A STUDY TO ASSESS THE EFFECTIVENESS OF INFORMAL INFORMATION ON MOTHERS PARTICIPATION IN THE MANAGEMENT AND OUTCOME OF IV INFUSION THERAPY, WHILE CHILDREN RECEIVE IV THERAPY IN A SELECTED HOSPITAL AT COIMBATORE

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ABSTRACT

“A Study to assess the Effectiveness of Informal Information on Mothers Participation in the Management and Outcome of IV infusion therapy, while Children receive IV therapy in a Selected Hospital at Coimbatore”.

The aim of the study was to determine whether information given informally to mothers regarding intravenous therapy make any difference in their participation in the management and outcome of IV therapy when the child is on Intravenous Infusion therapy.

A quasi-experimental post tests only two-group design was used. The conceptual framework of this study was based on Von Bertalanffy- General system theory model. A convenient sample of 30 mothers with children in the age group of 6 months to 5 years and receiving IV infusion therapy were selected and randomly assigned to the experimental and control group (15 each). The tools used were, an interview schedule to collect the demographic data and two observational check-lists to observe the participation of mothers in carrying out activities and outcome of IV therapy. After starting the IV infusion therapy for children, the mothers of the experimental group were given informal information about the IV therapy and its management for about 15 to 20 minutes, followed by observation of mother’s activities, every hourly 10- 15 minutes for 5 hours a day for 2 days. Similarly observation and recording were done in control group with out information to the mothers. At the end of second day the experimental group mothers were interviewed to collect their views on the information given

The over all participation in all the three aspects of IV (support to their child, maintenance of IV fluid, prevention of contamination) among the experimental group (100%) was at a high level, whereas in control group all the mothers (100%) participated at a moderate level.

In the three outcome of IV therapy, the experimental group mothers showed good outcome in managing IV flow (100%), IV site (80%), and child’s behavior (73.33%). The control group mothers showed poor outcome in managing IV flow (100%) and good outcome for IV site (26.66%), and child’s behavior (6.66%). The overall
outcome was good in experimental group (100%) and fair outcome (20%) and poor outcome (80%). The experimental group mothers participated in all the three aspects of IV therapy was at a high level (mean score 10.33) compared to control group (mean score 3.66) with a statistical significance of, t= 13.11, df=28, P=0.01 for the support to their child, t= 20.6, df=28, P=0.01 for the maintenance of IV fluid, t= 16.58, df=28, P=0.01 in preventing contamination. All the experimental group mothers (100%) reported that, information given was very much useful and it helped to participate in the care of the child and to have a positive feeling.

The study concluded that informal information on management of IV therapy helped the mothers to participate in the management of IV therapy and take care of the child with understanding and with confidence and satisfaction. The outcome in maintaining the IV flow, care of IV site and child’s behavior was good in the experimental group.
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INTRODUCTION
CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

Intravenous (IV) therapy, as we know it today is a technical, highly specialized form of treatment. It has evolved from an extreme measure used only on the most critically ill to a therapy used for almost 90% of all hospitalized patients. No longer confined to the hospital, IV therapies are now delivered in alternative care settings such as homes, skilled nursing facilities, and physician offices (Ann M. Corrigan, 2001).

IV therapy refers to the parenteral administration of fluids and medications, nutritional support, and transfusion therapy (Ann M. Corrigan, 2001).

Although the major advancements in IV therapy occurred in the past 150 years, the practice of using veins to inject substances essentially began in the 17th century. IV therapy, as practiced today, had its beginning in the 19th century, which was a time of rapid advancement in medicine. The major advances that would bring IV therapy to its current level of sophistication occurred in the 20th century. By this time use of saline and glucose solution was a more widely accepted practice, although they were still used only on the critically ill patient (Ann M. Corrigan, 2001).

The first fluid containers consisted of an open glass flask that was covered with a piece of gauze. By the 1930s, the container had evolved into a closed, vacuum glass bottle. The technology for refining plastic has also done much for the improvement of IV therapy equipment. Use of rubber gave way to the use of plastic being applied to administration sets first. Today, plastic containers and administration sets are state of the art for infusion therapy (Ann M. Corrigan, 2001).

Devices for accessing the vein have also progressed rapidly in the last 50 years. Metal cannula and needles were first used in the 19th century. Problems with infiltration, however led to the development of the plastic cannula in 1945. These first
catheters were made of flexible plastic tubing that required either a cut down or needle for introduction into the vessel. Today, over the needle type of catheter is used to deliver almost all peripheral infusions.

Technology and research have produced advanced infusion products and equipment specific to the administration of parenteral solutions and medications: short and long term dwell catheters, ports and reservoirs, and computerized IV delivery systems are just a few of the state of the art tools used to deliver superior IV therapy in the 21st century (Nancy M. Delisio, 2001).

The advances in fluids and medications used for IV administration continue today. It is used to replace and maintain the body’s fluids and electrolytes balance, to maintain or improve nutritional status and to treat many diseases intravenously and survive from diseases and condition that had formerly resulted in death.

Children are not little adult, but adults are grown up children. Most of the basic principles of safe administration of IV solutions and medications are the same, regardless of the patient’s age. Some of the very important differences exist in the preparation of the parent’s and child, calculation of flow rates, veins used for infusion, equipment and procedure, methods of protecting the child and the site of infusion (Marlow, 2006).

In the maintenance of IV therapy, adults are able to understand and communicate and keep the hand in same position in a safe manner, unless they are restless or in a confused state, when somebody needs to sit at the bedside and nurses should watch the patient frequently. There by we can reduce the complications of IV infusion therapy in adults.

But in children, there are wide variety of physical characteristics different from those in adults. The infants cannot verbalize their pain. The toddler has an increased number of activities as a result of gross and fine motor skill advancement. So in toddler, IV connections must be tagged and secured and equipment kept out of the child’s reach. In early childhood, children are able to tolerate, moderate physiological stress and have the ability to understand and use languages. So the instructions for safety of IV site and maintenance of IV infusion therapy must be
explained to the children by nurses and mothers. Parental presence and holding the hands of the baby and supporting the IV site are important whenever children receive intravenous infusion therapy.

Although the complications associated with peripheral vascular devices are typically minor, some infants may experience life threatening sequale or serious problems. To reduce the risk associated with Peripheral intravenous therapy, the risks need to be identified and managed (Paula Ingram, 2005).

The condition of the children receiving IV therapy can deteriorate rapidly if complications occur and nurses caring for these patients must be vigilant at all times, so that every signs of infections and other complications can be detected, investigated and corrected (Thompson, 2003).

Peripheral Intravenous Therapy (PIV) is a commonly used life-sustaining device, modern catheter style devices are associated with complications rates ranging from 0% to 78%. The incidence has remained relatively constant over the past 20 years. In general, complications including infiltration, leaking, and occlusion account for the removal of 95% of the devices. The range of complications associated with Peripheral Intravenous Therapies compiled from literature reports are, leakage 2- 27.6%, occlusion 4- 26%, Phlebitis <1- 11.3%, inadvertent 10%, infection 0- 7.5%, edema and erythema 6%, dislodgement 2%, kinking <1- 1.4%, Infiltration 23- 78%, erythema 7- 44% and edema 29- 36% (Janet Pettit, 2003).

Non-intentional strangulation with IV tubing, in children is a widely recognized risk as a result of the vulnerability of their airway to occlusion by relatively low pressure. Risk is related to child’s cognitive level, age, mobility and the length of the IV tubing. The number of entanglement was significantly higher in the age group of children older than 7 months in the study (Drago and Danenberg, 2004). So it is important to recognize this as a potential adverse event in children who receive IV therapy. Active prevention initiative in the level of supervision necessary for any child needs to be scrutinized, and individualized level of supervision according to the children’s age and behavior should be provided.
Paediatric patients differ physiologically, developmentally, cognitively, and emotionally from adult patients, and vary by age groups from infancy to teenage. When using any type of infusion therapy in a child, it is important to keep the patient safe while infusing the appropriate amount of fluids. Children require smaller doses than adults, lower infusion rates, appropriately sized equipment, the right venupuncture site determined by therapy and age, and distractions during administration of care (Anne Marie Frey, 2001). Now many organizations are encouraging interventions to reduce the pain associated with IV insertions, including topical anesthetic cream (EMLA cream) or injection and non–pharmacological interventions such as distraction techniques.

Nurses have an important role and responsibility to continuously maintain IV infusion therapy in children. Although the intravenous infusion of fluids is a procedure familiar to nurses today, parents and children may believe that the illness has become more serious when parenteral fluid are ordered. The parents especially may feel that they have failed and therefore feel guilty because they could not encourage their child to take more fluids by mouth. For these reasons, both parents and child need adequate preparations for this procedure. The equipment should be explained to them in a manner they can understand. They may be taken to see another child who is having an intravenous infusion and shown the restraints that may be necessary to help their child remain still. In this way they learn how to maintain some control over their intravenous therapy (Marlow, 2006).

**NEED FOR THE STUDY**

Today, the IV infusion of fluids has become a routine therapeutic modality in the care of children. Very few children complete their stay in hospital without having had the experience of IV therapy. Children receive fluids, nutrients, and medications by vein for various reason (H.William Clatworthy and Jr. Mary M. Stewari, 1957). Almost 100% of the patients receive infusion therapy and the hospital staff accepts this method of administration as routine. Infant’s average dwell time of a peripheral intravenous infusion ranges from 27- 49 hrs and 15 hours for a steel needle to 54 hrs for a catheter- style needle (Janet Pettit, 2003).
IV nursing is now a technical, highly specialized field. Several professional organizations for IV therapy have been established over the last 25 years. Intravenous Nurses Society, founded in 1973, promotes the specialty practice of IV nursing. It seeks to educate the practitioner and protect the public through the development of the infusion nursing standard (Ann M. Corrigan, 2001).

The IV nursing specialty responsibilities may include inserting IV cannulas; administering prescribed IV solutions, medications and blood products; monitoring and maintenance of IV site and system; evaluating response to prescribed therapy; educating patient and families and evaluating comprehension and documenting pertinent information on the patient’s record (Nancy M. Delisio, 2001).

A high standard of IV therapy is maintained by the specialized nurses. But in reality, specialized nurses are not available in most of the setting. All nurses give IV fluid. After starting the IV therapy, they tell the mother to keep the hand straight. No other instructions are given to the mother and they do not monitor the flow rate and change the IV fluid bottle on time, if bottle is empty. Thereby many complications happen in children. It is mainly due to the shortage of nurses, and over crowding of patients, nurses do not find time to talk with mothers.

Children may not tell you it hurts or they may tell you it hurts, but mean they just don’t like having it done. Children are curious and many times may try to take the catheter out once it has been placed. When a child, begins to manipulate the venous access device, it causes the catheter to become dislodged and infiltrate the site. So the parental involvement is very important, in the child care.

Maintaining peripheral venous access and infusion while minimizing complications poses many challenges for the pediatric nurse. Ongoing vigilance provides clues to catheter functions and promotes early identification of complications. Although not entirely preventable, serious complications may be decreased through routine systematic assessment and maintain a high index of suspicion for complications and promptly investigate and intervene to avoid serious sequale.
Since the Platt report in 1959, the presence of parents in the hospital has been strongly advocated in pediatric care (Ministry of Health, 1959). This report stated that parents should be allowed to stay with the child in the hospital whenever possible and to help with the care of the child. The Platt report was the result of research by pediatrician who demonstrated that involvement of the parents give the child emotional support and act as a bridge between the child and hospital staff.

Today, parents are expected to be with their hospitalized child 24 hours a day and encouraged to participate in care processes, but the role played by parents is sometimes unclear. Coyne (1995) reported that, parents felt a duty to be involved in their child’s care because of concern for the child’s emotional welfare. However, lack of information, non-negotiation of roles and feelings of anxiety and loneliness were common without exception. Involvement in care can also be stressful for parents, particularly when children are required to undergo examination and treatment that can be unpleasant. Parents emphasized the importance of clear, honest, open communication and information (Calley, 1997).

Earlier the mother’s participation was limited in child’s care and medical procedure. But today the mothers are participating in other areas of child care, like active participation of mothers during speech therapy, improved language development of children’s with cleft palate (Carmen Pamplona & Antonia Ysunza, 2000), and physical therapy for children with physical disabilities (Adri Vermeer, 2003), safety and efficacy and acceptability of home IV therapy administered by parents of pediatric oncology children (Louise Hooker, 1999). The mothers participation in the management of IV infusion therapy is not mentioned in the literature.

The mother’s participation in the management of IV infusion therapy is essential, in order to reduce the IV infusion complications. If the mothers are properly informed about the management of IV infusion therapy, it is a great help for the children and families in early detection and treatment of complications associated with IV therapy and alleviate the mother’s anxiety and promote comfort and confidence in taking care of the child.
Also the nurse must teach the family members to observe and report the following conditions and request for nursing assistance. Like, fluid chamber is not dripping, bottle or base of fluid nearly empty, backflow of blood into the tubing, needle or connections in tubing is disconnected, increasing pain and discomfort at the needle site or along the vein, swelling of tissue around the needle insertion site, any unusual symptoms such as chills, restlessness etc,. So that every signs of infection and other complications can be detected, investigated and corrected.

