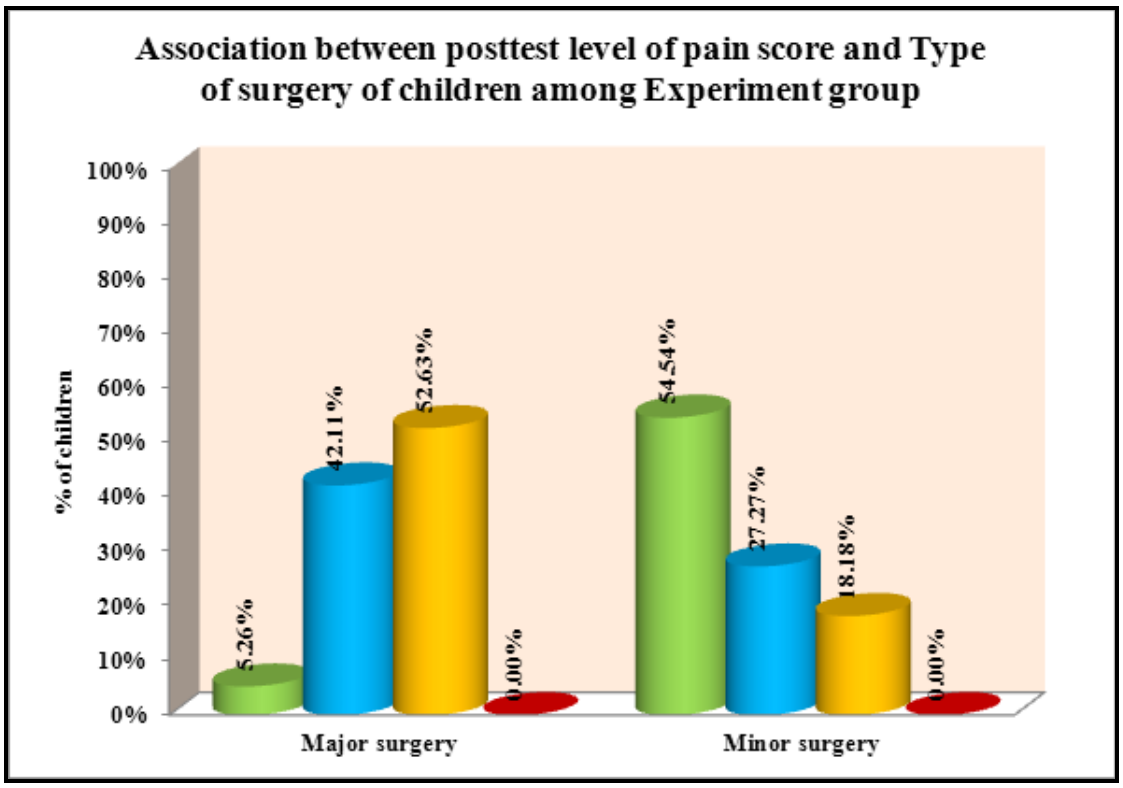



*Fig-4.23: Cylindrical bar diagram shows the association between posttest level of pain score and frequency of surgical dressing of children among experiment group*

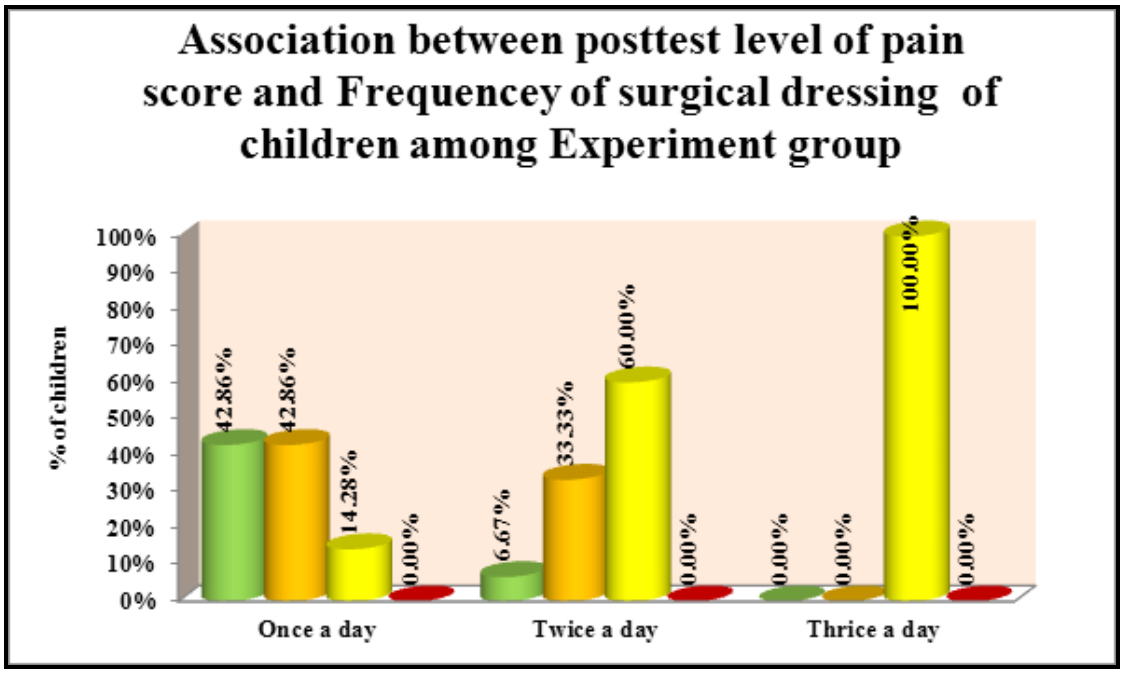


***Table-4.16: Association Between Mean Difference of Pain Reduction Score and Demographic Variables of Children Among Experiment Group***

| Demographic and clinical variables | | N | Pretest and posttest Pain reduction score | | One way ANOVA F-test/ t-test |
|---|---|---|---|---|---|
| | | | Mean | SD | |
| Age in years | 3 years | 8 | 3.00 | 1.85 | F=3.02 p=0.05* (S) |
| | 4 years | 10 | 4.02 | 2.37 | |
| | 5 years | 8 | 5.73 | 1.77 | |
| | 6 years | 4 | 5.95 | 2.63 | |
| Birth order of the child | First | 12 | 3.10 | 1.50 | F=3.80 p=0.04*(S) |
| | Second | 11 | 4.16 | 2.73 | |
| | Third | 7 | 5.90 | 2.00 | |
| | Four and above | 0 | 0.00 | 0.00 | |

***Table-4.17: Association Between Mean Difference Level Of Pain Score And Clinical Variables Of Children Among Experiment Group***

| Demographic and clinical variables | | N | Pretest and posttest Pain reduction score | | One way ANOVA F-test/ t-test |
|---|---|---|---|---|---|
| | | | Mean | SD | |
| Type of surgery | Major surgery | 19 | 3.26 | 2.13 | F=2.10 p=0.05* (S) |
| | Minor surgery | 11 | 5.25 | 2.62 | |
| Frequency of surgical dressing | Once a day | 14 | 5.50 | 2.38 | F=3.44 p=0.04* (S) |
| | Twice a day | 15 | 3.27 | 2.31 | |
| | Thrice a day | 1 | 3.00 | 0.00 | |

Table 4.17 describes the association between mean difference level of pain score with Demographic variables and clinical of children

among experiment group. Elder children and more birth order children, minor surgery children and once a day surgical dressing children are having more pain reduction score than others. Statistically there is a significant difference. It was confirmed using One-way Analysis of variance F-test and student independent t-test.

