

**EFFECTIVENESS OF TRAINING PACKAGE
REGARDING BREAST FEEDING TECHNIQUE ON
POSTNATAL NIPPLE PAIN AND NIPPLE TRAUMA
AMONG PRIMI MOTHERS AT SELECTED
HOSPITAL, DINDIGUL DISTRICT,
TAMILNADU, 2011.**

DISSERTATION SUBMITTED TO
THE TAMIL NADU DR.M.G.R.MEDICAL UNIVERSITY
CHENNAI
IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING
APRIL 2012

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ABSTRACT

A true experimental study to assess the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers at selected hospital, Dindigul.

INTRODUCTION

All human life on the planet is born by woman. The women who fulfill their life, only when they experiences the pleasure of motherhood. Child birth is universally accepted and celebrated event by all human beings which provides physical and psychological satisfaction to all couples.

Every newborn is protected and cared by the mother both before and after delivery. The initial bond of attachment between mother and baby is established through breast feeding. Breast feeding is the normal way of providing young infants with the nutrients they need for growth and development. It is a cost effective way of feeding an infant. Hormones released during breast feeding help to strengthen the maternal bond.

Breast feeding should be initiated within half an hour immediately after delivery thus facilitates colostrum supplement. Breast milk protects the baby from many childhood diseases. Therefore breast feeding is the first choice for infant feeding.

Breast feeding method is widely accepted as a best method which helps for successful and longer duration of breast feeding. Longer duration of breast feeding maintained by proper breast feeding technique. Breast feeding technique prevents feeding complications such as nipple pain and nipple trauma, cracked nipples and also it prevents early lactation failure.

The midwives should encourage and teach the mothers about importance of breast feeding and its techniques to increase breast feeding rates.

Objectives

- To assess post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma among primi mothers in study group and control group.
- To compare the post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma among primi mothers between study group and control group.
- To correlate the post test level of practice regarding breast feeding technique with post natal nipple pain and nipple trauma among primi mothers in the study group and control group
- To associate the post test level of practice regarding breast feeding technique on post natal nipple pain and post natal nipple trauma among primi mothers with selected demographic variables in the study group.

METHODOLOGY

Research Design

True experimental post test only design.

Setting

The study was conducted at Kasturba Memorial Hospital, Dindigul.

Participants

The study sample comprised of primi mothers with the gestational age of 38 – 40 weeks, who satisfied the sample selection criteria.

Intervention

The training package regarding breast feeding technique on postnatal nipple pain and nipple trauma to the study group and the usual postnatal care was

followed by control group.

Measurements and tool

Latching score system was used to assess the post test level of practice, postnatal nipple pain was assessed by numeric pain intensity scale and nipple trauma was assessed by nipple trauma index. Descriptive and inferential statistics were used to analyze the data.

RESULTS

The calculated 't' value of breast feeding technique (latching on method) was found to be 8.751 which showed statistically high significant difference (at $p = <0.001$ level.) between study and control group. This indicates that the training package regarding breast feeding technique on postnatal nipple pain and nipple trauma was highly effective.

DISCUSSION

It was found that, compared to the control group; the study group had good practice on breast feeding technique and not developed postnatal nipple pain and nipple trauma, which revealed that the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma.

Implications

Midwives working in the maternity hospital and public health centers, community centers should have updated knowledge and implement standard policies and procedure for breast feeding technique in these areas like antenatal ward, postnatal ward, pediatric wards, public health and community centers to increase the awareness about breast feeding technique and to prevent postnatal breast complications. In nursing education the students should be reinforced and motivated to provide health education about breast feeding technique. As a nurse administrator various in – service programmes and continuing education programmes on breast feeding and its importance in the hospital setup and conduct

various mass camps , exhibition to create awareness among the general public. The findings of the study will help the professional nurses and nursing students to develop inquiry by procuring a base and the findings will be disseminated in clinical nursing, community settings through literature, journals and reports.

CHAPTER – I

INTRODUCTION

BACKGROUND OF THE STUDY

All human life on the planet is borne by woman. A woman who fulfills her life, only when she experiences the pleasure of motherhood. Child birth is universally accepted and celebrated event by all human beings which provides physical and psychological satisfaction to all couples.