The researcher during her pediatric posting observed that, nurses starting IV catheter give casual information to the mother without proper explanation, which induces fear and anxiety in the mother in taking care of the child. Though the mothers are present at the bedside, some mothers adjust the flow rate by themselves; some of them do not inform the sister if bottle is empty. Some times they sleep on the bed, do not observe the child, the IV needle is displaced and causes swelling on the IV site. The mothers behavior could be due to lack of knowledge on IV infusion therapy. So the researcher raised the question if mothers are given some information on management of IV infusion therapy (on IV fluid therapy, its importance, what to observe and report to sister example, IV fluid not dripping, backflow of blood, connection in the tube disconnected, reactions such as increased pain, discomfort, chillness, shivering) will it help them to participate in the care of child, while receiving IV fluids. Therefore the present study is an attempt to see the effects of information on mother’s participation in IV infusion therapy.

STATEMENT OF THE PROBLEM:

A Study to assess the “Effectiveness of Informal Information on Mother’s Participation in the Management and Outcome of Intravenous Infusion, while Children receive Intravenous infusion Therapy in a Selected Hospital at Coimbatore”.

AIM OF THE STUDY:

The aim of the study is to determine whether information given informally to mothers regarding intravenous therapy make any difference in their participation in the management and care of intravenous infusion when the child is on intravenous therapy
SPECIFIC OBJECTIVES:

The specific objectives are,

1. To assess and compare the level of participation of experimental and control group mothers in managing different aspects of IV infusion therapy for children (Support to the child, Maintenance of IV fluid, Prevention of contamination).
2. To assess and compare the activities carried out by the experimental and control group mothers in managing different aspects of IV infusion therapy for children.
3. To assess and compare the outcome of IV infusion therapy in the experimental and control group.
4. To assess the views of the experimental group mothers with regard to the information received on IV fluid therapy.

RESEARCH HYPOTHESIS:

H₁. There will be significant difference in the level of participation of mothers in managing different aspects of IV therapy for children (support to the child, maintenance of IV fluid, prevention of contamination) between the experimental and control group.

H₂. There is a significant difference in the outcome of IV infusion therapy (IV flow, IV site, child’s behavior) between the experimental and the control group.

OPERATIONAL DEFINITION

Informal:
It refers to providing instruction in a relaxed, friendly and casual manner, immediately after starting the IV infusion therapy.

Information:
It refers to useful instruction or briefing verbally to some one. In this study information includes all aspects of IV infusion such as, what is an IV fluid, how to maintain IV fluid and what to observe and report to the sister.
Participation:

It refers to the action of taking part in an activity.

Management and Outcome of IV Infusion:

Management refers to carrying out activities for safe administration of fluid continuously through Intravenous route. The activities included are, giving support to the hand, maintenance of IV fluid and prevention of infection.

Outcome refers to the results observed us, IV fluid maintenance, and absence of IV therapy complications.

Children:

Children of age group 6 months to 5 years (infant, toddler and pre-schooler child).

Intravenous infusion therapy:

It refers to continuous administration of IV fluid for various purposes.

ASSUMPTIONS

- Mothers involvement in the IV management will help in safe administration of IV fluids.
- Mother’s participation in taking care of children receiving IV infusion is influenced by various factors. (personal and environmental)
- When mothers are informed, they will be able to participate better in taking care of children receiving IV therapy.

DELIMITATION

The study is delimited to,

- Biological mother who gave birth to the child
- Children in the age group of 6 months to 5 years.
- Children with medical condition receiving IV fluid therapy.
- Observation of mother’s participation is limited to two days only.
SCOPE OF THE STUDY

The findings of this study will help the health care providers to understand the ability and willingness of mothers to receive information and to participate in the management of IV infusion therapy for children.

Whether the mother who received the information on IV therapy management (support to the child, maintenance of IV fluid and prevention of contamination aspects) will be able to manage the child with IV infusion therapy better than the mother who did not received the information and also improved outcome in terms of, proper IV fluid flow, no complication (swelling, pain, reinsertion of venflon) for children of mother who received the information.

Mainly for the mothers, information on management of IV therapy, it helps them to acquire more knowledge and participate in different aspects of IV therapy and thereby minimize the IV therapy complications.

CONCEPTUAL FRAMEWORK:

The conceptual framework for the study was derived from Ludwig Von Bertalanffy General System Theory (1968). It serves as a model for viewing people as interacting with the environment. According to this theory a system consist of interacting components within a boundary that filters the type and rate of exchange within an environment.

Systems can be open or closed. Open systems are open for the exchange of matter, energy and information with their environment from which the system receives inputs and gives output in the forms of matter, energy and information. The open system receives inputs. Inputs are the sources needed by the system. Inputs are transformed in a process called throughput. Here matter, energy and information are continuously processed by the system and released as outputs. The system returns output to the environment. The feedback is the environment response of the system. Feedback may be positive, negative or neutral.
In the present study, the input is the activity phase where informal information was given regarding management of IV therapy activities to mothers while children received IV infusion, which was measured by using a observational check-list. The other factors contributing for the mother’s participation was personal experience, knowledge, attitude and environmental influences.

**Input**

Mother’s participation in the management of IV infusion therapy is the various activities carried out to support the child (Talk with the child, Stay beside the child, Encourage the child to sit, Encourage the child to play), to maintain IV fluid (Keep the hand in correct position, hold the hand, support the hand when care is given, fluid runs at correct rate / if not report, fluid present in the bottle/ if not report, IV site dry, no appearance of blood into the tubing / adopter, if present report, No bubbles / if present report it) and to prevent contamination (Frequently wash hands with soap, Do not touch the, IV adopter and needle site, Keep child with clean dress, Don’t wet the IV site).

**Output**

It is the change in knowledge and levels of mother’s participations and various outcome of the IV site after an informal information programme in experimental group and with out information in the control group. This was measured by post test and observation check-list of the outcome of management of IV therapy in children categorized by good, fair and poor outcome in various aspects such as IV infusion, IV site and Child’s behavior.

**Feedback**

It lays emphasis on strengthening the input and throughput. It is necessary if the result showed low level participation and poor outcome.

**Figure 1** highlights the conceptual framework based on Ludwig Von Bertalanffy General System Theory.
Fig - 1 CONCEPTUAL FRAMEWORK BASED ON LUDWIG VON BERTALANFFY GENERAL SYSTEM THEORY (1968)
REVIEW OF LITERATURE
CHAPTER II

REVIEW OF LITERATURE

A literature review is a critical summary of research on a topic of interest, often prepared to put a research problem in context.


The literature review is used in two ways by the research community. The first refers to the activities involved in identifying and searching for information on topic and developing a comprehensive picture of the state of knowledge on that topic.

(Polit- Hungler, 1990)

The literature reviewed for the present study is organized under the following heading.

1. Literature related to parental participation in hospitalized child care
2. Literature related to intervention studies on anxiety of parents participation in child care
3. Literature related to nurses attitudes towards parents participation in child care.

1. Literature related to parental participation in hospitalized child care

Melnyk (1994) in his study on coping with unplanned childhood hospitalization and effect of informal intervention on mothers and children evaluated, 108 mothers of hospitalized children of 2-5 years of age. Child’s behavioral information and parental role information had positive effects on maternal state anxiety as well as on parental support and participation in their children care during hospitalization.

C.P. Sainsbury (1986) conducted a study on care by parents of their children in hospital. The study shows that, a care by parent’s option was introduced into a general
pediatric ward without any additional finance or facilities. Most of the parents coped successfully and were grateful for the opportunity of caring for their children. All believed that their role was enhanced and their job satisfaction increased.

Louise Hooker and Janice Kohler, (1999) conducted a study on safety, efficacy, and acceptability of home intravenous therapy administered by parents of pediatric oncology. A prospective study of patients receiving intravenous therapy administered at home by parents was conducted over one year at a United Kingdom regional pediatric oncology center. 89 courses of antibiotics chemotherapy or antiemetic were given, comprising a total of 469 days of home treatment. The results showed that few clinical problems were encountered. Parents felt home treatment helped to cope (72%); they felt in control (75%) and learned more about their child’s illness, and treatment (82%). It concluded that there is a need for parents to be taught vigilance in observing for and reporting signs of deterioration.

Power N and Franck L (2003) conducted a study on parent participation in the care of hospitalized children. A systematic review was conducted and study findings were extracted, summarized and critiqued in relation to their contribution to knowledge about parent participation. The results showed that twenty-one descriptive studies were found in relation to their contribution to knowledge about parent participation, parent’s and health care professionals needs, desires and expectations, parent and health care professional attitudes, parent role and health care professional facilitation activities. Ways in which nurses gave parents instructions and guidance to participate effectively in the care of their hospitalized children were examined in five intervention studies. The study concluded that attitudes and activities of health care professionals are barriers and facilitators to good parent participation. The study recommended further research to examine the parent’s expectations on taking care of various specialities and condition.

Evans A (1990) conducted a study on investigations into the feasibility of parental participation in the nursing care of their children in pediatric oncology ward in England. Five mothers who were present consecutively in the ward were taught how to administer intravenous antibiotics to their children. Mothers views on teaching programme were sought using taped interviews, and the data were analyzed using
grounded theory. The results provided a valuable insight into mother’s views on the subject. It emerged that nurses attitudes towards care by parents require clarifying and that changes need to take place if this concept is to be taken on board Negotiation to allow mutual understanding between parents and nurses is essential to the successful implementation of such a scheme.

**Dolores C Jones (1994)** conducted a study on effect of parental participation on hospitalized child: a qualitative study. A short -term longitudinal descriptive evaluation of current levels of parent's participation in the care of a child hospitalized with leukemia was conducted to identify varying levels of parent participation and their relationship to the child's behavior during hospitalization. A positive relationship between the numbers of activities a parent participates in and their child's behavior during hospitalization was revealed.

**Lam L.W.et.al. (2005)** conducted a study on parent’s experiences of participation in the care of hospitalized child: a qualitative study. The study was conducted in four pediatric wards of a regional acute general hospital in the New Territories, Hong Kong. Nineteen parents (16 mother and 3 fathers) who had a child hospitalized for more than 48 hrs and identified themselves as staying comparatively longer with the child were selected. Qualitative exploratory design was adopted. Data were collected by tape- recorded semi structured interview. The result of the study showed that 4 major categories that illustrated parent's experiences of participation in child care were identified: reasons for staying with the child, rescheduling of family's routine, expectations of nurses, and comments on facility provisions. The findings highlight parent's desire for participation in caring for their hospitalized child, their unexpressed needs for communication and concern about the non- monetary costs of participation. The study concluded that, most parents viewed accompanying their hospitalized children as an unconditional aspect of being a parent and had a strong desire for participation. Parent's need for communication and emotional support during their participation of child care in pediatric unit are universal.

**Juan Gonzalez, et. al. (1989)** conducted a study on effects of parent presence on children’s reactions to injections: Behavioral, Physiological and subjective aspects in pediatric clinic, Florida. Forty-seven children in the age group of 13 month to 7
years 9 months receiving injections as part of a regular visit to a pediatric clinic were observed. 23 children were randomly assigned to a disease condition with parents (mainly mothers) presence and 24 to a condition with parent absence. During the medical procedure, the child’s reactions were observed via videotape and physiological recording. The results, showed that the older children significantly had more behavioral distress when the parent was present. However, the oldest children’s preference of condition for future injections was overwhelmingly that of parent present (86%).

Mary Erickson and Rachelle Heser (2002) conducted study on parent’s assistance to children having immunizations in two urban and five rural clinics in the Midwest. The convenience sample included 40 parents (or grand parents) of 40 children between the ages of 18 months to 6 years who were receiving routine immunizations. Parents were interviewed regarding plans to assist their children before and after immunizations were audio taped. Three strategies were used both during (procedural information, distractions and physical contact) after the immunizations. The study concluded that single most reported source of information to parents about helping their child during immunizations was very useful with their physician.

Jimenez-Murat (2001) conducted a study on parents involvement in children’s pain care: Views of parents and nurses about the involvement of parents in the management of their child’s pain during the first 48 hours after surgery. Using a phenomenological approach, nurses and parents were interviewed about their perceptions of parental involvement in pain management. The findings indicated that perceptions of parent involvement in their child’s pain management was superficial and limited in nature. Parents described a passive role in relation to their child’s pain care and conveyed feeling of frustration. Minority of parents expressed satisfaction with their child’s pain care. Nurses perceived that there was adequate involvement of parents and adequate pain management for children. It concluded that need for nurses to discuss parent involvement with parents and negotiate roles in relation to pain management.
Jones and Young (2005) conducted a study on “What is the effect of parental presence during pediatric medical procedure?” The outcome of the study showed that children were more comfortable sharing feeling; it improved parent-infant attachment, minimized uses of pre-medication and increased child’s co-operation. Parent felt more useful, and it enhanced parental satisfaction of the health care system. The implications for practice showed that nurses should strive to provide parents with every opportunity to be involved in their child health care.