***Statistical test: 2***

**$H_2$:** There will be a significant association between the posttest level of pain of children in experimental group and control group with their selected demographic variables.

***Inference:***

Here **$H_2$** is accepted. From the table it is seen that, as p value is $\leq$ 0.05 there is significant association between the posttest level of pain of children in experimental group with their selected demographic variables such as age, birth order, type of surgery and frequency of surgical dressing.

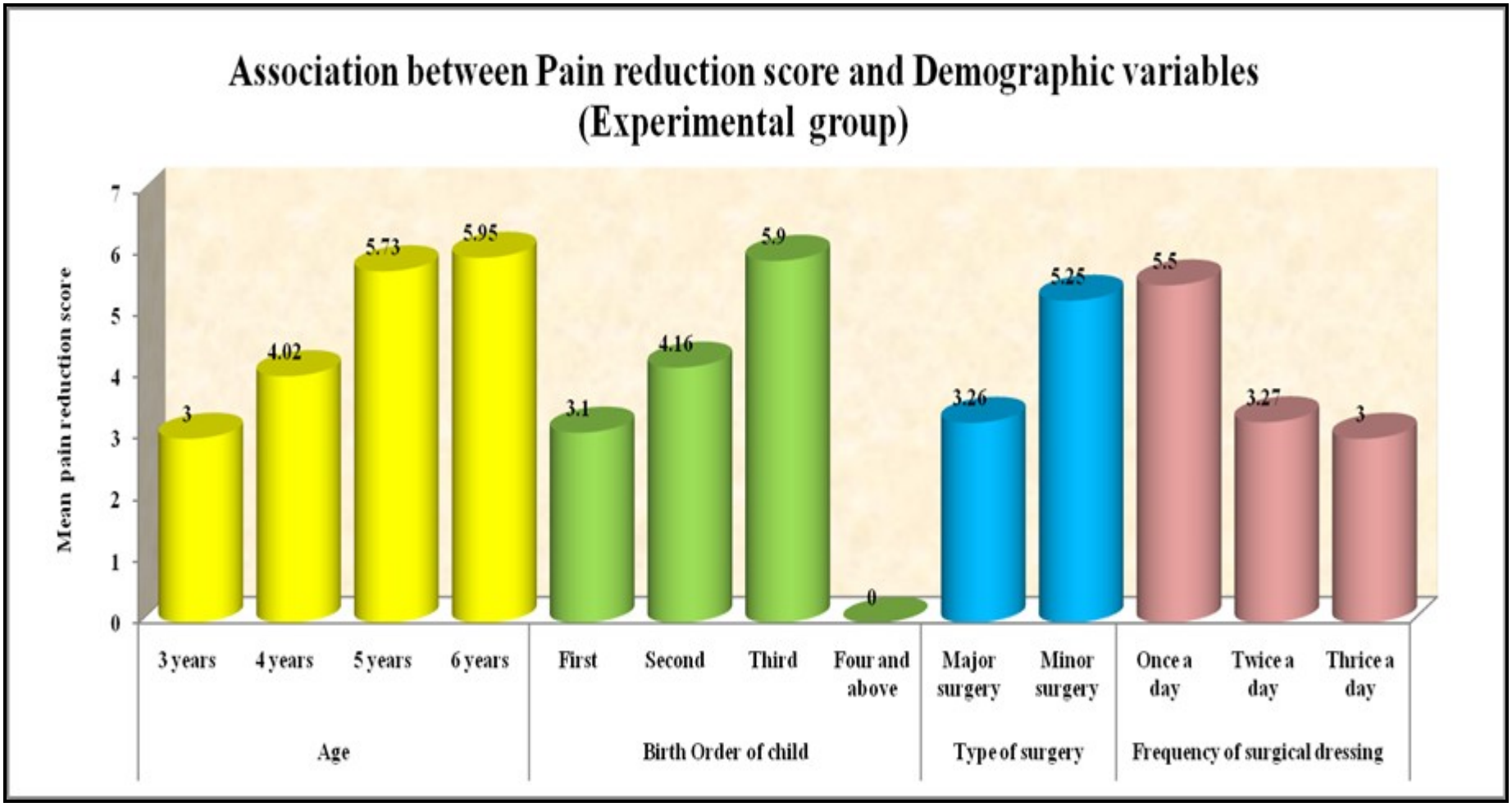



***Fig 4.24 Multiple bar diagram shows association between pain reduction score and demographic variables.***

# CHAPTER-V

# DISCUSSION

This chapter deals with the discussion of the results of data analyzed based on the objective of the study. The purpose of the study is to assess the effectiveness of different pain management program during surgical dressing among preschool children at paediatric tertiary care hospital, Chennai. The objectives of the study are to assess the pre test pain level among children in experimental and control group during surgical dressing, To assess the post test level of pain among children in experimental and control group during surgical dressing, To compare the effectiveness of different pain management program using pretest and post test mean score among children in experimental and control group, To associate the post test mean score of level of pain among children in experimental and control group during surgical dressing with their selected demographic variables.. The study was conducted at Institute of Child Health and Hospital for Children, Egmore, Chennai, using non randomized control trial design with 60 samples. The data was analyzed using descriptive and inferential statistics.

## FINDINGS RELATED TO DEMOGRAPHIC AND CLINICAL VARIABLES

- **Age:** In experimental group, maximum 33.33% children belongs to 4 years, In control group, maximum 30.00% children belong to 3 to 4 years.

- **Gender**: Maximum 63.33% children were male in experimental group. In control group, maximum children 53.33% were male.

- **Birth order of child**: In experimental group, maximum 40.00% children belongs to first order. In control group, maximum 43.33% children belongs to first order.

- **Area of residence:** In experimental group, most of children 56.67% were from rural area. In control group, most of children 43.33% children were from rural area.

- **Type of family:** 73.33% children mostly belongs to nuclear family In experimental group. In control group, maximum 20 (66.67%) children belongs to nuclear family.

- **Family monthly income:** In experimental group, maximum 66.67% children belongs to family income of Rs. 5000 – 10000. In control group, maximum 70.00% children belongs to family income of Rs. 5000 – 10000.

- **Religion:** In experimental group, 56.67% belongs to Hinduism. In control group, majority of children 60.00% belongs to Hinduism.

## FINDINGS RELATED TO CLINICAL VARIABLES

- **Type of surgery:** In experimental group, maximum 63.33% children had undergone major surgery. In control group, maximum 63.33% children had undergone major surgery.

- **Number of post operative days:** In experimental group, maximum 66.67% children were in first post-operative day. In control group, maximum 56.67% children were in first post-operative day.

- **Frequency of dressing**: Majority of children 50.00% had dressing twice a day, in experimental group. In control group, majority of children 56.67% had dressing once a day.

- **Previous surgery**: In experimental group, maximum 80.00% children did not undergo previous surgery. In control group, maximum 63.37% children did not have any surgeries previously.

- **Parents allowed during dressing**: In experimental group, maximum 63.33% children were not accompanied by parents during dressing. In control group, maximum 56.67% children were not accompanied by parents during dressing.

## FINDING BASED ON THE OBJECTIVES

***Objective-1: To assess the pre test pain level of pain during surgical dressing among children in experimental group and control group***

The present study analysis revealed the pretest level of pain score among preschool children during surgical dressing. In Experimental group, 33.33% had moderate pain and 66.67% had severe pain. The pretest mean score in experimental group is 7.60. In control group, 40.00% of them had moderate pain and 60.00% had severe pain. The pretest mean score in control group is 7.47.