Every newborn is protected and cared by the mother both before and after delivery. The initial bond of attachment between mother and baby is established through breast feeding. For every child, the first year of life is a crucial period because of their rapid growth and development. Growth and development of child depends on various factors. In that, the nutritional needs determine the biological growth of the newborn, which are interdependent. The nutritional need of the infants is met mainly by breast feeding. Dramatic health benefits have been proven to pass from mother to child through breast milk which prevents most of the childhood disease.

Human milk is a natural and highly complex fluid containing more than 200 constituents with varying composition like water, calories and essential nutrients which meets the changing needs of the infant. Breast milk contains antimicrobial, anti – inflammatory agents, growth factors, hormones and enzymes that provide protection against bacterial, viral and protozoal infections. Therefore breast feeding should be the first choice for infant feeding.

Breast feeding is a gift that can only be given; by giving oneself (Botter – 1999)²³. Breast feeding should be initiated within an hour, immediately after delivery. The early initiation of breast feeding facilitates the colostrum supplement to the baby.

Colostrum is a clear yellowish fluid which is secreted from antenatal period to first three postnatal periods. It is more concentrated than mature milk and is extremely rich in immunoglobulins, higher concentration of protein and minerals but less fat than mature milk. The high level of protein in colostrum facilitates binding of bilirubin and the laxative action promotes early passage of meconium

Worldwide approximately 5 million neonatal deaths occur annually due to various diseases and mainly discontinuation of breast feeding. India accounts for 30% of world's neonatal death. **(WHO- World statistics report -2007)⁹⁴**. Currently in India 33% of nursing mothers introduce bottle feeding as supplements, within one month after delivery. The rate of supplemental feeding increases each month and reaches as high as 70% for babies who are 6 months old due to development of feeding complications such as soreness of the nipple and postnatal nipple pain. **(Baby Friendly Hospital Initiative News Letter – 2002)⁹⁰**.

Breast feeding helps to reduce the postnatal weight for the mother. Hormones releasing during breast feeding helps to strengthen the maternal bond. Breast feeding releases oxytocin and Prolaction hormones that relax the mother and make her feel more nurturing towards her baby. Breast feeding immediately after birth increases the mother's oxytocin levels which contract the uterus more quickly and decreases bleeding. Breast feeding lower the risk of breast cancer and osteoporosis, breast complications and also affords some protection against conception. **(Pryor and Huggins – 2001)⁸⁹**.

Both in developed and developing countries the breast complications are increasing in recent decades. In developed countries 37% of women are suffering from postnatal breast complications. Due to modernization urbanization in developing countries many mothers prefer commercial feeding than breast feeding thus increases incidence (about 39%) of feeding complications. **(Association of Women's Health, Obstetrics and Neonatal Nurses – 2003)²⁴**.

For the family and society breast feeding provides more benefits such as, it reduces annual health care costs in terms of reducing the purchase of infant formula and reduces health problems thus improving the health of the baby. Breast feeding prevents parental absence from work. (**Lawrence. R & Lawrence – 2005**)⁶¹.

A number of programmes have been developed by the **WHO, UNICEF** and other health care professional organizations to promote and encourage breast feeding. Organization like **WABA-(World Alliance Breast Feeding Association)**³³ it organize the world breast feeding week every year (1st – 7th August) to raise awareness of breast feeding. This activity is co – ordinated in India by **Beast Feeding Promotion Net Work (BPNW)** which was launched in December – 1991.

The UNICEF and WHO launched the **BFHI – Baby Friendly Hospital Initiative** in march 1992¹⁴. This is a world wide effort to promote, protect and support breast feeding. It aims at giving every newborn the best start in life by introducing the concept of “**Exclusive Breast Feeding**”.

RCH - Reproductive and Child Health care (1994)³² also emphasized on exclusive breast feeding. WHO defines exclusive breast feeding as “feeding the newborn within an hour of birth breast milk alone (on demand) up to 6 months. **The American Academy of Pediatrics (AAP)**¹⁷ also recommends exclusive breast feeding for first 6 months.