Pamplona and Ysunza (2001) conducted a study on mothers of children with cleft palate undergoing speech intervention change communicative interactions. Fifty nine children with cleft palate and their mothers were included in the study group. Twenty eight children were included in the control group and 31 of the children in the experimental group. In this case, the mother’s of their children were also included. Pre and post data of the mothers from both groups were compared. The results showed that, 89% of the mothers of the experimental group modified their patterns of interaction. In contrast, only 19% of the mothers of the control group modified their style and mode of interaction. It concluded that the mothers of children with cleft palate and accompanying language delay modify their communicative style and mode of interaction through active participation in speech therapy.

Franck and Spencer (2003) conducted a study on parent visiting and participation in infant caregiving activities in a neonatal unit, in great Ormond street hospital, London. The study purposes were to describe the frequency and duration of parent visiting and participation in infant caregiving activities, and to identify parent and infant factors associated with parental participation. Parental visiting frequency, duration, and participation in social, cleaning, and feeding activities with their infant (110) were recorded for 12 days during a 3 months period. The results of the study showed that mothers visited more frequently (85% Vs 45% of possible days) and for longer than fathers, and visited less frequently if the infant had other siblings. All mothers and most (96%) fathers carried out infant social activities, such as talking, stroking or holding, during their visits. Over 75% of the mothers engaged in infant cleaning and feeding activities during visits, in contrast with less than 20% of fathers.
2. Intervention studies on anxiety of parents participation in child’s care

Ferguson (1979) conducted an intervention study involving parents of hospitalized tonsillectomy children. 82 children, aged 3 to 7 admitted for tonsillectomy and their parents were selected for the study. 2 x 2 factorial four study group design was applied (1. control – routine admission and non hospital related film. 2. routine admission and viewed hospital related peer modeling film, 3. pre admission home visit that provided information about the expected course of hospitalization and viewed a non – hospital related film, 4. home visit and viewed a peer modeling film). The finding showed that mothers who received pre- admission home visits or saw the peer-modeling film reported a significantly lower amount of anxiety and satisfaction with care; Children in the pre admission home visits groups showed less hospital separation anxiety and eating disturbances; Children who viewed the modeling film displayed less aggression and withdrawal.

Vulcan and Nikulich (1988) conducted an intervention study involving parents of hospitalized acute medical conditions children. The 40 mothers of children between 1 and 6 years old hospitalized for acute medical conditions, were selected for the study. Two –group quasi experimental study design was applied. Experimental mothers viewed a videotape that, illustrated young children’s responses to hospitals and gave suggestions to help their child cope with hospitalization. The finding showed that mothers in the experimental group reported less anxiety 48 to 72 hours after admission.

Joy and Elliott (1900) conducted an intervention study involving parents of hospitalized leukemia children. 72 parents of children with leukemia, aged 3 to 12 years, undergoing bone marrow aspiration or lumbar puncture were selected for this study. 2 (condition) x 2 (procedure; BMA or LP) factorial study design were applied. 1. Parents received a stress inoculation program (filmed modeling, self talk and coping strategies), or 2. Children received cognitive behavior therapy. The finding showed that parents in the stress inoculation program reported less anxiety and highly positive self- statements.
Peterson and Shigetomi (1981) conducted an intervention study involving parents of hospitalized tonsillectomy children. 66 children, aged 2 to 10 years, admitted for tonsillectomy, and their parents were selected for this study. 2x2 factorial experimental design was used. 1. Information only, 2. Coping Procedures (eg. relaxation, and self talk), 3. Filmed modeling, and 4. coping plus filmed modeling. The finding showed that children who received the combined interventions were calm and cooperative during invasive procedures. Parents in the coping procedures groups rated themselves as more confident and less anxious than parents in the other groups.

3. Literature related to Nurses attitudes towards parents participation in child care.

Daneman S and Macaluso J (2003) conducted a study on health care provider’s attitudes toward parent participation in the care of the hospitalized child. In this descriptive, comparative study, 504 pediatric health care providers were surveyed to measure attitudes toward parent participation. The results showed that 256 respondents indicated support for parent participation, but there was substantially less support for parental activities usually carried out by health care providers and those involving complex patient care tasks.

Flury (2001) in his study investigated the effect of febrile seizures on the behavior and emotional situations of parents in order to improve nurses attitude towards these children and parents in future. Severe anxiety was significantly associated with lack of knowledge about febrile seizures. The level of anxiety appeared to be associated with low educational level, but not with ethnic background or income. Therefore if information is provided to parents it must be specific, especially about which measures are to be taken or avoided respectively.

Nevas B (2001) conducted a study on parent's attitudes towards their child's therapist and therapy. The small scale study of 51 parents of children currently in treatment, suggest that contrary to classic psychoanalytic literature, parents experience primarily positive attitudes and feelings toward their child's therapist; they tend to feel hopeful, understood, and grateful. For the sake of both promoting and
preserving therapeutic gains, therapist should actively pursue an alliance with parents and encourage their participation in their child's treatment.

Hilary J Espezel and Connie J Canam (2003) conducted a study on parent–nurse interactions: care of hospitalized children in urban children’s hospital, Canada. Eight parents of 7 children with 18 month of age or older child with chronic health conditions and may have been hospitalized from birth and for lengthy period of time were selected for the study. A qualitative approach was employed for this study. In depth audiotape interviews were conducted. Data collection was completed over a 7 month period in 2001. Data were gathered by using open ended questions to explore parents experiences of their interactions with nurses. The findings of the study was parents characterized their experiences with nurses caring for their children as interactions, and identified the elements of establishing rapport and sharing children’s care as key to a positive perception of the interactions. These elements were influenced by parental expectations of nurses. Changes in nurse’s approach were reported by parents as the children’s condition s changed. The study concluded that nurses were able to work with families in the hospital care of the children in ways that parents perceived as positive. However, in parents views, the interactions with nurses did not constitute collaborative relationship.

Reeves E. et.al. (2006) conducted an exploratory study on parents experiences of negotiating care for their technology- dependent child: A qualitative semi-structured interview was undertaken with a group of six parents. Parents felt that their roles as parents were not considered enough by nurses and they tented to be seen as carers, not parents. Negotiation of care was not always given. Instead, nurses often made assumptions about parental involvement in care. Parents also reported a desire for more confident nurses. This study highlights the need to gain insight into parent's experiences, in order that nurses can provide care in a way negotiated to suit the individual family. Suggestions for further research in this area are offered.

Kristine M Gill (1993) conducted a study on health professional’s attitude towards parent participation in hospitalized children’s care. This study explored the relation of personal and professional’s characteristics to the attitudes of health professionals toward parent participation. A random sample of members of the
association for the care of children’s health completed the parent participation questionnaire. Attitudes were more accepting in subjects who were parents (P< .01), not married (P< .05), educators (P< .01); older (P< .01), more experienced (P< .01), and or had a higher level of education (P< .01). It was recommended that health professionals need to develop means of creating positive attitudes that are not based solely on an individual characteristics. These, however, can be mediated through several strategies for example role modeling, sharing and education.

**Punithmatharith B (2009)** conducted a study on nurse’s attitudes regarding parental participation in the management of IV infusion therapy in Edinburg university. The current level of knowledge about nurses attitudes regarding parent participation showed that, most of the mothers were unwilling to take care of their children during Intravenous infusion and they don’t want to accompany their children in to the hospital.

**CONCLUSION:**

From the literature review it is quiet evident that mother’s participation in different aspects of child care has been reported. But there was no review on mother’s participation in IV infusion therapy management. This was one of the reasons that created an area of interest to undertake the present study. The review of literature helped the investigator to select the setting, to design the study and develop its tools for the present study.
METHODOLOGY
CHAPTER III

METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure of gathering valid and reliable data for the problem under investigation (Kothari, 1996). The methodology of study includes research approach, research design, setting of the study, population, sample size and criteria, sampling technique, description of the tool, method of data collection and data analysis.

This chapter deals with the description of the research methodology adopted by the investigator to study the effects of informal information on mothers participation in the management of Intravenous infusion therapy.

RESEARCH APPROACH

The present study aimed at evaluating the effect of informal information on mother’s participation in the management of IV therapy. Hence an evaluative and experimental approach was considered to be most appropriate to accomplish the objectives of the study.

RESEARCH DESIGN

The research design selected for this study was quasi- experimental post test only two- group design (Experimental and Control group).

Experimental group  X  -------O₁
Control group       -------O₁

X = is the Informal information given to the experimental group mothers at the time of starting IV infusion therapy to the children.
O₁= Observation of activities of mothers in the management of IV therapy and also the outcome of IV therapy in both experimental and control group.
VARIABLES

Independent variable
Informal information
Dependent variable
Mother’s participation in IV therapy
Outcome of IV therapy

SETTING OF THE STUDY

The physical location and conditions in which data collection takes place in a study is known as setting. The setting for this study was the general medical ward of a selected private hospital, in Coimbatore. It is a 100 bedded private children hospital, which is headed by a Chairmen and Director. This hospital provides services for disease prevention and promotion of child health. The inpatient beds are distributed in four floors. In ground floor there is a general ward with 12 beds and first floor has medical wards with 24 beds and 3 staff nurses. The rest of the beds are private rooms in 2nd and 3rd floor. It also has an ICU with 12 beds and provide out patient services. In all this area, 30 staff nurses, 15 Axillary Nurse Midwives and 15 Nursing Assistants trained are working in the hospital. Nurses carryout all the intravenous related procedure such as withdrawing the blood, starting the IV infusion, giving IV medication etc..

POPULATION

The population comprised of all the children in the age group of 6 months to 5 years, hospitalized in the general medical wards of the selected hospital in Coimbatore at the time of the study.

SAMPLE SIZE

The sample consisted of 30 children (15 children in experimental group and 15 children in the control group).

SAMPLING TECHNIQUE

A convenient non-random sampling technique was adopted to select the samples. The first 5 samples fulfilled the inclusive criteria were assigned to the experimental group and the next 5 samples selected by convenience was assigned to
the control group. Similarly the rest of the samples in a group of 5 were selected and assigned to the control and experimental group alternatively.

CRITERIA FOR SAMPLE SELECTION

The following were the criteria for selection of samples

Inclusion criteria:
1. A minimum of two days of stay in the hospital
2. Mothers of children in the age group of 6 months– 5 years
3. Children having mother as a bystander

Exclusion criteria:
1. Mothers who were not willing to participate
2. Mothers with very sick children

DESCRIPTION OF THE TOOL

The tool used for this study was an interview schedule with four parts and the techniques used was participant observation (Refer Appendix - vi).

Interview schedule:

Part-I

The Part of the interview schedule was designed to collect demographic data, which included, mother’s age, education, occupation, child’s age, any previous experience with IV therapy.

Part-IV:

It comprised of mother’s views with regard to informal information on management of IV therapy. The total items were 7. A three-point scale (very much, somewhat and very little) was used, to rate the response of the mothers.

Part-II

Observational check-list: I- Mother’s participation

The purpose of the observational check-list was to record the mother’s participation in various aspects of the management of IV infusion therapy for their children. The participation aspects was organized in three categories, namely support to the child, maintenance of IV fluid, and prevention of contamination. Under each
category 4-8 observable behaviors were listed. The total item on the checklist was 16. Two columns were provided for the first day and second day observation. Under each day, 5 columns were provided to mark the frequency of mother’s participation on hourly basis for 5 hours.

Part-III

Observational check-list: II –Outcome of IV therapy

This check-list included three main areas to observe the outcome of the management of IV infusion therapy (IV flow, IV site and Child’s behavior). Under each of these three areas, there were 3-5 observable items listed. The total items were 12. Two columns (Yes and No) were given to record the presence or absence of the outcome of IV therapy.

SCORING AND SCORE INTERPRETATION

In the check-list-I for the mother’s participation a zero score was given for the absence of the behavior and a score of one for the presence of the behavior. The minimum obtainable score was zero and maximum score 16. In the check-list II, for the presence of outcome, a score of 1 and absence of outcome a score of 0 was given. The minimum obtainable score was zero and maximum score 12.

Score Interpretation:

1. Mother’s participation

<table>
<thead>
<tr>
<th>Score</th>
<th>Score %</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>0- 5.33</td>
<td>66.66- 100%</td>
<td>High level</td>
</tr>
<tr>
<td>5.33 -10.66</td>
<td>33.33-66.66%</td>
<td>Moderate level</td>
</tr>
<tr>
<td>10.66 -16</td>
<td>0- 33.33%</td>
<td>Low level</td>
</tr>
</tbody>
</table>

2. Outcome of I.V therapy

<table>
<thead>
<tr>
<th>Score</th>
<th>Score %</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>0- 4</td>
<td>66.66 to 100%</td>
<td>Good</td>
</tr>
<tr>
<td>5- 8</td>
<td>33.33 to 66.66%</td>
<td>Fair</td>
</tr>
<tr>
<td>9- 12</td>
<td>0 to 33.33%</td>
<td>Poor</td>
</tr>
</tbody>
</table>
DEVELOPMENT OF THE TOOL

The tool was developed by using information obtained from literature review, books, researcher’s own experience with IV therapy and problems encountered in pediatric set-up. Simplicity of language, organization and clarity of statement were the few factors kept in mind, while preparing the tool. The tool was revised several times after consultation with experts and colleagues. When it reached the final stage, the tool was drafted in English and Tamil.