The present study was supported by a study conducted by ***Muthu Guruv (2016)*** to assess the effectiveness of cartoon animation, music therapy & kaleidoscope on pain reduction during surgical dressing among children aged 4-12 at PSG hospitals, Coimbatore, The study shows that the pretest pain score of children during surgical dressing with Cartoon animation is 1.18±0.5, Music therapy 3.8±1.9, Kaleidoscope 4.73±2.7 at $p<0.03$. It is confirmed by one-way Anova Test. Similarly, ***Kallu Das (2014)*** conducted a study to assess the Effectiveness of Kaleidoscope on Pain and Behavioral Responses during invasive procedure in Experimental Group. The pretest pain mean score for experimental group was 6.8 and for control group was 7.4 The pretest behavioral response mean score for experimental group was 7.3 and for the control group was 8.6.

From the above discussion it is understood that the majority of the children had severe pain perception during dressing .

***Objective-2: To evaluate the effectiveness of different pain management program during surgical dressing among children in experimental group and control group.***

The present study analysis revealed the posttest level of pain score among preschool children during surgical dressing. In Experimental group, 23.33% of the children had No pain score, 36.67% of the children had mild pain score and 40.00% of them had moderate pain score. The posttest mean score in experimental group is 3.27. In control group, none of the children had No pain score, none of the children had mild pain score, 56.67% of them had moderate pain score and 43.33% of them had severe pain score. The posttest mean score in control group is 6.80.

The above study was supported by a study conducted by ***Muthu Guruv (2016)*** to assess the effectiveness of cartoon animation, music therapy & kaleidoscope on pain reduction during surgical dressing among children aged 4-12 at PSG hospitals, Coimbatore, The present study pain scores were rated by investigator, parents and child. The result shows after surgical dressing pain level rated by investigator as1.32 ±0.77,3.61 ± 1.73 and 4.61 ± 2.45; Score assigned by parents 1.17 ± 0.8, 3.80 ± 1.7 and 4.73± 2.5; score assigned by children 1.17 ± 0.9,3.86 ± 2.7 and 4.77 ± 2.8 for the cartoon animation, music therapy and kaleidoscope groups, respectively. Similarly, ***Kallu Das (2014)*** conducted a study to assess the Effectiveness of Kaleidoscope on Pain and Behavioral Responses during invasive procedure in Experimental Group. The post test pain mean score for experimental group was 1.6 and for control group was 4.3 and the calculated 't' value is 3.91 at p=0.05 level of significance which is greater than the expected table value 1.67. The post test behavioral response mean score for experimental group was 3.43 and for the control group was 8.6 and the calculated 't' value is 14.71 at p=0.05 level of significance which is greater than the expected table value 1.67. This highlights that

kaleidoscope has significant effect on pain and behavioral responses among children (4-10 years) during IV Cannulation.

From the above discussion, it has evident that different pain management program was effective in reducing pain during surgical dressing among preschooler.

***Objective-3: To compare the pretest and posttest level of pain during surgical dressing among children in experimental group and control group.***

The present study result revealed the effectiveness of different pain management program in experimental group and control group. Out of 60 samples, In experimental group the level of pain was reduced to 43.30% after having intervention whereas in control group the level pain was reduced to 6.70% pain score after having routine care among preschool children. In pretest, experimental group children had 7.60 score and in posttest they had 3.27 score, so the difference is 4.33 score. This difference is large and it is statistically significant difference whereas, in pretest, control group children had 7.47 score and in posttest they are having 6.80 score, so the difference is 0.67 score. This difference is small and it is not statistically significant difference. It is confirmed using student paired‘t’ test. The ‘t’value of experimental group is about 10.41 at $p<0.05$ whereas the ‘t’value of control group is about 1.87 at $p<0.05$, hence the difference is large and it is statistically significant difference. It is confirmed by using student paired‘t’ test.

The above study was supported by a study conducted by ***Muthu Guruv (2016)*** to assess the effectiveness of cartoon animation, music therapy & kaleidoscope on pain reduction during surgical dressing among children aged 4-12 at PSG hospitals, Coimbatore, the study shows that cartoon animation and kaleidoscope was effective therapy for reduction of surgical dressing pain (mean pain score 1.32 ±0.77 at 0.05). The visual distractive techniques were highly effective method to

diverting away from the painful stimulus. Similarly, ***Shalini. D. Souza (2012)*** conducted a study to assess the effectiveness of viewing kaleidoscope on bio-physiological parameters among hospitalized children subjected to invasive procedure. Among 60 children 30 were divided as experimental and control group. Experimental group was distracted with kaleidoscope and control group had given no distraction. FLACC behavioral scale was used. The findings revealed that experimental group showed less bio-physiological changes when compared to control group.

The above discussion indicated that there is difference between posttest level of pain and pretest pain level of pain, which proves that the different pain management during surgical dressing was effective in reducing painin children. **So the hypothesis ($H_1$) is proved. Therefore there is significant difference between posttest level of pain in experimental and control and hence the hypothesis ($H_1$) is accepted. Pre test and post test significance was calculated using extended McNemar's test.**

***Objective-4: To associate the posttest level of pain during surgical dressing among children and their selected demographic variables.***

The present study results showed that there is a significant association between the age, birth order, type of surgery and frequency of dressing associated with the level of pain and statistically proved by one-way analysis of variance F-test and student independent t-test.

The study indicated that in experimental group, there is an association between posttest level of pain, statistically significant [$p<0.05$] with their age [$x_2 = 12.49$, $p=0.05$]. It means elder children had mild pain. The study concluded that in experimental, there is an association between posttest level of pain, is statistically significant

[p<0.05] with their birth order [$x_2$ =10.61, p=0.05]. It means the elder in birth order children are having no pain.

The study concluded that in experimental group, there is an association between posttest level of pain, [p<0.05] with their type of surgery [$x^2$ =9.73, p=0.01]. In experimental group, there is an association between posttest level of pain, with their frequency of dressing [$x^2$ =9.57, p=0.05], children receiving dressing once a day are having mild pain. **By the above discussion the analysis signifies the association between posttest level of pain and their selected demographic variable. Hence hypothesis ($H_2$) was accepted. Therefore there is significant association between the level pain and their selected demographic variables.**

The study was supported by a study conducted by ***Muthu guruv (2016)*** to assess the effectiveness of cartoon animation, music therapy & kaleidoscope on pain reduction during surgical dressing among children aged 4-12 at PSG hospitals, Coimbatore, shows that there is a significant association found in type of surgery, (6.124 at p<0.024),age ( 9.23 at p<0.023), level of pain before surgical dressing. The level of pain intensity was severe in children undergone single stage surgery than multistage. ***Chitra (2016)*** conducted a study to assess the effectiveness of play therapy in reducing post-operative pain among children aged 2-5 years who have undergone abdominal surgeries at Institute of child health, Chennai, revealed that there is significant difference in mean pain score between different age groups, schooling and non-schooling children. The intensity of pain felt by older age children was less than that of younger age children. Female children found to have more pain intensity than male children.

From the above discussion, it was found that there is significant association between level of pain and the demographic variables.

From the discussion of the present study with other similar studies justified that there was increased pain perception during surgical dressing among preschool children. The intervention was planned through providing different pain management program to reduce pain during surgical dressing among the children and the same was implemented. The results of this study highlighted the effectiveness of different pain management program helps in reducing the pain during surgical dressing among preschool children. Therefore it can be used as distractive technique during painful procedures.