The health care professionals should play a vital role in breast feeding promotion programmes. Encourage the mother to initiate breast feeding within half an hour immediately after delivery. The mother must be taught about proper position, techniques of feeding and attachment of baby while breast feeding. Proper breast feeding techniques enhance successful and longer duration of breast feeding and thus prevent the lactation failure.

NEED FOR THE STUDY

Breast feeding method is widely accepted as a best method of feeding new born babies. The initial bond of attachment between mother and baby is established through breast feeding. Breast feeding should be initiated within half an hour immediately after delivery which facilitates colostrum supplementation to baby. Breast feeding should be given approximately 15 – 20 minutes as an exclusive (demand) feeding up to six months. Exclusive breast feeding meets the changing needs of the baby. It is maintained by breast feeding technique. This method promotes successful and longer duration of breast feeding..

Breast feeding technique is a method to provide safest, simple and least expensive way to provide complete infant nourishment. It includes proper breast care, normal milk flow and comfortable position (LATCH – ON) of mother and baby. Breast feeding technique protects both mother and baby effectively. Only breast feeding technique prevents feeding complications such as cracked nipples, nipple trauma, nipple pain and early lactation failure.

LATCH – ON method is only the best method to provide breast feeding to the baby. It includes comfortable support of mother's breast , having erect nipple without any cracked nipple; wide opening of baby's mouth and grasping of nipple and areola as much as possible (2-3cm around nipple) and audible swallowing.(**Courtesy Medela, Inc & Mc Henry, IL**)¹⁰.

Breast feeding technique promotes and stimulates rooting instinct; prevents sudden infant death syndrome (SIDS) due to aspiration or asphyxia. It facilitates for demand feeding, prevents sore nipples and cracked nipples. This method helps to reassure the mother and provides practical support thus reduces fear and stress. Only through breast feeding all essential nutritious substances passed to the baby that promotes healthy infant growth and development. And also it helps for early skin to skin contact, facilitates infant – mother bonding. Good position and attachment of the baby on the mother's breast results in less nipple pain and fewer

reports of insufficient milk production. (**Royal College of Midwives – RCM 2007**)²⁷.

Many studies have been conducted to assess the effectiveness of breast feeding technique. The study results showed that breast feeding technique is only best method to prevent breast complications.

Duffy EP, Percival P, (2000)⁸³. Conducted experimental study to assess the positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breast feeding mothers, at one public hospital in Western Australia. 70 primi mothers who were at 38 - 40 weeks of gestation participated in this study. Antenatal group sessions on position and attachment of the baby on the breast were taught to the mothers. During the first postnatal day position and attachment were measured by LATCH (Latch – on, audible swallow, type of nipple, comfort and help). Nipple pain was measured by visual analogue scale (VAS). Nipple trauma was assessed by nipple trauma index (NTI). The study results showed that 31 of the 33 women in experimental group continued breast feeding; where as in control group 10 out of 35 women continued the breast feeding.

In recent years, the initiation of breast feeding has been declined in developing countries. Although the number of women breast feeding has increased worldwide since 1972, research studies suggests that an average only 50% of women in developed countries continue to breast feeding upto six weeks postnatally (**Mc Natt & Freston - 2006**)³⁷. Most of the women choose to breast feed their babies (70%) (**Scott & Bins - 2005**)³⁵, but number of women who discontinuing breast feeding due to nipple pain, nipple trauma or soreness of nipples and insufficient milk production. (**Glover – 2003, Fetherston - 2002**)¹¹.

In this 21st century the breast feeding rates are decreased in both developed and developing countries at worldwide. East Africa reports only 42% of mother breast feed their babies. South Asia 45%, Canada 55%, Europe and Russian

countries 27 % and in the industrialized countries 44% USA reports that only 47%, Australia 60%, Sweden 51% and in India approximately 51% (**Breast Feeding Report – 2010**)⁹¹.

Many studies shows that improper breast feeding technique leads to development of sore nipple, lactation failure, increased incidence of infant mortality rate, frequent occurrence of upper and lower respiratory tract infections, cracked nipple and other breast complications.