VALIDITY OF THE TOOL

Validity refers to the degree to which an instrument measures what it is intended to measure (Polit and Hungle, 1999)

The validity of the tool was obtained from three Nursing experts and one medical expert. The Nursing experts had Masters qualification in nursing with Child Health Nursing specialization and 7-10 years of teaching experience and works as teaching faculty. Medical expert was a consultant pediatrician (M.B.B.S., M.D in Pediatrics) in R.V.S. Hospital.

Based on their suggestions of the experts one or two items were added, and modified in part-II (In the maintenance of IV) and part –III (In the child behavior-Irritable, Refusal of feed) of the observation schedule. Final approval was sought from the guides and the tool was finalized.

RELIABILITY

The reliability of the tool was established as follows. To test the reliability of check-lists (mothers participation, outcome) inter-rater method was used. 2 persons with the observational check-list, observed the activities of the mothers at a closure distance from the bedside and recorded in the check-list. Correlation co-efficient was calculated by Karl- pearson’s correlation method. The value obtained was r = 0.9 for mother’s participation in the IV therapy and r = 0.8 for the outcome of IV therapy, which showed a highly positive correlation.
PILOT STUDY

In order to test the practicability and feasibility of the tool a pilot study was conducted in the general medical ward of the selected private hospital, between 23/6/09- 28/6/09. Before starting the pilot study permission was obtained from the Secretary of the Hospital. Six samples who fulfilled the criteria were selected for the study and they were assigned to experimental (n= 3) and control (n=3) group. The purpose of the study and the type of intervention was explained to the experimental group mothers inorder to obtain their co-operation. Data were collected from the mothers on demographic profile.

After the IV infusion was started information was given informally to the experimental group mothers on different aspects of IV infusion therapy. Following which the investigator observed the mother’s activity every hourly for 10 to15 minutes, total 5 hours for one day with the observation check-list for 2 days, from morning 9 am to 3 p.m. and the researcher observed the presence and absence of the outcome of the IV therapy and recorded in the check-list. At a time two mothers were observed simultaneously.

Using the same procedure data were collected from the control group. No information was given regarding IV therapy. The total period taken for the data collection was 6 days.

The pilot study confirmed that slight modification was required in the tool. Two items in part II (flow rate maintained, before completion of fluid report to sister) and items in part III (In the child behavior- irritable, refusal of feed) were corrected in the observational check-list. Other than these corrections the tool was found to be feasible and adequate for the main study.

DATA COLLECTION PROCEDURE:

The study was conducted in the general medical ward of the selected private hospital in Coimbatore. Before starting the study, permission got from the ward sisters. Every day the investigator remained in the ward from 9a.m to 4 p.m. The samples who fulfilled the criteria were selected and obtained their oral willingness to participate in the study. The first 5 samples were assigned to the experimental group. The investigator spent 5- 10 minutes talking with the mothers about general condition of the child in order to develop good rapport and to get their co-operation for the
study. The purpose and nature of the study was explained. The demographic data was collected by interviewing the mother at the bedside. The researcher participated in starting the IV infusion. After the IV was started the structured information was given informally for 15-20 minutes. During the interaction the mother asked questions and clarified their doubts. Following which the activity of the mother was observed for 5 hours for two days with the observational check-list. The investigator observed the mothers behavior close distance form the bedside. For the control group after introduction, establishing the rapport and obtaining willingness, the investigator assisted in starting the IV, but no information was given. They were observed in the same manner as for the experimental group. Using the same procedure data were collected from the control group. The investigator marks the frequency of the mothers participation in the check-list. Finally outcome of the management of IV therapy was assessed by observational check-list II (IV flow, IV site, Child’s behavior). The investigator mark the presence or absence of the outcome behavior in the check-list. Next from the experimental group mothers, views with regard to informal information on the management of IV therapy assessed by three point scale method. The data collection was done over a period of 4 weeks from 30th June to 30th July 2009.

**PLAN FOR DATA ANALYSIS:**

The data obtained were analyzed in terms of the objectives of the study using descriptive and inferential statistics.

**Descriptive statistics**

Frequency and percentage distribution were used to analyze demographic variables, to assess the levels of mothers participation and outcome in the management of IV infusion therapy.

Mean and standard deviations were used to determine the difference in mother’s participation and outcome of IV therapy.

**Inferential statistics**

The ‘t’ test was used to determine the significance of the difference in level of mother’s participation and outcome of IV therapy between the experimental and control group.
ANALYSIS AND INTERPRETATION
CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is the systematic organization and synthesis of research data and in quantitative studies, the testing of hypothesis using those data. Interpretations is the process of making sense of study results and of examining their implications.


This chapter deals with the analysis and interpretation of data obtained from mothers of children who received intravenous infusion therapy. The data have been analyzed and presented under the following heading.

1. Demographic characteristics of the experimental and control group

2. Mother’s participation in experimental and control group

Mother’s participation has been analyzed in three levels (high, moderate and low) for the experimental and control group in various aspects of IV therapy management (support to the child, maintenance of IV fluid and prevention of contamination), and over all in frequency and percentage. Comparison of mother’s participation in the experimental and the control group in the three aspects of IV therapy has been done by mean score and its significance by statistical test.

3. Activities carried out by the experimental and control group in managing different aspects of IV therapy

The activities carried out by the experimental and control group mothers in the different aspects of the IV infusion therapy (support to the child, maintenance of IV fluid and prevention of contamination) have been presented in average frequency and also in mean score and its significance by statistical ‘t’ test.
4. Outcome of the management of IV infusion therapy in experimental and control group

The outcome of IV therapy in the management of IV infusion, IV site and child’s behavior has been analyzed in three categories (good, fair, poor) comparatively for the experimental and control group in frequency and percentage and the comparison of mean score and its significance by statistical ‘t’ test.

5. Views of experimental group mothers with regard to IV therapy information

Views of experimental group with regard to IV infusion therapy information has been analyzed in three categories (very much, some what, very little) in frequency and percentage.
## 1. Demographic Characteristics of the Sample

### TABLE –I

**FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO DEMOGRAPHIC VARIABLES**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Demographic Variables</th>
<th>Experimental group N:15</th>
<th>Control group N:15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>1</td>
<td>Mother’s age</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. 20- 24 yrs</td>
<td>6</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>b. 25- 30 yrs</td>
<td>7</td>
<td>46.66</td>
</tr>
<tr>
<td></td>
<td>c. 31- 35 yrs</td>
<td>1</td>
<td>6.66</td>
</tr>
<tr>
<td></td>
<td>d. 36 &amp; above</td>
<td>1</td>
<td>6.66</td>
</tr>
<tr>
<td>2</td>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Primary</td>
<td>3</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>b. Secondary</td>
<td>5</td>
<td>33.33</td>
</tr>
<tr>
<td></td>
<td>c. Higher secondary</td>
<td>4</td>
<td>26.66</td>
</tr>
<tr>
<td></td>
<td>d. Graduate</td>
<td>3</td>
<td>20.00</td>
</tr>
<tr>
<td>3</td>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. House wife</td>
<td>14</td>
<td>93.33</td>
</tr>
<tr>
<td></td>
<td>b. Employed</td>
<td>1</td>
<td>6.66</td>
</tr>
<tr>
<td>4</td>
<td>Child’s age</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. 6 months- 1 yr</td>
<td>4</td>
<td>26.66</td>
</tr>
<tr>
<td></td>
<td>b. 1- 3 Yrs</td>
<td>8</td>
<td>53.33</td>
</tr>
<tr>
<td></td>
<td>c. 3- 5 yrs</td>
<td>3</td>
<td>20.00</td>
</tr>
</tbody>
</table>

*Table I* - Presents the demographic characteristics of the sample
**Mother’s age:**

6 to 7 samples (40 - 46.66%) in both experimental and control groups were in the age group of either 20- 24 yrs or 25 – 30 yrs.

In the control group 46.66% were in the age group of 20-24 yrs and 25-30 yrs and the rest in the age group of 30- 35 yrs.

**Education:**

The level of education ranged from primary to graduation. 4-5 mothers in experimental group (26.66 and 33.33%) had either secondary or higher secondary education and 20% had either primary education or graduation.

In the control group 6 mothers (40%) had either secondary or higher secondary education and the rest had either primary or graduation.

**Mother’s occupation:**

In experimental group and control group, majority of the mothers (93.33%) were housewives and remaining 6.66% were employed.

**Child’s age:**

The child’s age in experimental and control group ranged from 6 months to 5 year. Eight children (53.33%) were in the age group of 1-3 yrs in experimental group and 7 children (46.66%) in the control group between 1- 3 years. 40% of control group and 26.66% of experimental group children were in the age group of 6 months to 1 year.
2. Mother’s participation in experimental and control group

TABLE –II

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUP IN THREE LEVELS OF PARTICIPATION IN GIVING SUPPORT TO THE CHILD

<table>
<thead>
<tr>
<th>S.No</th>
<th>Levels of Participation</th>
<th>Experimental group N:15</th>
<th>Control group N: 15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>1</td>
<td>High level (66.66%- 100%)</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>Moderate (33.34- 66.66%)</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Low level (0- 33.33%)</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table II presents the distribution of experimental and control group in three levels of participation in giving support to their children.

All the mothers in the experimental group (100%) highly participated in giving support to their children and in the control group. 93% of the mothers moderately participated.

From this table it is evident that the experimental group mother’s participation is very high.

Figure 2 highlights the level of participation in experimental and control group in giving support to their children.
Figure -2: Percentage of experimental and control group in three levels of participation in giving support to their children.
TABLE III

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUP IN THREE LEVELS OF PARTICIPATION IN MAINTENANCE OF IV INFUSION THERAPY

N: 30

<table>
<thead>
<tr>
<th>S.No</th>
<th>Levels of Participation</th>
<th>Experimental group N:15</th>
<th>Control group N: 15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>1</td>
<td>High level (66.66 - 100%)</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>Moderate (33.34- 66.66% )</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Low level (0- 33.33% )</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table III presents the distribution of experimental and control group in three levels of participation in maintenance of IV infusion therapy.

All the mothers in the experimental group (100%) showed a high level of participation in maintenance of IV infusion therapy.

In the control group 6 mothers (40%) showed high level of participation and 9 mothers (60%) moderate level of participation in maintenance of IV infusion.

Figure -3 highlights the three levels of mother’s participation in experimental and control group in maintenance of IV infusion therapy.
Figure 3: Percentage of experimental and control group in three levels of participation in maintenance of I.V infusion therapy.
TABLE- IV

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUP IN THREE LEVELS OF PARTICIPATION IN PREVENTION OF CONTAMINATION

<table>
<thead>
<tr>
<th>S.No</th>
<th>Levels of Participation</th>
<th>Experimental group N:15</th>
<th>Control group N:15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td>Frequency</td>
</tr>
<tr>
<td>1</td>
<td>High level (66.66- 100%)</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>Moderate (33.34- 66.66%)</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Low level (0- 33.33%)</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table- IV Presents the distribution of experimental and control group in three levels of participation in prevention of contamination.

All the mothers (100%) in the experimental group showed a higher level of participation in prevention of contamination, whereas in control group 73.33% showed moderate level of participation and 26.66% of mothers high level of participation in prevention of contamination.

Figure -4 highlights the three levels of mothers participation in experimental and control group in prevention of contamination.
Figure 4: Percentage of experimental and control group in three levels of participation in prevention of contamination.
TABLE- V

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUP IN THREE LEVELS OF OVER ALL PARTICIPATION IN THE MANAGEMENT OF IV INFUSION THERAPY

<table>
<thead>
<tr>
<th>S.No</th>
<th>Levels of Participation</th>
<th>Experimental group N:15</th>
<th>Control group N: 15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td>Frequency</td>
</tr>
<tr>
<td>1</td>
<td>High level (66.66- 100%)</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>Moderate (33.34- 66.66%)</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Low level (0 - 33.33%)</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table V Presents the distribution of experimental and control group in three levels of over all participation in the management of IV infusion therapy.

All the mothers in the experimental group (100%) showed high level of participation in the management of IV infusion therapy, whereas in control group all the mothers (100%) participated at a moderate level in the management of IV therapy.

This table concludes that experimental group shows high level of participation than the control group.
**TABLE – VI**

MEAN PARTICIPATION SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP IN DIFFERENT ASPECTS OF IV INFUSION THERAPY MANAGEMENT AND THE LEVEL OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>S.No</th>
<th>Aspects</th>
<th>Max score</th>
<th>Experimental group</th>
<th>Control group</th>
<th>Mean difference</th>
<th>Unpaired “t” test df=28 P=0.01</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N=15</td>
<td>N=15</td>
<td>Mean difference</td>
<td>df= Degree of freedom Table value = 2.76</td>
</tr>
<tr>
<td>1</td>
<td>Support to the child</td>
<td>4</td>
<td>3.03</td>
<td>1.85</td>
<td>1.18</td>
<td>13.11*</td>
</tr>
<tr>
<td>2</td>
<td>Maintenance of IV. therapy</td>
<td>8</td>
<td>7.22</td>
<td>5.16</td>
<td>2.06</td>
<td>20.6*</td>
</tr>
<tr>
<td>3</td>
<td>Prevention of contamination</td>
<td>4</td>
<td>3.61</td>
<td>2.30</td>
<td>1.31</td>
<td>16.58*</td>
</tr>
<tr>
<td>4</td>
<td>Over all IV infusion therapy</td>
<td>16</td>
<td>13.86</td>
<td>9.33</td>
<td>4.53</td>
<td>19.69*</td>
</tr>
</tbody>
</table>

* -Significant

Table – VI Presents the mean participation score and standard deviation of experimental and control group in different aspects of I.V infusion therapy management
Table -VI The data suggests that the mean score percentage for support to the child in experimental group was 75.75% and in control group 46.25%. In the maintenance of IV infusion therapy and prevention of contamination, the mean score percentage was same (90.25%) for the experimental group, whereas in control group, the range of mean percentage was 64.50-57.50%. For the overall IV infusion therapy, the mean score percentage was (86.62%) in experimental group and in control group 58.31%.