# CHAPTER –VI

# SUMMARY, IMPLICATIONS, RECOMMENDATION, LIMITATION AND CONCLUSION

This chapter deals with the Summary, Implication, Recommendation, Limitation and Conclusion.

## 6.1. SUMMARY OF THE STUDY FINDINGS

The study was conducted to ascertain the effectiveness of different pain management during surgical dressing among preschool in surgical department at Institute of Child Health and Hospital for children, Chennai. It was a quantitative approach. The main objective of the study is to assess the effectiveness of different pain management during surgical dressing among preschool with non randomized control group design. The study was conducted at Institute of Child Health and Hospital for children, Chennai. 60 preschool children were included in the study based on the inclusion criteria. Wong bakers' pain scale was used to determine the level of pain during surgical dressing. The pilot study was conducted Institute of Child Health and Hospital for children, Chennai, with 6 samples. No modifications were made after pilot study.

The review of literature provided the base to construct the tools, to select the methodology. The conceptual framework of the study was based on the Ernestine Wiedenbach's Helping Art of Clinical Nursing Theory. Data was collected in 4 weeks from *20-01-2020 to 15-02-2020.* Initially the investigator got formal permission from medical officer of primary health center, Chennai. Informed written consent was obtained from mother of each sample after explaining the purpose of the study and was given assurance for keeping the information confidentially. The data was collected by using a purposive sampling technique. The level of pain was assessed by Wong bakers pain scale. Different pain

management program was given to the samples to reduce the pain during surgical dressing. Data analysis was done by using descriptive and inferential statistics.

## MAJOR FINDINGS OF THE STUDY

### *6.1.1Findings related to demographic variables*

**Age:** In experimental group, maximum 33.33% children belongs to 4 years, In control group, maximum 30.00% children belong to 3 to 4 years.

**Gender**: Maximum 63.33% children were male in experimental group. In control group, maximum children 53.33% were male.

**Birth order of child**: In experimental group, maximum 40.00% children belongs to first order. In control group, maximum 43.33% children belongs to first order.

**Area of residence:** In experimental group, most of children 56.67% were from rural area. In control group, most of children 43.33% children were from rural area.

**Type of family:** 73.33% children mostly belongs to nuclear family In experimental group. In control group, maximum 20 (66.67%) children belongs to nuclear family.

**Family monthly income:** In experimental group, maximum 66.67% children belongs to family income of Rs. 5000 – 10000. In control group, maximum 70.00% children belongs to family income of Rs. 5000 – 10000.

**Religion:** In experimental group, 56.67% belongs to Hinduism. In control group, majority of children 60.00% belongs to Hinduism.

### *6.1.2 Findings related to clinical variables*

**Type of surgery:** In experimental group, maximum 63.33% children had undergone major surgery. In control group, maximum 63.33% children had undergone major surgery.

**Number of post operative days:** In experimental group, maximum 66.67% children were in first post-operative day. In control group, maximum 56.67% children were in first post-operative day.

**Frequency of dressing**: Majority of children 50.00% had dressing twice a day, in experimental group. In control group, majority of children 56.67% had dressing once a day.

**Previous surgery**: In experimental group, maximum 80.00% children did not undergo previous surgery. In control group, maximum 63.37% children did not have any surgeries previously.

**Parents allowed during dressing**: In experimental group, maximum 63.33% children were not accompanied by parents during dressing. In control group, maximum 56.67% children were not accompanied by parents during dressing.

### *6.1.3 Findings regarding pretest score of level of pain during surgical dressing among children in experimental and control group:*

Among Experiment group, none of the children had no pain, none of them had mild pain, 33.33% of them had moderate pain and 66.67% of them had severe pain. In control group, none of the children had no pain, none of had mild pain, 40.00% of them had moderate pain and 60.00% of them had severe pain.

### *6.1.4 Finding related effectiveness of different pain management program during surgical dressing among children in experimental and control group:*

In Experiment group, 23.33% of the children had No pain score, 36.67% of the children had mild pain score, 40.00% of them had moderate pain score and none of them had severe pain score. In control group, none of the children had No pain score, 36.67% none of the children had mild pain score, 56.67% of them had moderate pain score and 43.33% of them had severe pain score.

### *6.1.5 Findings regarding comparison of pretest and post test of level of pain during surgical dressing among children in experimental and control group:*

Effectiveness of different pain management program showed that out of 60 samples, in experimental group, children had pain reduction about **43.30%** after having intervention whereas in control group,about **6.70%** children had pain reduction after having routine care.

### *6.1.6. Findings related to association with demographic variables:*

There was significant association between the effectiveness of different pain management program in reducing pain and their age and birth order. [**$\chi$2=12.49 p=0.05***], [**$\chi$2=10.61 p=0.05***]

There was significant association between the effectiveness of different pain management program in reducing pain [**$\chi$2=9.73 p=0.01****], [**$\chi$2=9.57 p=0.05*]**

## 6.2 IMPLICATIONS

The investigator has drawn the following implications from the studies which are of vital concern in the field of nursing education, nursing practice, nursing administration and nursing research.

### 6.2.1 IMPLICATIONS FOR NURSING EDUCATION

- To improve the knowledge of student nurses to use different management program while caring the children.
- Use of distraction technique during care of children maintains a therapeutic relationship between the student nurse and the child.
- Student nurses in the nursing colleges should be encouraged to various non pharmacological pain management while caring children.
- Students can demonstrate the importance of non pharmacological pain management to create awareness among the caregivers.

### 6.2.2 IMPLICATIONS FOR NURSING PRACTICE

- The study result will help the nursing personnel to understand the importance of non-pharmacological pain management during surgical dressing.
- The child health nurse can motivate the colleagues and care givers to follow the non pharmacological pain management during surgical dressing.
- The nurse can emphasize on use of kaleidoscope as a play therapy and helps in reducing the frequency of administration of analgesics in children.
- The nurses should realize that it is very important to help the children to adjust with hospitalization by giving play activities and also to gain cooperation.
- The child health nurse should use different pain management to older children to reduce pain.

### 6.2.3 IMPLICATIONS FOR NURSING ADMINISTRATION

- ❖ Nursing administrators should organize In-service programs regarding use of non pharmacological pain management in children.

- ❖ Nursing administrator should formulate policies and protocol regarding various non pharmacological pain management including distractive methods.

- ❖ Nursing administrator should motivate nurses to use distractive technique in their clinical practice.

- ❖ Distractive technique and arrangements should be provided in the surgical wards and treatment room.

- ❖ Periodic workshops, conferences, and exhibitions can be arranged by the child health nurses to motivate the use of distractive techniques during painful procedure.

### 6.2.4 IMPLICATIONS FOR NURSING RESEARCH

- ❖ Promote more research activities on use of distractive techniques by play materials can be assessed applying various research designs.

- ❖ This study will be helpful to plan new interventional studies to improve the knowledge regarding different pain management.

- ❖ The finding of the study would help to expand the scientific body of professional knowledge upon which further researchers can be conducted.

- ❖ Develop different method to reduce pain among the children.

- ❖ Disseminate the research findings in journals, seminars and conferences.

## 6.3 LIMITATIONS

- This study sample was taken only children between the age group of 3-6 years.
- The study was limited with fewer samples.
- Data collection is limited to four weeks.
- Effectiveness of different pain management program was not assessed without pharmacological therapy.