In India for the past many centuries, breast feeding has been the sole food for babies. However modernization , increasing urbanization, disintegration of joint family system, commercial advertising, changing cultural image of the motherhood, lack of awareness about breast feeding technique and its importance etc., has lead to a decline in breast feeding, increasing incidence of breast complications such as soreness of nipple or cracked nipples, mastitis, breast cancer(**Rathore A.S-2000**)¹³.

Nipple soreness may be caused by poor feeding technique, wrong position of the baby when breast feeding, not taking care of nipples. (**Cochrane data base – 2000**)⁷⁶.

Bennet Ruth, (2000)³ has identified that the cause of sore nipple is almost, always trauma from baby's mouth and tongue which results from incorrect positioning of the baby's mouth at the mother's breast. Correct position and attachment of the bay provides a immediate relief and it is a critical factor in establishing breast feeding and continuation of breast feeding in which midwives have an important role.

From the investigators during the clinical experience in the maternity ward, the primi mothers were unaware about appropriate breast feeding technique. And also the investigator observed some of the difficulties, such as lack of mother's

interest about breast feeding, no written policy for teaching the mothers about breast feeding, breast feeding technique during antenatal period itself, unaware about importance of breast feeding and not coming for regular antenatal visits and follow-up.

The investigator also felt that occurrence of nipple pain and nipple trauma is being further aggravated by primi mothers being unsure of feeding technique; lack of support and guidance. The breast feeding technique is a learned skill which women should acquire through education, observation and hands – on practice.

STATEMENT OF THE PROBLEM

A true experimental study to assess the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers at selected hospital, Dindigul.

OBJECTIVES

1. To assess post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma among primi mothers in the study group and control group.
2. To compare the post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma among primi mothers between study group and control group.
3. To correlate the post test level of practice regarding breast feeding technique with post natal nipple pain and nipple trauma among primi mothers in the study group and control group.
4. To associate the post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma among primi mothers with selected demographic variables in the study group.

OPERATIONAL DEFINITIONS

Effectiveness

It refers to the improvement in the level of practice among primi mothers regarding breast feeding technique to prevent the postnatal nipple pain and nipple trauma, after the administration of training package.

Training package

It refers to the lecture cum demonstration on breast feeding technique by the investigator.

Breast Feeding Technique

It refers to a proper method to breast feed the baby which was demonstrated by the investigator to primi mothers, which was assessed after delivery by LATCHING – ON method.

Nipple Pain

It refers to the un pleasurable (or) hurtful sensation resulting from improper breast feeding practice as measured by numeric pain intensity scale.

Nipple Trauma

It refers to the injury to the nipple, caused because of improper position and attachment of the baby on mother's breast as measured by nipple trauma index.

Primi Mothers

It refers to the mothers who were pregnant for the first time with the gestational age of 38 – 40 weeks, who were assessed after the delivery during postnatal period for practice.

Practice

It refers to the performance done by the primi mothers regarding breast feeding technique to prevent the postnatal nipple pain and postnatal nipple trauma, which was assessed during first week of postnatal period.

ASSUMPTIONS

The primi mothers may develop post natal nipple pain and nipple trauma. The training package may enhance their practice regarding breast feeding technique in order to prevent the postnatal nipple pain and nipple trauma.

NULL HYPOTHESIS

NH₁ - There is no significant difference in the post test level of practice regarding the breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers between study group and control group at the level of $p < 0.05$.

NH₂ . There is no significant relationship between the post test level of practice regarding the breast feeding technique with postnatal nipple pain and nipple trauma among primi mothers in study group and control group at the level of $p < 0.05$.

NH₃ - There is no significant association of post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma with selected demographic variables in the study group at the level of $p < 0.05$.

DELIMITATION

The study was delimited to a period of 4 weeks.

CONCEPTUAL FRAMEWORK

Kerlinger views theory has asset of interrelated concepts that gives systemic view of a phenomena that is explanatory and predictive in nature.

The present study is aimed of helping the primi mothers regarding breast feeding technique to prevent post natal nipple pain and nipple trauma. Hence the study was based on **Wiedenbachs Helping Art of Clinical Nursing Theory**. Ernestine Wiedenbachs enrolled in the John Hopkins School of nursing and wrote Family Centered Maternity Nursing. She developed the helping art of clinical nursing perspective theory in 1964. According to Wiedenbachs, the practice of

nursing comprises a wide variety of services; each directed towards the attainment of one its three components.