This table clearly shows that, the experimental group which received information on IV therapy shows higher mean score in all aspects of IV infusion therapy than control group.

The “t” test shows a significant difference between the experimental and control group in all the three aspects of IV infusion therapy. For the support to the child (t=13.11; df= 28, P=0.01), maintenance of IV fluid (t= 20.6; df= 28, P=0.01) and prevention of contamination (t= 16.58; df-28, P=0.01).

The hypothesis H₁ (Page no 8); “There will be significant difference in the level of participation in managing different aspects of IV therapy (support to the child, maintenance of IV fluid, prevention of contamination) between the experimental and control group” is accepted.

Figure -5 highlights the mean score percentage of experimental and control group in the different aspects of the management IV infusion therapy.
Figure -5: Percentage of experimental and control group in different aspects of the management of IV infusion therapy.

Note:
1. Support to the child
2. Maintenance of IV fluids
3. Prevention of contamination
4. Over all IV therapy Management
3. Activities carried out by the experimental and control group in managing different aspects of IV therapy

TABLE –VII

ACTIVITIES CARRIED OUT BY EXPERIMENTAL AND CONTROL GROUP MOTHERS TO SUPPORT THE CHILD DURING IV INFUSION THERAPY IN AVERAGE FREQUENCY

<table>
<thead>
<tr>
<th>S.N0</th>
<th>Activities</th>
<th>Experimental group N:15</th>
<th>Control group N:15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Average frequency</td>
<td>Average frequency</td>
</tr>
<tr>
<td>1</td>
<td>Talk with the child</td>
<td>20.7</td>
<td>14.8</td>
</tr>
<tr>
<td>2</td>
<td>Stay beside the child</td>
<td>11.8</td>
<td>9.3</td>
</tr>
<tr>
<td>3</td>
<td>Encourage the child to sit</td>
<td>16.5</td>
<td>5.5</td>
</tr>
<tr>
<td>4</td>
<td>Encourage the child to play</td>
<td>11.8</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Table –VII Presents the support given by experimental and control group to the child during intravenous infusion therapy.

Among the 4 activities ‘Talk with the child’ was the most frequently carried out activity by the mother in the experimental group to support the child (Average frequency 20.7), Secondly ‘Encourage the child to sit’ (Average frequency 16.5). Comparatively ‘Stay beside the child’ and ‘Encourage the child to play’ were carried out less frequently (Average frequency 11.8).

All the 4 activities of support were carried out less frequently by the control group mothers when compared with the experimental group mothers. Similar to the experimental mothers, ‘Talk with the child’ was the most frequent activity carried out by the control group (Average frequency 14.8). Unlike the experimental mother, the second most frequently carried out activity by the control group was ‘Stay beside the child’ (Average frequency 9.3).

On the whole the experimental group mothers provide more support to the child than the control group mothers during IV infusion therapy.
### Table – VIII

**ACTIVITIES CARRIED OUT BY EXPERIMENTAL AND CONTROL GROUP MOTHERS TO MAINTAIN IV FLUID THERAPY IN AVERAGE FREQUENCY**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Activities</th>
<th>Experimental group N: 15</th>
<th>Control group N: 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Keep the hand in correct position</td>
<td>11.9</td>
<td>5.7</td>
</tr>
<tr>
<td>2</td>
<td>Hold the hand</td>
<td>11.4</td>
<td>4.8</td>
</tr>
<tr>
<td>3</td>
<td>Support the hand when care is given</td>
<td>12.5</td>
<td>4.1</td>
</tr>
<tr>
<td>4</td>
<td>Fluid runs at correct rate / if not report</td>
<td>15.0</td>
<td>11.0</td>
</tr>
<tr>
<td>5</td>
<td>Fluid present in the bottle/ if not report</td>
<td>14.6</td>
<td>11.5</td>
</tr>
<tr>
<td>6</td>
<td>IV site - dry</td>
<td>15.0</td>
<td>14.3</td>
</tr>
<tr>
<td>7</td>
<td>No appearance of blood in the tube / if present report</td>
<td>15.0</td>
<td>12.9</td>
</tr>
<tr>
<td>8</td>
<td>No bubbles / if present report</td>
<td>15.0</td>
<td>13.0</td>
</tr>
</tbody>
</table>

Table – VIII  Presents the activities carried out for maintenance of IV therapy by experimental and control group.

Among the 8 activities to maintain IV fluid therapy, ‘Fluid runs at correct rate/ if not report’, ‘Fluid present in the bottle/ if not report’, ‘IV site- dry’, ‘No appearance of blood in the tube/ if present report’ and ‘No bubbles /if present report’ were the most frequently carried out activities by the mothers in the experimental group to maintain the IV fluid therapy (Average frequency 14.6- 15.0). The other 3 activities (No 1,2,3) were carried out comparatively less frequently (Average frequency 11.4- 12.5) by the experimental group.
All the 8 activities were carried out less frequently by the control group mothers when compared with the experimental group mothers.

Similar to the experimental group all the 5 activities (No 4, 5, 6, 7, 8) were carried out more frequently (Average frequency 11-14.3) by the control group. The other 3 activities (No 1, 2, 3) were carried out comparatively less frequently (Average frequency 4.1 - 5.7) by the control group.

On the whole, the experimental group mothers carried out various activities to maintain IV fluid more frequently than the control group mothers during IV infusion therapy.
Table – IX

ACTIVITIES CARRIED OUT BY EXPERIMENTAL AND CONTROL GROUP MOTHERS TO PREVENT CONTAMINATION DURING IV INFUSION THERAPY IN AVERAGE FREQUENCY

<table>
<thead>
<tr>
<th>S.N0</th>
<th>Activities</th>
<th>Experimental group N:15</th>
<th>Control group N:15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Average frequency</td>
<td>Average frequency</td>
</tr>
<tr>
<td>1</td>
<td>Frequently wash hands with Soap</td>
<td>9.5</td>
<td>4.3</td>
</tr>
<tr>
<td>2</td>
<td>Do not touch the, IV adopter &amp; Needle site</td>
<td>14.9</td>
<td>6.6</td>
</tr>
<tr>
<td>3</td>
<td>Keep child with clean dress</td>
<td>14.8</td>
<td>10.6</td>
</tr>
<tr>
<td>4</td>
<td>Don’t wet the IV site</td>
<td>15.0</td>
<td>13.1</td>
</tr>
</tbody>
</table>

Table – XI Presents the activities to prevent contamination by experimental and control group during IV infusion therapy.

Among the 4 activities to prevent contamination, ‘Do not touch the IV site, ‘keep the child with clean dress’ and ‘don’t wet the IV site’ were the most frequently carried out activities by mothers in the experimental group to prevent contamination (Average frequency 14.8-15.0). ‘Frequently wash hands with soap’ was carried out less frequently (Average frequency 9.5).

All the 4 activities to prevent contamination were carried out less frequently by the control group mothers when compared with the experimental group mothers. Similar to the experimental mothers, ‘Don’t wet the IV site’ was the most frequent activity (Average frequency 13.1) carried out by the control group. Secondly ‘keep the child with clean dress’ (Average frequency 10.6) ‘hand washing’ and ‘do not touching the IV adopter’ were carried out less frequently by the control group (Average frequency 4.3 & 6.6 respectively).

On the whole the experimental group mothers carried out these activities more frequently to prevent contamination during IV infusion therapy than the control group mothers.
### Table X

**Mean Activity Score and Standard Deviation of Experimental and Control Group to Support the Child During IV Infusion Therapy and the Level of Significance**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Activities</th>
<th>Experimental group N:15</th>
<th>Control group N:15</th>
<th>Mean Difference</th>
<th>Unpaired “t” test P=0.01 df=28</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Talk with the child</td>
<td>0.81 (0.06)</td>
<td>0.73 (0.88)</td>
<td>0.08</td>
<td>0.38NS</td>
</tr>
<tr>
<td>2</td>
<td>Stay beside the child</td>
<td>0.78 (0.83)</td>
<td>0.62 (0.13)</td>
<td>0.16</td>
<td>0.8NS</td>
</tr>
<tr>
<td>3</td>
<td>Encourage the child to sit</td>
<td>0.79 (0.11)</td>
<td>0.36 (0.15)</td>
<td>0.43</td>
<td>10*</td>
</tr>
<tr>
<td>4</td>
<td>Encourage the child to play</td>
<td>0.64 (0.06)</td>
<td>0.14 (0.11)</td>
<td>0.5</td>
<td>17.85*</td>
</tr>
</tbody>
</table>

* -Significant  NS- Non- Significant  df= degree of freedom  Table Value = 2.76

Table X presents the mean score and standard deviation of experimental and control group for the different activities of support to the child during IV infusion therapy.

The activity ‘talk with the child’ received the highest mean score (0.81) by the experimental group, ‘Stay beside the child’ & ‘Encourage the child to sit’ received a mean score of 0.78 and 0.79 respectively by the experimental group. ‘Encourage the child to play’ received the lowest mean score (0.64).
All the 4 activities received a lower mean score (0.14 to 0.73) in the control group, the lowest score for ‘Encourage the child to play’ and the highest score for ‘Talk with the child’.

Statistically there is a significant difference between the experimental and control group in the activities ‘Encourage the child to sit’ ($t= 10; P=0.01, df=28$) and ‘Encourage the child to play’ ($t= 17.85; P=0.01, df=28$), and no significant difference between the experimental and control groups in the activities, ‘Talk with child’ ($t= 0.38; P=0.01, df=28$), and ‘Stay beside the child’. ($t= 0.8; P=0.01, df=28$)
TABLE–XI

MEAN ACTIVITY SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP TO MAINTAIN IV FLUID THERAPY AND THE LEVEL OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>S.No</th>
<th>Activities</th>
<th>Experimental group N= 15</th>
<th>Control group N=15</th>
<th>Mean Difference</th>
<th>Unpaired “t” test P=0.001 df=28</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Keep the hand in correct position</td>
<td>0.79 (0.96)</td>
<td>0.38 (0.11)</td>
<td>0.41 (1.70NS)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Hold the hand</td>
<td>0.76 (0.15)</td>
<td>0.32 (0.13)</td>
<td>0.44 (12.22*)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Support the hand when care is given</td>
<td>0.69 (0.11)</td>
<td>0.27 (0.09)</td>
<td>0.42 (11.66*)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Fluid runs at correct rate / if not report</td>
<td>1.00 (0.00)</td>
<td>0.73 (0.08)</td>
<td>0.27 (14.21*)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Fluid present in the bottle / if not report</td>
<td>0.97 (0.045)</td>
<td>0.77 (0.06)</td>
<td>0.2 (13.33*)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>IV site - dry</td>
<td>1.00 (0.00)</td>
<td>0.95 (0.07)</td>
<td>0.05 (2.77*)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>No appearance of blood in to the tube / if present report</td>
<td>1.00 (0.00)</td>
<td>0.86 (0.07)</td>
<td>0.14 (7.77*)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>No bubbles / if present report</td>
<td>1.00 (0.00)</td>
<td>0.86 (0.08)</td>
<td>0.14 (14*)</td>
<td></td>
</tr>
</tbody>
</table>

* -Significant  NS- Non- Significant  df= degree of freedom  Table Value = 2.76

Table –XI Presents the mean activity score and standard deviation of experimental and control group to maintain IV fluid therapy.
The activities of ‘IV site- dry’, ‘No appearance of blood in the tube’ and ‘No bubbles if present/ report’ and ‘Fluid runs at correct rate/ if not report’, got the highest mean score (1.00) by the experimental group and ‘Fluid present in the bottle /if not report’ received a mean score 0.97. The other activities (No 1, 2, 3) also received a mean score ranging from 0.69 to 0.79.

In the control group, the activities of ‘IV site- dry’, ‘No appearance of blood in the tube’ and ‘No bubbles if present/ report’ and ‘Fluid present in the bottle /if not report’ got the highest mean score ranging from 0.73 – 0.95. The activities (No 1, 2, 3) received a less mean score ranging from 0.27 to 0.38.