## 6.4 RECOMMENDATIONS FOR FURTHER STUDY

- The study can be repeated on the large sample for better generalization of the findings.
- A qualitative study can be conducted to assess the experience of pain reduction in older children
- The similar study can be done by one group pretest and post test research design
- The similar study can be done to test the effectiveness of various play materials in reducing pain during dressing.
- The study can be older children with play material according to their age.
- A study can be conducted by using different pain assessment scale for children
- The same study can be done as a comparative study to assess the effectiveness of two or more play materials in reducing pain during surgical dressing.

## 6.5 CONCLUSION

The findings revealed that the different pain management program was more effective in reducing pain during surgical dressing, than the pretest level of pain. Modern treatment to the pain is too expensive and its medication has side effects and complications. Thus, the non-pharmacological pain management is simple, easily applicable, less expensive and easy to divert the children's mind from pain stimuli. The result of this study can potentially be employed as non-pharmacologic therapy in the management of pain, during various invasive and non invasive procedures during the care of children.

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# INSTITUTIONAL ETHICS COMMITTEE
# MADRAS MEDICAL COLLEGE, CHENNAI 600 003

EC Reg.No.ECR/270/Inst./TN/2013/RR-16
Telephone No.044 25305301
Fax: 011 25363970

## CERTIFICATE OF APPROVAL

To
**PRIYADARSHINI M,**
M.Sc (N) I Year student
College of Nursing
Madras Medical College
Chennai-600003.

Dear PRIYADARSHINI M

The Institutional Ethics Committee has considered your request and approved your study titled **"A STUDY TO ASSESS THE EFFECTIVENESS OF DIFFERENT PAIN MANAGEMENT PROGRAM DURING SURGICAL DRESSING AMONG PRESCHOOL CHILDREN AT PEDIATRIC TERTIARY CARE HOSPITAL, CHENNAI"-NO.10112019.** The following members of Ethics Committee were present in the meeting held on **12.11.2019** conducted at Madras Medical College, Chennai 3.

1. Prof.P.V.Jayashankar :Chairperson
2. Prof.R.Jayanthi,MD.,FRCP(Glasg)., Dean,MMC,Ch-3 :DeputyChairperson
3. Prof.N.Gopalakrishnan,MD.,DM.,FRCP, Vice Principal Director,Inst.of Nephrology,MMC,Ch : Member Secretary
4. Prof.Bharathi Vidya Jayanthi,Vice Principal Director,Inst. of Pathology,MMC,Ch- : Member
5. Prof.R.Muthuselvan,MD,Prof. Inst. of Int.Med,MMC, Ch-3 : Member
6. Prof.Alli, Prof. Inst. of Gen.Surgery,MMC : Member
7. Prof.Shobha, Prof, Inst.of O&G, Chennai : Member
8. Prof.Rema Chandramohan,Prof.of Paediatrics,ICH,Chennai : Member
9. Prof. Sudha, Prof. Inst. of Pharmacology,MMC,Ch-3 : Member
10. Prof.K.Ramadevi,MD., Director, Inst. of Bio-Chemistry,MMC,Ch-3 : Member
11. Prof. S.Lakshmi, Prof. of Paediatrics ICH Chennai : Member
12. Thiru S.Govindasamy, BA.,BL,High Court,Chennai : Lawyer
13. Tmt.Arnold Saulina, MA.,MSW., :Social Scientist
14. Thiru K.Ranjith, Ch- 91 : Lay Person

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary – Ethics Committee

**REQUISITION FORM**

From

Priyadarshini. M,
M.Sc. (Nursing) I year student,
College of Nursing,
Madras Medical College,
Chennai-03.

To

Professor and Head of the Department,
Department of Pediatric Surgery,
Institute of Child Health and Hospital for Children,
Egmore,
Chennai-08.

Through

The Principal, College of Nursing, Madras Medical College, Chennai-03.

Respected Madam/Sir,

Sub: College of Nursing, Madras Medical College, Chennai-03
M.Sc (N) I year student Dissertation – Permission to conduct study- requested . reg.

I request you to kindly permit me to conduct Dissertation on "**A Study to assess the effectiveness of different pain management program during surgical dressing among preschool children at Pediatric Tertiary Care Hospital, Chennai**."

Thanking you

Place: Chennai-03.

Date:

Yours faithfully,

( Priyadarshini.M )

Forwarded

PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003.

Permitted subject to :

1. To get Ethical Committee Clearance @ MMC
2. To intimate to our Department prior to start of study.
3. Copy of findings @ end of study

DEPT. OF PAEDIATRIC SURGERY
ICH & H.C.
Chennai - 8.

20/11/19.

## CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool submitted by Miss.Priyadarshini.M, M.Sc Nursing II year student, College of Nursing, Madras Medical College,Chennai-03, which is to be used in her study titled, **"A Study to assess the effectiveness of different pain management program during surgical dressing among preschool children at Pediatric Tertiary care hospital, Chennai."** has been validated by the undersigned.

The suggestions and modifications given by me will be incorporated by the investigator in concern with her respective guide. Then she can proceed to do the research.

Signature with seal

V.H.S. M.A.C. COLLEGE OF NURSING Chennai-113

Name: Ms. R. CHITRA

Designation: PROFESSOR

College: VHS - M.A. CHIDAMBARAM COLLEGE OF NURSING

Place: CHENNAI -113

Date: 7.01.2020

## CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool submitted by Miss.Priyadarshini.M, M.Sc Nursing II year student, College of Nursing, Madras Medical College,Chennai-03, which is to be used in her study titled, **"A Study to assess the effectiveness of different pain management program during surgical dressing among preschool children at Pediatric Tertiary care hospital, Chennai."** has been validated by the undersigned.

The suggestions and modifications given by me will be incorporated by the investigator in concern with her respective guide. Then she can proceed to do the research.

Signature with seal

Apollo College of Nursing
Chennai - 600 095

Name: NEGA SATHYA SAICHI

Designation: Professor

College: Apollo CON

Place: Chennai

Date: 20/12/19

# INFORMED CONSENT

**Investigator :MS. Priyadarshini.M**
**Name of Participant :**
**Age/sex :**
**Date :**
**Name of the Institution : College of Nursing, Madras Medical College, Chennai.**
**Title : "A Study to assess the effectiveness of different pain management Program during surgical dressing among preschool children at Pediatric Tertiary care hospital, Egmore, Chennai-08"**

**Documentation of the informed consent:** (legal representative can sign if the participant is minor or competent).

- I _____have read/it has been read for me, the information in this form. I was free to ask any doubts and they have been answered. I am over 21 years of age and exercising my free power of choice, hereby give my consent to include my son/daughter as a participant in the study.
- I have read and understood this consent form and the information provided to me.
- I have had the consent document explained in detail to me.
- I have been explained about the nature of my study.
- My rights and responsibilities have been explained to me by the investigator.
- I agree to cooperate with the investigator
- I have not participated in any research study at any time.
- I am aware of the fact that I can opt out of the study at any time without having to give any reason
- I hereby give permission to the investigators to release the information obtained from me as a result of participation in this study to the regulatory authorities, government agencies and Institutional Ethics Committee. I understand that they are publicly presented.
- I am aware that my identity will be kept confidential if my data are publicly presented.
- I am aware that if I have any question during this study; I should contact the concerned investigator.