STEP – 1: IDENTIFYING THE NEED FOR HELP

In identifying the need the midwife perceives mother's ability to breast feeding the baby after delivery, during postnatal period as consistent with her concept and collect the information.

There are two components in identifying the need for help.

a) General Information:

This comprises of collecting the information to identify the need. In this study the investigator assessed the general information, which includes the demographic variables.

b) The Central Purpose:

Central purpose refers to what the nurse accomplishes. In this study the investigator defined the central purpose as the breast feeding technique on [postnatal nipple pain and nipple trauma.

STEP – II: MINISTERING THE NEEDED HELP

In ministering the needed help to the mother, the nurse investigator taught and demonstrates breast care, breast feeding technique on postnatal nipple pain and nipple trauma.

a) Prescription

It refers to the plan of care, the nature of action that will fulfill the central purpose. In this study the investigator adopted nursing intervention regarding breast feeding technique on postnatal nipple pain and nipple trauma to study group and hospital routine was followed for the control group.

b) Ministering (intervention)

In this study the investigator taught and demonstrated about breast care and breast feeding technique individually to every primi mothers and pamphlets were distributed to the study group. Breast feeding technique was assessed by LATCH – ON method after the delivery during first three postnatal days. Postnatal nipple pain was measured by numeric pain intensity scale and nipple trauma was assessed by nipple trauma index after seventh postnatal day for the study and control group.

c) Realities

These realities are the immediate situation that influences the fulfillment of the central purpose. Midwife should consider the realities of situation in which she is to provide nursing care, this involves in all the areas (identifying the need for help, ministering the need for help and validating the need for help). Wiedenbachs defines the realities as:

1. The Agent:

Who is the practicing nurse or her delegates characterized by personal attributes, problems, capacities and commitment and competence in nursing. In this study the researcher is the agent.

2. The Recipient:

The primi mothers who are the personal attributes, problems, capacities, aspiration and ability to cope with the concern or problems being experienced. In this study the primi mother was the recipient.

3. The Goal:

It is the defined outcome, the nurse wishes to achieve. In this study it is to practice proper breast feeding technique to prevent postnatal nipple pain and nipple trauma among primi mothers.

4. The Means:

Comprises the activities and devices through which the practitioner's attain the goal. The means includes skills, techniques, procedures and devices that may be used to facilitate nursing practice. In this research, it is the training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers.

5. The Framework:

Consists of the human, environmental, professional, organizational facilities that not only make up the context which nursing practices but also contributes the currently existing limits. In this study facility was maternity ward of Kasturba memorial hospital.

STEP – III: VALIDATING THAT NEEDED HELP WAS MET

It is validating the needed help was delivered in achieving the central purpose. This step involves the post test assessment after ministering the help and the comparison/analysis to infer the outcome. This approach there by enables the researcher to make suitable decision and recommended action to continue, drop or modify the nursing action. Here it is the comparison of study and control group among primi mothers about training package regarding breast feeding technique on postnatal nipple pain and nipple trauma.

The expected outcome of postnatal nipple pain and nipple trauma was classified into positive and negative outcome by the researcher where the positive outcome comprises of good practice of breast feeding technique and no development of postnatal nipple pain and nipple trauma while the negative outcome comprises of poor practice of breast feeding technique and development of postnatal nipple pain and nipple trauma.

The mother's who had positive outcome were reinforced to continue breast feeding technique while mother's who had negative outcome were reassessed.