The statistical “t” test shows a significant difference between the experimental and control group in all the activities except activity No: 1 ‘Keep the hand in correct position’. On the whole, to maintain IV fluid therapy the activities carried out showed a significant difference between the experimental and control group.
# TABLE - XII

## MEAN ACTIVITY SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP TO PREVENT CONTAMINATION DURING IV THERAPY AND THE LEVEL OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>S.No</th>
<th>Activities</th>
<th>Experimental group N=15</th>
<th>Control group N=15</th>
<th>Mean Difference</th>
<th>Unpaired “t” test P=0.01 df=28</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Score</td>
<td>SD</td>
<td>Mean Score</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Frequently wash hands with soap</td>
<td>0.63 0.04</td>
<td>0.28 0.08</td>
<td>0.35</td>
<td>16.66*</td>
</tr>
<tr>
<td>2</td>
<td>Do not touch the, IV adopter &amp; Needle site</td>
<td>0.99 0.25</td>
<td>0.44 0.10</td>
<td>0.55</td>
<td>8.59*</td>
</tr>
<tr>
<td>3</td>
<td>Keep child with clean dress</td>
<td>0.98 0.51</td>
<td>0.70 0.24</td>
<td>0.28</td>
<td>5.18*</td>
</tr>
<tr>
<td>4</td>
<td>Don’t wet the IV site</td>
<td>1.00 0.00</td>
<td>0.87 0.17</td>
<td>0.13</td>
<td>3.33*</td>
</tr>
</tbody>
</table>

* -Significant  NS- Non- Significant  df= degree of freedom  Table Value = 2.76

Table –XII Presents the mean activity score and standard deviation of experimental and control group to prevent contamination during IV infusion therapy.

The activity of ‘Don’t wet the IV site’ received the highest mean score (1.00) by the experimental group; ‘Do not touch the, IV adopter & Needle site’ and ‘Keep child with clean dress’ received a mean score of 0.99 and 0.98 respectively by the experimental group. ‘Frequently wash hands with Soap’ received the lowest mean score (0.63).
All these 4 activities received a lower mean score (0.28 to 0.87) in the control group, the lowest score for ‘Frequently wash hands with Soap’ and the highest score for ‘Don’t wet the IV site’.

Statistically there is a significant difference between the experimental and control group in all the activities to prevent contamination. For the activity ‘Frequently wash hands with soap’ (t= 16.66, P= 0.01; df=28), ‘Do not touch the IV adopter & needle site’ (t=8.59; P= 0.01; df=28), and ‘Keep child with clean dress’ (t=5.18; P= 0.01; df=28), ‘Don’t wet the IV site’ (t=3.33; P= 0.01; df=28).
4. Outcome of the management of IV infusion therapy

**TABLE –XIII**

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO OUTCOME IN DIFFERENT ASPECTS OF IV INFUSION THERAPY

<table>
<thead>
<tr>
<th>S.No</th>
<th>Outcome criteria</th>
<th>Experimental group N=15</th>
<th>Control group N=15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Present</td>
<td>%</td>
</tr>
<tr>
<td>I</td>
<td>IV flow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Fluid finished on time</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>Fluid rate maintained</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>3</td>
<td>Flow maintained without disconnecting</td>
<td>10</td>
<td>66.66</td>
</tr>
<tr>
<td>II</td>
<td>IV site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Swelling</td>
<td>2</td>
<td>13.33</td>
</tr>
<tr>
<td>2</td>
<td>Redness</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Pain</td>
<td>3</td>
<td>20.0</td>
</tr>
<tr>
<td>4</td>
<td>Reinsertion of IV venflon</td>
<td>3</td>
<td>20.0</td>
</tr>
<tr>
<td>III</td>
<td>Child’s behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Child is quiet and sleeping</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>Child is playing</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>3</td>
<td>Social smile/ Talking with others</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>4</td>
<td>Irritable</td>
<td>6</td>
<td>40.0</td>
</tr>
<tr>
<td>5</td>
<td>Refusal of feed</td>
<td>7</td>
<td>46.66</td>
</tr>
</tbody>
</table>

Table-XIII Presents the frequency and percentage distribution of experimental and control group according to outcome in different aspects of IV therapy.
Table- XIII - In the IV flow outcome for all the 15 (100%) children IV ‘Fluid finished on time’ and ‘Fluid rate maintained’ in experimental group. ‘Flow maintained without disconnecting’ for 66.66% of children. In contrast in the control group, only for 3 children (20%) the IV fluid finished on time.

In the IV site outcome, No redness was present, 13.33% of children had swelling, 20% of children experienced pain and for 20% of children venflon was reinserted in the experimental group. But in the control group, pain was present in 86.66% of children; reinsertion of venflon was 73.33%, swelling 60% and redness 46.66% of children.

In the child’s behavior outcome, ‘Child is quiet and sleeping’, ‘Child is playing’ and ‘Social smile/Talking with others’ were seen in all the children (100%) in experimental group. Other outcomes ‘Irritable’ and ‘Refusal of feed’ were seen in only 40.0 and 46.66% of the experimental group. In the control group, 6.66% to 33.33% of the children showed the behavior outcome (No 1, 2, 3). 66.66% of the children in the control group were ‘Irritable’ and 53.33% ‘Refusal of feed’.

On the whole the experimental group mothers of children showed good outcome in the management of IV infusion therapy, than the control group.
TABLE XIV

DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP IN THREE LEVELS OF OUTCOME IN THE MANAGEMENT OF DIFFERENT ASPECTS OF IV INFUSION THERAPY

<table>
<thead>
<tr>
<th>S.No</th>
<th>Aspects</th>
<th>Experimental group N=15</th>
<th>Control group N=15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Good &gt;66%</td>
<td>Fair 33-66%</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>1</td>
<td>IV flow</td>
<td>15</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>IV site</td>
<td>12</td>
<td>80.0</td>
</tr>
<tr>
<td>3</td>
<td>Child’s behavior</td>
<td>11</td>
<td>73.33</td>
</tr>
</tbody>
</table>

F- frequency  % - percentage

**Table XIV** Presents the distribution of samples in experimental and control group in three levels of outcome in the management of IV infusion therapy.
Table XIV Presents the distribution of samples in experimental and control group in three levels of outcome in the management of IV infusion therapy (IV infusion, IV site, Child’s Behavior).

The IV flow managed by all the experimental mothers (100%) showed good outcome (‘Fluid finished on time’, ‘Fluid rate maintained’ and ‘Flow maintained without disconnecting’). In contrast IV infusion managed by all the control group mothers (100%) showed poor outcome.

In the IV site managed by 80% of the experimental group showed good outcome (No swelling, redness, pain & reinserion of venflon). 2 Mothers (13.3%) showed fair outcome and 1 mother (6.66%) poor outcome. In contrast IV site managed by the control group mothers only (26.66%) showed good outcome and rest of the mothers (73.33%) showed poor outcome.

The child’s behavior outcome managed by 73.33% of the experimental group showed good outcome (Child is quiet, Child is playing, Social smile/ Talk with others and Not irritable, No refusal of feed). Four mothers of children (26.66%) showed fair outcome. In contrast Child’s behavior managed by the control group mothers (6.66%) showed good outcome, 66.66% showed fair outcome and 26.66% showed poor outcome.

All the three aspects of outcome of management of IV infusion therapy in experimental group was good when compared with the control group.

Figure 6 and 7 highlights the three levels of the outcome of the management of IV therapy in the experimental and control group.
Figure - 6 Three levels of outcome in different aspects of management of I.V. therapy in experimental group.
**Figure - 7**  Three levels of outcome in different aspects of management of I.V. therapy in control group
Table - XV

DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP IN THREE LEVELS OF OVERALL OUTCOME OF THE MANAGEMENT OF IV INFUSION THERAPY

<table>
<thead>
<tr>
<th>S.No</th>
<th>Over all outcome of IV therapy</th>
<th>Experimental group N=15</th>
<th>Control group N= 15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>1</td>
<td>Good (66.66 - 100%)</td>
<td>15</td>
<td>100.00</td>
</tr>
<tr>
<td>2</td>
<td>Fair (33.34- 66.66%)</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Poor (0- 33.33%)</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table - XV presents the distribution of experimental and control group in three levels of overall outcome of the management of IV infusion therapy.

The IV infusion therapy managed by all the experimental group mothers (100%) showed good outcome. Out of the 15 mothers in the control group who managed IV therapy 12 mothers (80%) showed poor outcome and 3 mothers (20%) fair outcome.

On the whole the experimental group mothers of children showed good outcome in the management of IV infusion therapy than the control group.

Figure -8 highlights the three levels of overall outcome in the management of IV therapy in experimental and control group.
Figure 8 Three levels of overall outcome of the management of I.V therapy in experimental and control group.
TABLE - XVI
MEAN OUTCOME SCORE OF EXPERIMENTAL AND CONTROL GROUP IN DIFFERENT ASPECTS OF MANAGEMENT OF IV THERAPY AND LEVEL OF SIGNIFICANCE

N:30

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Aspects</th>
<th>Max score</th>
<th>Experimental group N:15</th>
<th>Control group N:15</th>
<th>Mean difference</th>
<th>Unpaired “t” test P=0.01; df= 28</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mean Score</td>
<td>SD</td>
<td>Mean Score</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>IV flow</td>
<td>3</td>
<td>2.66</td>
<td>0.46</td>
<td>88.88</td>
<td>0.20</td>
</tr>
<tr>
<td>2</td>
<td>IV site</td>
<td>4</td>
<td>3.53</td>
<td>0.96</td>
<td>88.25</td>
<td>1.33</td>
</tr>
<tr>
<td>3</td>
<td>Child’s behavior</td>
<td>5</td>
<td>4.13</td>
<td>0.82</td>
<td>82.60</td>
<td>2.13</td>
</tr>
<tr>
<td>4</td>
<td>Over all Outcome</td>
<td>12</td>
<td>10.33</td>
<td>1.37</td>
<td>86.08</td>
<td>3.66</td>
</tr>
</tbody>
</table>

* -Significant df= degree of freedom Table Value = 2.7

Table-XVI Presents the mean outcome score of experimental and control group in various aspects of the management of IV infusion therapy.

The data suggests that the mean score percentage for the IV flow, IV site and Child’s behavior outcome was (88.88%, 88.25%and 82.6%) respectively in experimental group. In the control group the mean score percentage ranged from 6.66% to 42.60%. The highest mean score for the child’s Behavior outcome. For the over all outcome of the management of IV infusion therapy, the mean score for experimental group was 86.08% and for control group 30.5%.

The statistical “t” test shows a significant difference between the experimental and control group in the three aspects of outcome of the IV infusion therapy, IV flow (t=16.40; df- 28; P=0.01), IV site(t=5.64; df- 28; P=0.01) and Child’s behavior (t=6.66; df- 28; P=0.01). So the hypothesis H₂ (Page no 8) There is a significant difference in the out come of IV infusion therapy (IV flow, IV site, child’s behavior) between the experimental and the control group is accepted

Figure -9 highlights the mean score percentage of experimental and control group in the different aspects of outcome of the management IV infusion therapy
Figure 9: Mean score percentage of experimental and control group in the outcome of different aspects of the management of IV infusion therapy.

Note:

1. I.V infusion
2. I.V site
3. Child’s Behavior
4. Overall outcome
4. Views of experimental group mothers with regard to Intravenous infusion therapy information

**TABLE-XVII**

**FREQUENCY DISTRIBUTION OF EXPERIMENTAL GROUP IN TWO CATEGORIES OF VIEWS ON IV THERAPY INFORMATION**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Mother’s view</th>
<th>Very much</th>
<th></th>
<th>Some what</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Fre</td>
<td>%</td>
<td>Fre</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>Information was useful</td>
<td>15</td>
<td>100</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Did the information help in the following:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. To participate in the care of child</td>
<td>15</td>
<td>100</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>b. To communicate with the nurse</td>
<td>15</td>
<td>100</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>c. To feel confident to be at the bedside</td>
<td>12</td>
<td>80</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>d. To feel more comfortable to be with the child receiving IV therapy</td>
<td>10</td>
<td>66.66</td>
<td>5</td>
<td>33.33</td>
</tr>
<tr>
<td></td>
<td>e. To have less anxiety and fear in management of IV therapy</td>
<td>15</td>
<td>100</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>f. To feel importance of your presence at the bedside</td>
<td>15</td>
<td>100</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Fre- Frequency  
%- percentage

Table –XVII Presents the views of experimental group mothers with regard to information given on management of IV therapy
All the mothers (100%) reported that the information given was very much useful and the information helped to participate in the care of the child, communicate with the nurse, to have less anxiety and fear and to feel the importance of their presence at bedside. 80% of the mothers reported they felt very much confident to be at the bedside and 66.66% reported, they felt very much comfortable to be with the child receiving IV therapy, only 20-33.33% of the mothers felt somewhat in these two views.

The table concludes that the mothers had a positive view on the information given on IV therapy as it helped them to participate in the care of the child and to have a positive feeling.
DISCUSSION
CHAPTER –V

DISCUSSION

In the discussion section, the researcher draws conclusions about the meaning and implications of the finding. This section tries to unravel what the results mean, why things turned out the way they did and how the results can be used in practice.

(Denise F. Polit, 2004).

The study focused on assessing the effectiveness of informal information on mother’s participation in the management of IV infusion and the outcome as a result of mother’s participation. This chapter presents the main findings and its discussion.

Mother’s participation in experimental and control group

Table – II, III, IV and V explain the level of mother’s participation in experimental and control group. In experimental group, all the mothers (100% participated at a high level in giving support to their children, maintenance of IV therapy and prevention of contamination. In contrast in the control group, the participation in all the three aspects of IV therapy was at a moderate level (Support to their child 93.33%, maintenance of IV fluid 60%, Prevention of contamination 73.33%). Only 40% of control group mothers participated at a high level in maintenance of IV fluid and 26.66% in preventing contamination.