Signature of Investigator — Signature of Participant

Date — Date

# INFORMATION TO PARTICIPANT

**Title : "A Study to assess the effectiveness of different pain management Program during surgical dressing among preschool children at Pediatric Tertiary care hospital, Egmore, Chennai-08"**

**Name of the Participant :**

**Date :**

**Age/sex :**

**Investigator : MS. Priyadarshini.M**

**Name of the institution : College of Nursing, Madras Medical College, Chennai.**

**Enrolment No :**

You are invited to take part in this study. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

You are being asked to co-operate in this study being conducted atselectedpediatric tertiary care hospital, Chennai.

**What is the Purpose of the Research (explain briefly)**

This research is conducted to evaluate assess the effectiveness of different pain management program during surgical dressing among the preschool children at selected pediatric tertiary care hospital, Chennai. We have obtained permission from the Institutional Ethics Committee.

**Study Procedures**

- Study will be conducted after approval of ethics committee
- A written formal permission will be obtained from authorities of College of Nursing, Madras Medical College, Chennai-03 to conduct study.
- The purpose of study will be explained to the participants.
- The investigator will obtain informed consent.
- The investigator will assess the level of pain among each participant beforethe procedure using a pain scale.
- The procedure of using kaleidoscope will be explained to them by investigator.
- Following that the level of pain will be assessed after surgical dressing.

**Possible benefits to other people**

The result of the research may provide benefits to the preschool children and also empathetic care to them by investigator.

**Confidentiality of the information obtained from you**

You have the right to confidentiality regarding the privacy of your personal details. The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

**How will your decision not to participate in the study affect you?**

Your decisions not to participate in this research study will not affect your activity of daily living, medical care or your relationship with investigator or the institution.

**Can you decide to stop participating in the study once you start?**

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time during course of the study without giving any reasons.

Your privacy in the research will be maintained throughout the study. In the event of any publications or presentation resulting from the research, no personally identifiable information will be shared.

Signature of Investigator Signature of Participant

Date Date

# சுயஒப்புதல்படிவம்

ஆராய்ச்சிதலைப்பு :மழலைப்பள்ளி பருவத்தில் இருக்கும் குழந்தைகளுக்கு அறுவைச்சிகிச்சை புண்களைசுத்தம் செய்து கட்டு போடும் போது ஏற்படும் வலியை குறைக்கபயன்படும் வித்தியாசமான முறையை பற்றிய ஆய்வு.

**ஆய்வாளர்பெயர்:** செல்வி.மு.பிரியாதர்ஷினி

**பங்கேற்பாளர்பெயர்:**

தேதி:

வயது பால்:

ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயம் இன்றி முழுமனதுடனும் சுயநினைவுடன் சம்மதிக்கிறேன்.

ஆய்வாளர் மேற்கொள்ளப்போகும் பரிசோதனைகளை மிகதெளிவாக விளக்குகின்றது

எனக்கு விருப்பம் இல்லாத பட்சத்தில் ஆராய்ச்சியிலிருந்து எந்நேரமும் விலகலாம் என்பதையும் ஆய்வாளர் மூலம் அறிந்துகொண்டேன்

இந்த ஆராய்ச்சி ஒப்புதல் கடிதத்தில் உள்ள விவரங்களை நன்கு புரிந்துகொண்டேன். எனது உரிமைகள் மற்றும் கடமைகள் ஆராய்ச்சியாளர் மூலம் விளக்கப்பட்டது.

நான் ஆராய்ச்சியாளர் உடன் ஒத்துழைக்க சம்மதிக்கிறேன் எனது குழந்தைக்கு ஏதேனும் உடல் நலகுறைவு ஏற்பட்டால் ஆராய்ச்சியாளரிடம் தெரிவிப்பேன்.

நான் வேறு எந்த ஆராய்ச்சியிலும் தற்சமயம் இடம் பெறவில்லை என்பதை தெரிவித்துக்கொள்கிறேன்.

இந்த ஆராய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும் போது என் அடையாளம் வெளிவராது என்பதை அறிவேன்.

எனக்கு இந்த ஒப்புதல் கடிதத்தின் நகல் கொடுக்கப்பட்டது.

ஆய்வாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

தேதி தேதி

# ஆராய்ச்சிதகவல்தாள்

ஆராய்ச்சிதலைப்பு: மழலைப்பள்ளி பருவத்தில் இருக்கும் குழந்தைகளுக்கு அறுவைச்சிகிச்சை புண்களைசுத்தம் செய்து கட்டுபோடும் போது ஏற்படும் வலியை குறைக்கபயன்படும் வித்தியாசமான முறையை பற்றிய ஆய்வு

ஆய்வாளர்பெயர்:செல்வி. மு.பிரியாதர்ஷினி

பங்கேற்பாளர்பெயர்: தேதி

வயது பால்:

ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமும் இன்றி முழுமனதுடன் சம்மதிக்கின்றேன்.

**இதில் பங்கேற்பதன் நோக்கம்.**

இந்த ஆராய்ச்சியில் தகவல்களை தெரிந்து கொள்வதற்காகவும் அதனை பயன்படுத்துவதற்காக மட்டும் தான்.

இந்த ஆராய்ச்சியின் நோக்கம்

மழலைப்பள்ளி பருவத்தில் இருக்கும் குழந்தைகளுக்கு அறுவைச்சிகிச்சையின் போது ஏற்படும் புண்களைசுத்தம் செய்துகட்டுபோடும் போது ஏற்படும் வலியை குறைக்க பயன்படும் வித்தியாசமான முறையை பற்றிய ஆய்வு.

**ஆராய்ச்சி மேற்கொள்ளும் முறை**.

இந்த ஆராய்ச்சியில் மழலைப்பள்ளி பருவத்தில் இருக்கும் குழந்தைகளுக்கு அறுவைச்சிகிச்சையின் போது ஏற்படும் புண்களைசுத்தம் செய்து கட்டுபோடும் போது ஏற்படும் வலியை குறைக்க பயன்படும் வித்தியாசமான முறையை பற்றி அறியலாம்.

**இதனால்பங்கேற்பதற்கானபயன்**

இந்த ஆய்வு மழலைப்பள்ளி பருவத்தில் இருக்கும் குழந்தைகளுக்கு அறுவைச்சிகிச்சையின் போது ஏற்படும் புண்களைசுத்தம் செய்து கட்டுபோடும் போது ஏற்படும் வலியை குறைக்க பயன்படும் வித்தியாசமான முறையை பற்றி தெரிந்துக்கொள்ளலாம்.

ஆராய்ச்சியில் பங்கேற்கவில்லை என்றாலும் உங்களின் சராசரி வாழ்க்கை முறையில் எந்தவித மாற்றமும் ஏற்படாது என்பதை தெரிவிக்கின்றேன். இந்த ஆராய்ச்சியில் பங்கேற்க விருப்பம் இல்லை என்றால் உங்களின் முழுமனதுடன் நீங்கள் இந்த ஆராய்ச்சியில் இருந்து விலகிக்கொள்ளலாம் என்பதை தெரிவிக்கின்றேன்.

இந்த ஆராய்ச்சியில் உங்களின் தகவல்களை பாதுகாப்பாக வைத்து கொள்கிறேன் என்பதை தெரிவிக்கின்றேன்.

இந்த ஆராய்ச்சியின் தகவல்களை வெளியிடும் போது உங்களை பற்றி அடையாளங்கள் வெளிவராது என்று உறுதிகொள்கிறேன்.

ஆய்வாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

தேதி தேதி

## CERTIFICATE FOR ENGLISH EDITING

This is to certify that the dissertation work topic titled, "**A study to assess the effectiveness of different pain management program during surgical dressing among preschool children at Pediatric Tertiary Care Hospital, Chennai",** done by Priyadarshini.M M.Sc (N) II year student, College of Nursing, Madras Medical College, Chennai-03 has been edited and validated for English language appropriateness.

Place :

Date :

Signature : T. Jothilakshmi

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## CERTIFICATE FOR TAMIL EDITING

This is to certify that the dissertation work topic titled, "**A study to assess the effectiveness of different pain management program during surgical dressing among preschool children at Pediatric Tertiary Care Hospital,** done by Priyadarshini. M, M.Sc.(N) II year student, College of Nursing, Madras Medical College, Chennai-03 has been edited and validated for Tamil language appropriateness.

Place :

Date :

Signature :

Name

Designation

Place

எம். சரசு, எம்.ஏ.,எம்.எட்.,
முதுகலை பட்டதாரி ஆசிரியை (தமிழ்)
அரசினர் மேல்நிலைப் பள்ளி,
[illegible]ட்டி, (வே.மா.) 635 602.

COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE, CHENNAI-03.
SECTION –I
DEMOGRAPHIC VARIABLES

INSTRUCTION:

Read every statement carefully and indicate the response that you choose by placing a tick (✓) in the appropriate option given.

Sample no:_____

1. Age in years
   a)3 years
   b) 4 years
   c) 5 years
   d) 6 years

2. Sex of the child
   a) Male
   b) Female

3. Birth order of the child
   a) I
   b) II
   c) III
   d) IV and above

4. Area of residence
   a) Urban
   b) Suburban
   c) Rural

5. Type of family
   a) Nuclear Family
   b) Joint Family
   c) Single parent

6. Family monthly income
   a) Less than 5000
   b) 5001 - 10000
   c) 10001 - 20000
   d) Above 20000

7. Religion
   a) Hindu
   b) Christian
   c) Muslim
   d) Others

## SECTION II

## CLINICAL DATA

1. Type of surgery
   a) Major surgery
   b) Minor surgery

2. Number of post operative day
   a) 1
   b) 2
   c) Morethan2

3. Frequency of surgical dressing
   a) once a day
   b) Twice a day
   c) Thrice a day

4. Any previous exposure to surgical dressing
   a) Yes
   b) No

5. Whether the parents are allowed to be with the child during surgical dressing
   a) Yes
   b) No

## பிரிவு- அ

பங்கேற்பாளர்களுக்கு அறிவுறுத்துதல்: தயவு செய்து கவனமாக படித்து, பொருந்திய விடையை கொடுக்கப்பட்டுள்ள இடத்தில் பதிலளிக்கவும். நீங்கள் வழங்கிய தகவல்கள் ரகசியமாக வைக்கப்பட்டு, ஆராய்ச்சி வேலைக்கு மட்டுமே பயன்படுத்தப்படும்.

1. குழந்தையின் வயது

அ) 3வயது
ஆ) 4வயது
இ) 5வயது
ஈ) 6வயது

2. பாலினம்

அ) ஆண்
ஆ) பெண்

3. பிறப்பு வரிசை

அ) 1
ஆ) 2
இ) 3
ஈ) 4க்கற்குமேல்

4. வசிக்கும் இடம்

அ) நகர்ப்புறம்
ஆ) புறநகர்ப்புறம்
இ) கிராமப்புறம்

5. குடும்பவகை

அ) கூட்டுக்குடும்பம்
ஆ) தனிக்குடும்பம்
இ) ஒற்றை

6. குடும்ப வருமானம்

அ) <5000

ஆ) 5001-10001

இ) 10001-20000

ஈ) 20001 திற்கு மேல்

7. மதம்

அ) இந்து

ஆ) கிறிஸ்தவர்

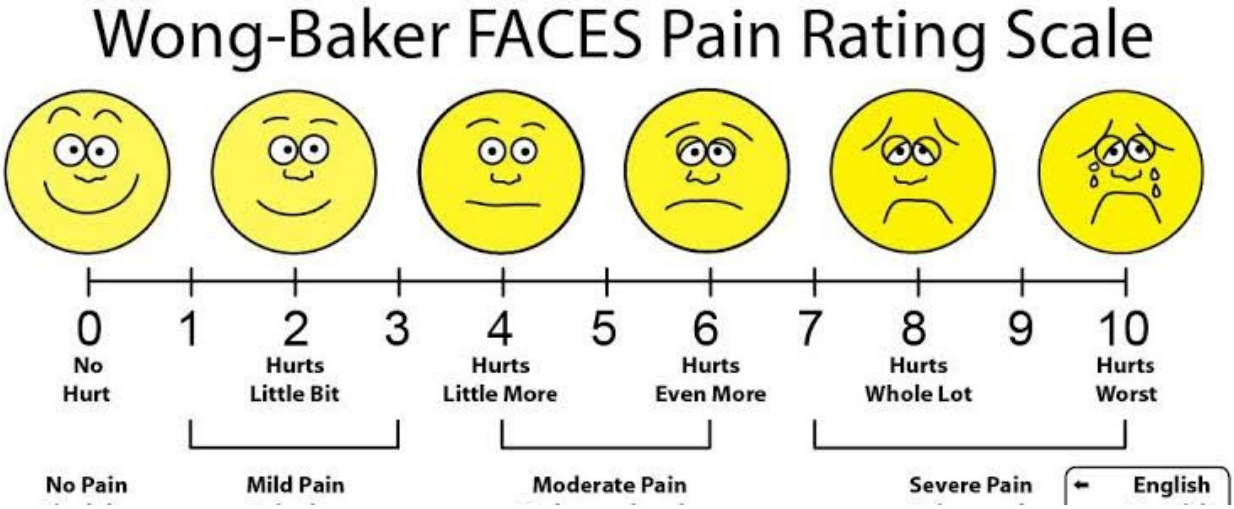
இ) இஸ்லாமியர்

**பிரிவு- ஆ**

மருத்துவத்தகவல்

1. அறுவைச்சிகிச்சையின் வகை
   அ) பெரியவகை அறுவைச்சிகிச்சை
   ஆ) சிறியவகை அறுவைச்சிகிச்சை
2. மருத்துவமனையில் தங்கி இருக்கும் நாட்களின் எண்ணிக்கை
   அ) ஒன்று
   ஆ) இரண்டு
   இ) இரண்டிற்குமேல்
3. எத்தனைமுறை அறுவைச்சிகிச்சை புண்சுத்தம் செய்யப்படுகிறது.
   அ) 1முறை
   ஆ) 2முறை
   இ) 3முறை
4. அறுவைசிகிச்சை புண்ணைசுத்தம் செய்வது பற்றி உங்களுக்கு அனுபவம் இருக்கா?
   அ) ஆம்
   ஆ) இல்லை
5. அறுவைசிகிச்சை புண்ணைசுத்தம் செய்யும்போது பெற்றோர்களுக்கு அனுமதி உண்டா?
   அ) ஆம்
   ஆ) இல்லை

**PAIN ASSESSMENT TOOL**



# INTERVENTION PROTOCOL ON DIFFERENT PAIN MANAGEMENT PROGRAM

## Introduction

Different pain management program is a non pharmacological intervention provided to the children to reduce pain other than the pharmacological measures among the children.

Here the researcher adopted kaleidoscope and distraction cards as distractive materials to reduce the pain among preschool children during dressing

## Distraction through kaleidoscope:

While looking through the kaleidoscope, the child will be distracted towards the shape appearing through the reflection. This visual effect from the kaleidoscope produces an illusion.