Table – V represents the overall participation of mothers. All the mothers 100% in experimental group participated at a high level and all the mothers 100% in the control group participated at a moderate level.

The present study revealed that, mothers in the experimental group who received the information showed high level of participation than the mothers who did not receive the information in the control group.

A study done earlier by Law L.W. et.al (2005) on parent’s experiences of participation in the care of hospitalized child, reveals that parents desire to participate in caring for their child. In this study the result shows a clear evidence of mother’s participation in IV therapy and its positive benefits.
Table VI explains the comparison of the mean participation score of experimental and control group in three aspects of IV infusion therapy. In experimental group, the mean score was higher in all three aspects of IV therapy. It ranged from 75.55%- 90.25%. But in control group, the mean score was much lower in all three aspects, ranging from 46.25% to 64.50%.

Statistically there is a significant difference between the experimental and control group in all three aspects of IV therapy. For the support to the child t= 13.11, df=28, P=0.01, maintenance of IV fluid t= 20.6, df= 28, P =0.01, and prevention of contamination t= 16.58, df= 28, P=0.01.

The present study findings are supported by a study done by Power, N (2003) on parent participation in the care of hospitalized child. It revealed that, attitudes and activities of health care professionals are barriers and facilitators to good parent participation in the care of hospitalized children. In this study as the researcher was directly involved in giving information in an unhurried manner and was available to clarify mothers questions, perhaps the mothers were motivated to participate well in the IV therapy.

Activities carried out by the experimental and control group in managing different aspects of IV therapy.

Table –VII, VIII, IX presents the activities carried out by experimental and control group mothers in the three aspects of intravenous infusion therapy (Support to the child, Maintenance of IV infusion, Prevention of contamination).

Table VII In experimental group all the activities to support the child were carried out more frequently than the control group. Average frequency ranged from 11.8- 20.7 in the experimental group, whereas in the control group the average frequency ranged from 2.2- 14.8. Table X shows the two activities ‘Encourage the child to sit’ and ‘Encourage the child to play’ were carried out more frequently by the experimental group mothers. Usually when IV is started, mother will take all precautions to keep the child quite. So that the IV will not be dislodged or disconnected. The experimental group of mothers were able to manage the IV as well as meet the child’s needs. Perhaps the information given to the mothers enabled them to demonstrate this response.
Table VIII All the 8 activities related to maintenance of IV fluid were carried out by both the experimental and control group mothers. The experimental group mothers carried out all activities more frequently (Average frequency 14.6 to 15.0) than the control group (Average frequency 4.1 to 14.3). Table XI Shows statistically there was significant difference between the two groups in the performance of all the activities (t= 2.77 to 14.21, df=28, P=0.01).

Table IX In experimental group all activities related to prevention of contamination were carried out more frequently (Average frequency 9.5 to 15.0) than the control group (Average frequency 4.3 to 13.1). Table XII Shows statistically there was significant difference between the two groups in the performance of all the activities (t= 3.33- 16.66, df=28, P=0.01).

All the activities are carried out by the experimental and control group mothers in maintaining the IV and preventing contamination. But the very fact that the experimental group mothers are engaged more in carrying out all these activities in an indication of their understanding of the information received.

Outcome of the management of IV infusion therapy in experimental and control group

Table- XIII, XIV, XV, XVI explain the outcome of the management of IV infusion therapy in experimental and control group in relation to IV flow, IV site and child’s behavior.

Table –XIII In the experimental group, all the 15 children IV infusion ‘finished on time’ and ‘flow rate was maintained’ (100%) and 10 children IV infusions (66.66%) maintained without disconnection. In control group only 3 children IV infusion 20% ‘finished on time’. In the IV site, both the group of children experienced swelling, redness, pain, reinsertion of venflon. In the experimental group, 3 children IV infusion (20%) were reinserted, swelling and pain were seen 2-3 children (13.33 & 20%) and no redness in the child’s IV site. In the control group 11 IV infusion (73.33%) were reinserted, swelling and pain were seen 9-13 children (60% & 86.66%) and 7 children (46.66%) had redness in the IV site. In the child’s behavior outcome, all the 5 behaviors were seen among the experimental and control group. ‘Child is quiet and sleeping’, ‘child is playing’, ‘social smile/ talking with others’ were observed (100%). ‘Irritable’ and ‘refusal of feed’ were observed (40 and
46.66%) in experimental group. Whereas in the control group these behaviors (quiet and sleeping, playing, talking with others) were observed only in 6.66 to 33.33% of children. ‘Irritable’ and ‘refusal of feed’ were observed in (53.33 to 66.66%).

From these findings, it is quiet evident that, the mothers who received information on IV therapy managed the IV infusion better than the control group.

Table XIV with regard to IV flow maintenance, in experimental group the outcome was good (100%), and in the control group the outcome was poor (100%). With regard to IV site, in the experimental group the outcome was good (80%), fair (13.33%) and poor (6.66%). Whereas in control group the IV site outcome was good (26.66%) and poor (73.33%). With regard to child’s behavior in experimental group, the outcome was good (73.3%) and fair (26.6%). In the control group the outcome was good (6.6%), fair (66.66%) and poor (26.66%).

Table XVI shows that there was a significant difference between the two groups in all three aspects of outcome of IV therapy. For the IV flow (t= 16.40, df=28, P=0.01), IV site (t= 5.64, df=28, P=0.01), for the child’s behavior (t=6.66, df-28; P=0.01).

The child’s IV managed by the experimental group of mothers showed a more positive outcome than the IV managed by control group mothers.

The present study findings are supported by a study done earlier by Dolores C. Jones (1994) on the effect of parental participation on hospitalized leukemic child. It identified varying levels of parent participation and their relationship to the child’s behavior during hospitalization. It revealed a positive relationship between the number of activities a parent participates in and the child’s behavior during hospitalization.

Mothers views with regard to Intravenous infusion therapy information in experimental group

Table –XIX Presents the views of experimental group mothers with regard to information given on management of IV therapy. All the mothers 100% reported that the information given was very much useful and its helped to participate in the care of the child, with less fear and anxiety. They were able to communicate with the nurse, mothers felt that the importance of their presence at bedside. 80% reported they felt very much confident to be at the bedside and 66.66% reported, they felt very much comfortable to be with the child receiving IV therapy.
Several authors have highlighted the impact of teaching to mothers on their participation in the care of child. A study done by Evans, A (1990) reported that, teaching on administering IV antibiotics to children, provided a valuable insight into mothers views on the subject. A study conducted by a Melnyk (1994) on the coping with childhood hospitalization and effect of informal intervention on mothers reported, information had positive effects on maternal state anxiety as well as on parental support and participation in their children care during hospitalization.
SUMMARY,
FINDINGS,
CONCLUSION,
IMPLICATION AND RECOMMENDATION
CHAPTER VI

SUMMARY, FINDINGS, CONCLUSION, IMPLICATION AND RECOMMENDATION

In this chapter, summary of the study, main findings, conclusions and recommendations are presented.

Summary of the study

The study was done to assess the effectiveness of informal information on mother’s participation in the management of IV infusion therapy. A quasi-experimental post test only- two group design was used. The conceptual frame of this study was based on Von Bertalanffy- General system theory model. The study was conducted in a selected hospital at Coimbatore. Using a convenient random sampling method, 30 mothers with children in the age group of 6 months to 5 years old children receiving IV infusion therapy were selected and randomly assigned to the experimental and control group (15 each). The mothers were interviewed to collect the demographic data. After starting the IV infusion therapy for children, the mothers of the experimental group were given informal information about the IV therapy and its management for about 15 minutes- 20 minutes, followed by observation of mother’s activities and outcome of IV therapy with an observational check-list for 2 days. The observation was done hourly for 10- 15 minutes for 5 hours a day. Similarly observation and recording were done in control group without giving informal information to the mothers. At the end of second day the experimental group mothers were interviewed to gather their view on the information given. The data analysis and interpretations was done using descriptive and inferential statistics.

Summary of the findings

1. Demographic data

6 to 7 mothers (40- 46.66%) were in the age group of either 20-24 yrs or 25-30 yrs in both the groups. In experimental group 4 to 5 mothers (26.66 - 33.33%) had either secondary or higher secondary education and 3 mothers (20%) had either primary or graduation. In control group, 6 mothers (40%) had either secondary or
higher secondary and rest had either primary or graduation. In the experimental and control group, 14 mothers (93.33%) were house wives. In the experimental group, 8 children (53.33%) were in the age group of 1-3 years, and 3-4 children (20-26.66%) were in the age group of either 6 months to 1 year or 3-5 years, whereas in the control group, 6-7 children (40 to 46.66) were in the age group of either 6 months to 1 year or 1-3 years and rest of 2 children (13.33%) were in the age group of 3-5 years.

2. Mother’s participation in the management of I.V infusion therapy

Mother’s participation in the management of IV therapy was examined in three aspects, giving Support to their child, maintenance of IV flow, prevention of contamination.

Support to their child

In experimental group, all the 15 mothers (100%) participated at a high level, whereas in control group 14 mothers (93.33%) participated at a moderate level in giving support to their children.

Maintenance of IV flow

In the experimental group, all the 15 mothers (100%) participated at a high level, whereas in the control group 6 mothers (40%) participated at a high level and 9 mothers (60%) participated at a moderate level in maintaining IV fluid.

Prevention of contamination

In experimental group all the 15 mothers (100%) participated at a high level, whereas in the control group 4 mothers (26.66%) participated at a high level and 11 mothers (73.35%) participated at a moderate level in preventing contamination.

The overall, mothers participation in the experimental group 100% showed high level of participation, whereas in the control group all the mothers (100%) participated at moderate level in the management of IV infusion therapy.

The overall mean participation score was higher in experimental group of mother (86.62%) compared to the control group (58.31%). Statistically there was a significant difference between the experimental and control group in the over all three aspects of management of IV infusion therapy (t=19.69, df=28, P=0.01).
3. Activities carried out by the experimental and control group in managing different aspects of IV therapy

Support to their child:

The activities included were ‘Talk with the child’, ‘Stay beside the child’, ‘Encourage the child to sit’, and ‘Encourage the child to play’. In experimental group, all the activities were carried out more frequently than the control group. The most outstanding activity was ‘Talk with the child’ with an average frequency of 20.7 in experimental group and 14.8 in control group. Statistically there was a significant difference between the mean activity score of the two groups for ‘Encourage the child to sit’ ($t= 10$, $df=28$, $P=0.01$), ‘Encourage the child to Play’($t= 17.85$, $df=28$, $P=0.01$). (Table -X)

Maintenance of IV fluid:

The activities included were ‘Keep the hand in correct position’, ‘Hold the hand’, ‘Support the hand when care is given’, ‘Fluid runs at correct rate / if not report’, ‘Fluid present in the bottle/ if not report’, ‘IV site-dry’, ‘No appearance of blood in to the tube / if present report’, ‘No bubbles / if present report’. All the 8 activities were carried out by experimental groups more frequently (Average frequency 11.4 – 15.0) than the control group (Average frequency 4.1- 14.3). The activities carried out most frequently were ‘Fluid runs at correct rate / if not report’, ‘Dressing dry’, ‘No appearance of blood in to the tube / if present report’, ‘No bubbles / if present report’. Statistically there was a significant difference in all the activities between the experimental and control group ($t= 2.77$ to $14.21$, $df=28$, $P=0.01$) except ‘Keep the hand in correct position’ activity ($t= 1.70$, $df=28$, $P=0.01$). (Table – XI)

Prevention of contamination:

The activities included were, ‘Frequently wash hands with soap’, ‘Do not touch the IV adopter& Needle site’, ‘Keep child with clean dress’, ‘Don’t wet the IV site. All the four activities were carried out more frequently by the mothers in the experimental group (Average frequency 9.5 – 15.0) than the control group (Average frequency 4.3- 13.1). The most frequently carried out activity in both the group was ‘don’t wet the IV site’ and the least performed activity was ‘frequently washing the hands with soap’. Statistically there was a significant difference in the mean score of all the activities between the two groups. (Table- XII)
4. Outcome of the management of IV infusion therapy

Outcome of the management of IV therapy was examined in three aspects based on criteria IV flow, IV site, Child’s behavior.

**IV flow:**

In experimental group, all the mothers (100%) maintained the IV flow and 66.66% managed the IV without disconnecting flow, whereas in the control group only 20% ‘fluid finished on time’ and other 2 criteria were not seen.

**IV site:**

The criteria included were ‘Swelling’, ‘Redness’, ‘Pain’, ‘Reinsertion of venflon’. In experimental group, 2 to 3 children (13.33% to 20%) had IV site swelling, pain, reinsertion of venflon and no redness noted in IV site of the children. Whereas in the control group, child had swelling (60%), redness (46%), pain (86%), and IV reinserted 73.33%.

**Child’s behavior:**

The criteria included were ‘child is quiet and sleeping’, ‘child is playing’, ‘social smile/ talking with others’, ‘irritable’, ‘refusal of feed’. In experimental group, all the 15 children (100%) were with quiet and sleeping, playing, social smile/ talk with others. Whereas in the control group, 1-5 children (6 to 33.33%) showed all these behavior. ‘Irritable’ and ‘Refusal of feed’ were seen in 6- 7 children (40- 46.66%) in experimental group and in control group (53.33- 66.66%).

In the experimental group, overall outcome of IV flow was good (100%), whereas in the control group 100% showed poor outcome. In the experimental group, outcome of IV site was good (80%) and only 13.33% & 6.66% had either fair or poor outcome. Whereas in the control group, only 26.66% showed good outcome and rest of 73.33% showed fair outcome. In child behavior, 73.33% of the children showed good outcome and 26.66% showed fair outcome. Whereas in the control group, only 6.66% showed good outcome, 66.66% showed fair outcome and rest of 26.66% showed poor outcome.

The overall outcome showed, 100% good in experimental group, whereas in control group 20% showed fair outcome and 80% showed poor outcome. The overall mean outcome score was higher in experimental group (10.33) than the control group (3.66). Statistically there was a significant difference between the experimental and
control group in all three aspects of outcome of the management of IV therapy (t= 14.50, df=28, P=0.01).

5. Views of experimental group mothers with regard to IV therapy information

All the experimental group mothers (100%) reported that the information given was very much useful and it helped to participate in the care of the child, with less fear and anxiety. They were able to communicate with the nurse, felt the importance of their presence at bedside. 80% reported they felt very much confident to be at the bedside and 66.66% reported, they felt very much comfortable to be with the child receiving IV therapy.

Conclusion

From the findings it is quite evident that the mothers who received information showed, high level of participation in giving support to their child, maintenance of IV fluid and prevention of contamination. All the experimental group mothers carried out all activities in managing IV therapy. But it is very less in control group. The outcome in the management IV therapy was good by proper maintenance of IV flow, less IV site problems (swelling, pain, reinsertion of venflon) and shows good child’s behavior in experimental group than the control group. Statistically there was a significant difference between the experimental and control group in all the activities and outcome of the management of IV therapy.

Limitations

We can’t say that effective mothers participation was influenced by information. In the absence of the investigator, the mothers may have been communicate with other people and get the information or information given by the nurses in the ward or her own experience and educational status of the mother.

Implications

The finding of the study has implications for nursing education, nursing service, nursing administration and nursing research.
Nursing education

The nursing curriculum should emphasis the importance of involving the family members in the management of IV infusion therapy. The nurse educator can provide in service education to the nursing personnel to update their knowledge on the management and outcome of IV therapy and also emphasize on importance of giving information informally to the care giver while giving IV therapy to the children.

Nursing Practice

The findings of the study brought to the notice of pediatric nurses and explain them importance of giving informal information to the mothers of children receiving IV therapy. Encourage the nurses to develop habits of giving information informally to the mothers, while carrying out procedure and care. This could be encouraged by proper in service education and emphasis to practice in the clinical areas.

Nursing Administration

Nursing administrator should support the idea of involving family members into the care of their child and nurses spend time with the parents and give information on IV therapy to the mothers. The nurse as an administrator should plan and organize in service education programmes for the nursing personnel and motivate them in informing to the mothers regarding the management of IV infusion therapy. Planning and organization of such programmes require efficient team work, planning the manpower and time to conduct successful educational programmes. There should be a guide or policy on IV therapy, to promote the practice of giving information informally to the mother when IV therapy was given.

Nursing Research

This is only an initial investigation to assess the effectiveness of the information on mothers participation in the management and outcome of IV infusion therapy. There is a need for intensive research in the area of patient care to render better service for the children receiving IV infusion therapy.
Recommendations

1. A similar study can be replicated on larger samples covering different hospitals.
2. A study can be conducted in other areas of hospital in Coimbatore city.
3. A similar study can be conducted on parent’s perceptions on hospitalized child care.
4. A similar study can be conducted to assess the views of family members with regard to their participation in child care.
BIBLIOGRAPHY AND REFERENCES
BOOK REFERENCES


**JOURNAL REFERENCES**


Louise Hooker and Janice Kohler.(1999). “Safety, efficacy and acceptability of Home Intravenous Infusion Therapy administered by Parents of Pediatric Oncology Patients”; *Journal of Medical and Pediatric Oncology*, 32(6), 421-426.


ONLINE REFERENCES


APPENDIX - I

LETTER REQUESTING PERMISSION TO CONDUCT THE STUDY

To

The Honorable Secretary,
Masonic Medical Center for Children,
Coimbatore.

Respected Sir/ Madam

SUB:  Letter requesting permission for conducting the study

Ms. Chitra. P is a post graduate nursing student of our institution. She has selected below mentioned topic for her research project to be submitted to DR. M.G.R Medical University of Health Sciences, as a partial fulfillment of Master of Science in Nursing Degree.

“A Study to assess the Effectiveness of Informal Information on Mothers Participation in the Management and Outcome of IV infusion therapy, while Children receive IV therapy in a Selected Hospital at Coimbatore”.

Regarding this project, she is in need of your esteemed help and co-operation as she is interested in conducting a study of her project, in the hospital during the month June 2009. I request you to kindly permit her to conduct the proposed study and provide her the necessary facilities.

I student will furnish details of the study, if required personally. Please do the needful and oblique.

Thanking You

Yours faithfully,

Date :
Place: Sulur

PRINCIPAL
APPENDIX - II

REQUESTION LETTER FOR CONTENT VALIDITY

From

P. Chitra,
M.Sc. (N) Student,
RVS College of Nursing,
Sulur, Coimbatore – 641402

To

Through the Principal
Respected Madam,

SUB: Letter requesting opinion and suggestion of experts for establishing content validity of the tool.

I am a M.Sc. (N) student in RVS College of Nursing Sulur, Coimbatore in the specialty of Child Health Nursing. As per the requirement for the partial fulfillment of this Nursing degree under Tamil Nadu Dr. MGR Medical University, I have selected the following topic for dissertation

“A Study to assess the Effectiveness of Informal Information on Mothers Participation in the Management and Outcome of IV infusion therapy, while Children receive IV therapy in a Selected Hospital at Coimbatore”.

I kindly request you to go through the research tool and validate against criteria given in the sheet.

Thanking You

Enclosure:

1. Statement of the problem
2. Research tool
3. Criteria rating for validation
4. Content validation certificate

Yours faithfully,

(P.Chitra)

Place: Sulur
Date:
APPENDIX - III

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool developed by Ms. P. Chitra, M.Sc. (N) student, RVS College of Nursing, Sulur, Coimbatore to collect data on the problem,

“A Study to assess the Effectiveness of Informal Information on Mothers Participation in the Management and Outcome of IV infusion therapy, while Children receive IV therapy in a Selected Hospital at Coimbatore”.

Is validated by the undersigned and she can proceed with this tool to conduct the main study.

Name and Address:

Signature:

Seal:

Date:
APPENDIX - IV

CRITERIA RATING SCALE FOR VALIDATION

Interview Schedule and Observational Check-List

Kindly go through this tool, please give your views regarding

clarity, relevance, adequacy and remarks

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<thead>
<tr>
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### PART – III

#### Outcome of the management of IV therapy

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### III. Child’s Behavior

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### PART – IV

Mothers views with regarded to IV therapy information

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Signature of the Validator
APPENDIX - V

REQUISITION LETTER FOR CO-GUIDE

From :

Ms. P.Chitra,
M.Sc. Nursing II year
R.V.S. College of Nursing,
Sulur, Coimbatore.

To :

Dr. Uma Shankar, A. M.B.B.S., M.D
Consultant Pediatrician & Neonatologist
R.V.S Hospital,
Sulur, Coimbatore

Through the Principal,
Respected Sir,

SUB : Request for Co – Guide

I wish to state that I am P. Chitra II Year M.Sc Nursing student of R.V.S. College of Nursing have selected the below mentioned topic for dissertation as a partial fulfillment for the Master of Nursing Degree to the Tamil Nadu Dr. MGR medical University.

“A Study to assess the Effectiveness of Informal Information on Mothers Participation in the Management and Outcome of IV infusion therapy, while Children receive IV therapy in a Selected Hospital at Coimbatore”.

Regarding this I am in need of your valuable help and cooperation by providing services to be a Co-guide for my study.

I humbly request your highness to consider the same and do the needful.

Thanking you,

Yours sincerely,

(Ms. P. Chitra)
INFORMAL INFORMATION ON MANAGEMENT OF INTRAVENOUS INFUSION THERAPY

CONTENT:

1. REASON

2. DURATION

3. CONTENTS OF IV FLUID

4. FOLLOWING CRITERIA CARRIED OUT BY MOTHER’S

I. Support to their child:
   - Talk with the child
   - Stay beside the child
   - Encourage the child to sit
   - Encourage to play

II. Maintenance of IV fluid:
   - Keep the hand in correct Position
   - Hold the hand
   - Support the hand when care is given
   - Fluid runs at correct rate / if not report
   - Fluid present in the bottle/ if not report
   - IV site- dry
   - No appearance of blood into the tubing / adopter, if present report
   - No bubbles / if present report it

III. Prevention of contamination:
   - Frequently wash the hands with soap
   - Do not touch the, IV adopter & needle site
   - Keep child with clean dress.
   - Don’t wet the IV site
APPENDIX -VI

INTERVIEW SCHEDULE

INTRODUCTION

When children are admitted in the hospital they undergo various procedures and treatment. Those who stay with the child will be able to assist in the care of the child, if they have some understanding about treatment that is given to the child.

PURPOSE

The purpose of this interview is to provide you information on intravenous therapy. So that you will be able to participate in the care of the child.

INSTRUCTION

Kindly give answer to the following questions. Your answers will be kept confidential.
PART-I

DEMOGRAPHIC DATA

1. Mothers Age:    
   a. 20-24 yrs    
   b. 25-30 yrs    
   c. 30-35 yrs    
   d. 35 and above 

2. Education     
   a. Illiterate  
   b. Primary     
   c. Secondary   
   d. Higher secondary 
   e. Graduate

3. Occupation     
   a. House wife  
   b. Employed   

4. Family monthly income   
   a. <1500 Rupees  
   b. 1501-3000 Rupees  
   c. Above 3000 Rupees 

5. Child’s age    
   a. 6 months-1year  
   b. 1-3 years     
   c. 4-5 year

6. Child’s Diagnosis :

7. Indication for IV fluid therapy :

8. Any previous hospitalization with IV therapy : Yes    No
## PART –II

### OBSERVATIONAL CHECKLIST

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<td>No bubbles / if present report it</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>PREVENTION OF CONTAMINATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Frequently wash hands with Soap</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>Do not touch the, IV adopter &amp; Needle site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Keep child with clean dress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Don’t wet the IV site</td>
<td></td>
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</tbody>
</table>
# Part III

## Outcomes in the Management of IV Therapy

<table>
<thead>
<tr>
<th>S.No</th>
<th>Criteria</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td><strong>IV Flow</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Fluid finished on time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Fluid rate maintained</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Flow maintained without disconnecting</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>II</strong></td>
<td><strong>IV Site</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Swelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Redness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>Pain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|   2.4 | Insertion of IV venflon  
   Once: | | |
|   | Twice: | | |
| **III** | **Behaviour** | | |
|   3.1 | Child is quiet and sleeping | | |
|   3.2 | Child is playing | | |
|   3.3 | Social smile/ Talking with others | | |
|   3.4 | Irritable | | |
|   3.5 | Refusal of feed | | |
MOTHER'S VIEWS ON INFORMATION RECEIVED WITH REGARD TO IV THERAPY

<table>
<thead>
<tr>
<th>S. NO</th>
<th>MOTHER'S VIEW</th>
<th>VERY MUCH</th>
<th>SOME WHAT</th>
<th>VERY LITTLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>How useful was the information to you</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Did the informations helps you in the Following aspects;</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>a. To participate in the care of child confidently</td>
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<tr>
<td></td>
<td>b. To communicate with the nurse</td>
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<td></td>
<td>c. To feel confident to be at the bedside</td>
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<tr>
<td></td>
<td>d. To feel more comfortable to be with the child receiving IV therapy</td>
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<tr>
<td></td>
<td>e. To have less anxiety &amp; fear in the management of child IV therapy</td>
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<tr>
<td></td>
<td>f. To feel the importance of your presence at the bed side</td>
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</tr>
</tbody>
</table>
INFORMAL INFORMATION ON MANAGEMENT OF INTRAVENOUS INFUSION THERAPY

CONTENT:

1. REASON

2. DURATION

3. CONTENTS OF IV FLUID

4. FOLLOWING CRITERIA CARRIED OUT BY MOTHER’S

I. Support to their child:
   - Talk with the child
   - Stay beside the child
   - Encourage the child to sit
   - Encourage to play

II. Maintenance of IV fluid:
   - Keep the hand in correct Position
   - Hold the hand
   - Support the hand when care is given
   - Fluid runs at correct rate / if not report
   - Fluid present in the bottle/ if not report
   - IV site- dry
   - No appearance of blood into the tubing / adopter, if present report
   - No bubbles / if present report it

III. Prevention of contamination:
   - Frequently wash the hands with soap
   - Do not touch the, IV adopter & needle site
   - Keep child with clean dress.
   - Don’t wet the IV site