## Definition

The term kaleidoscope was coined 1817 by sir. David Brewster. The kaleidoscope is derived from the ancient Greek (kalos), means “beautiful or beauty” (eidos) , “that which is seen forms shapes, (skopeo) to look , to examine hence “the observer of beautiful forms”

A kaleidoscope is an optical instrument with two or more reflecting surfaces tilted to each other in an angle, so that one or more objects on one end of the mirrors are seen as a regular symmetrical pattern when viewed from the other end, due to repeated reflection**.**

## Distraction through distraction cards

While playing with through the distraction cards, the child will be distracted towards the pictures and numbers on cards. This visual effect from the cards produces the distraction in the child by changing the concentration of the child.

## Definition:

A distraction card is a set of cards containing colored pictures and numbers that takes the attention of children away from something on which child focuses.

## Articles Needed:

- Distraction cards
- Kaleidoscope
- Pain scale

**Pre Procedure:**

Before the procedure the parents are explained about the distraction cards and kaleidoscope and it is introduced to the parents. The benefits, importance and the action should be explained to them. After the consent from the parents, the distraction cards and kaleidoscope is introduced to the child. The child is taught about viewing of kaleidoscope and use of distraction cards.

**Procedure:**

Pre test level of pain was assessed immediately after removing the old dressing. The child was provided with distraction cards and kaleidoscope during change of dressing. The posttest was assessed after dressing completed by using Wong Bakers Faces Rating Scale.

**Benefits:**

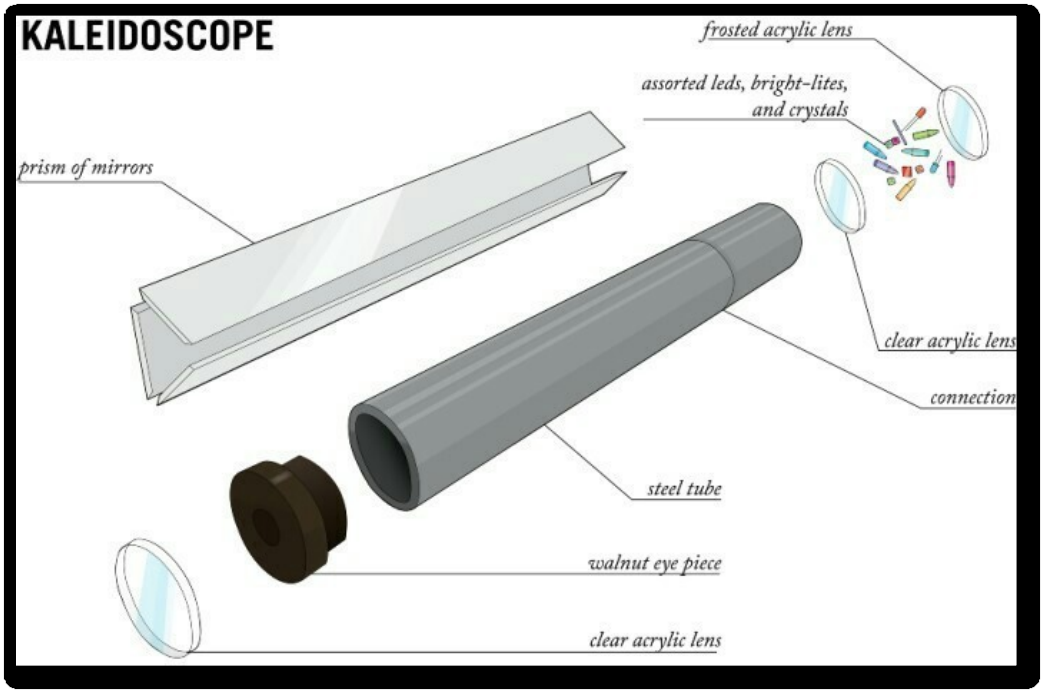
- Reduces the pain intensity
- Saves time
- No need of restraints
- Easily adapted children.
- Alleviate the parental anxiety

**Conclusion:**

Distraction cards and kaleidoscope are used to distract the child by diverting the attention of the child and thereby the level of pain perception will be decreased. This promotes well being of child and reduces the stress on hospitalization.

# DISTRACTION CARDS

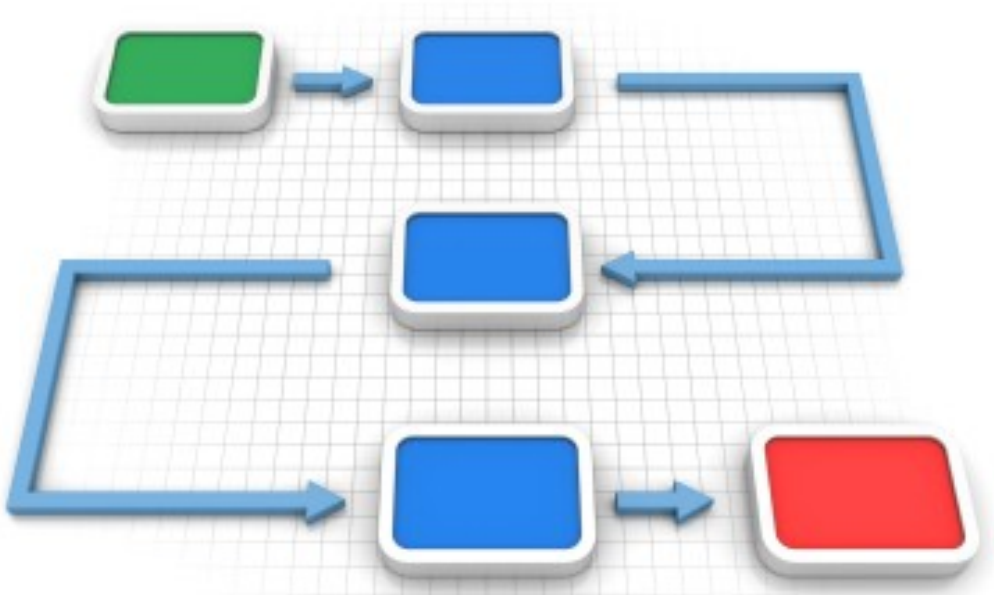
## KALEIDOSCOPE



# Introduction

# Review Of Literature

# Methodology



# Analysis and Interpretation

# Discussion

# Summary, Implications, Limitations, Recommendation & Conclusion.

# References

# Annexure


THE LITTLE PARIS BOOKSHOP
NINA GEORGE
A ROBOT IS THE GARDEN
DEBORAH INSTALL
if you find this lette
Hannah Brencher
Calling Maggie May
Anonymous

# CERTIFICATE OF PLAGIARISM

This is to certify that dissertation titled "**A STUDY TO ASSESS THE EFFECTIVENESS OF DIFFERENT PAIN MANAGEMENT PROGRAM DURING SURGICAL DRESSING AMONG PRESCHOOL CHILDREN AT PEDIATRIC TERTIARY CARE HOSPITAL, CHENNAI"** of the candidate **Ms.PRIYADARSHINI.M** for the partial fulfillment of M.Sc. Nursing Programme in the branch of CHILD HEALTH NURSING has been verified for plagiarism through relevant plagiarism checker. We found that the uploaded thesis file from introduction to conclusion pages and rewrite shows _____% of Plagiarism (_____% uniqueness) in this dissertation.

**CLINICAL SPECIALTY GUIDE**

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