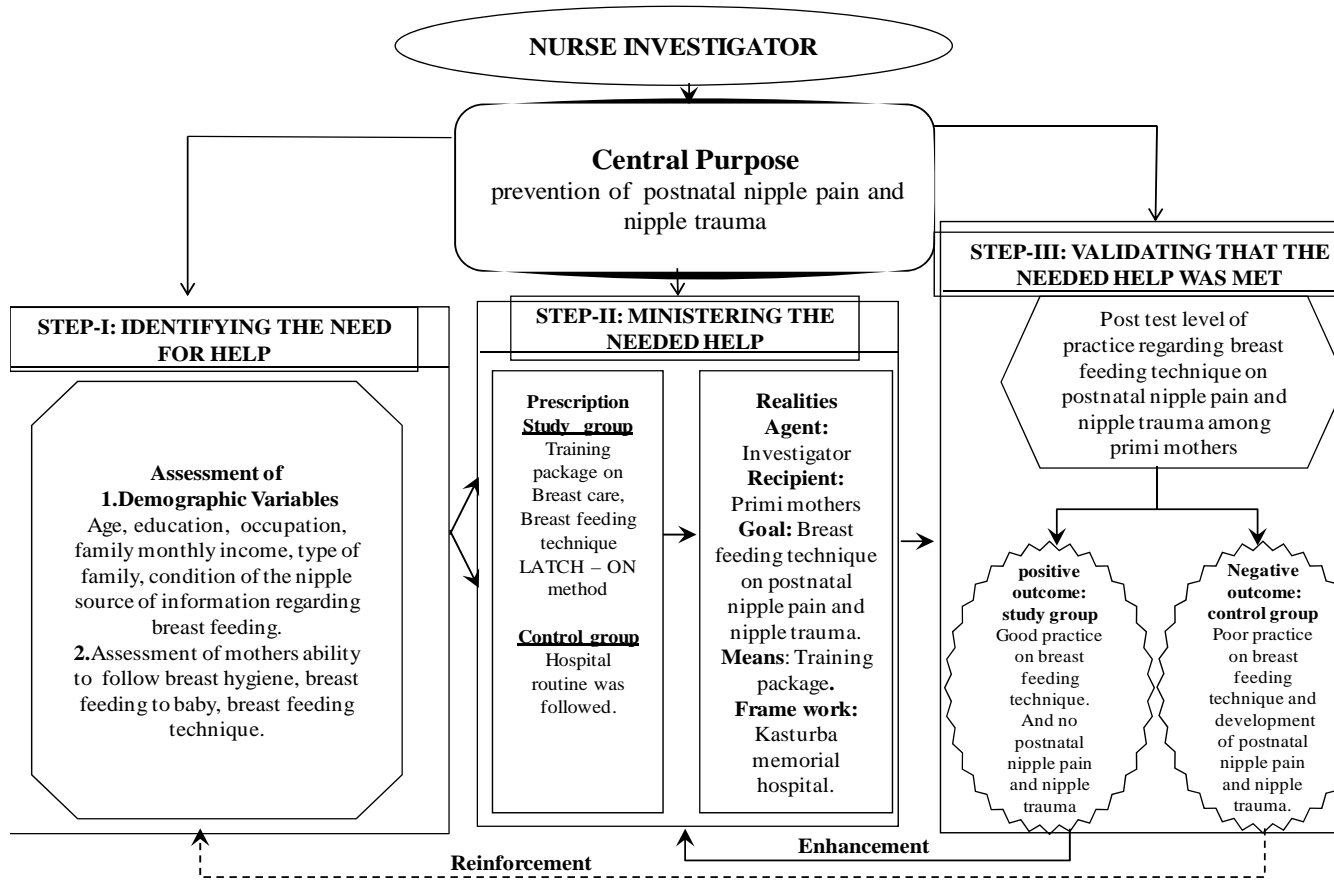


FIG.2: CONCEPTUAL FRAMEWORK BASED ON WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY

OUTLINE OF THE REPORT

Chapter I : Dealt with the background of the study, need for the study, and statement of the problem, objectives, operational definitions, null hypothesis, assumptions, delimitations and conceptual framework.

Chapter II : Deals with the review of related literature.

Chapter III: Present the methodology of the study and plan for data analysis.

Chapter IV: Focuses on data analysis and interpretation.

Chapter V : Enumerates the discussion of the study.

Chapter VI: Gives the summary, conclusion, implications, recommendations and limitations.

The report ends with selected Bibliography and Appendices.

CHAPTER – II

REVIEW OF LITERATURE

The task of reviewing the literature involves the identification, selection, critical analysis and reporting of existing information on topic of interest. Hence the investigator intended to review the literature available on breast feeding technique using both research and non-research materials.

The purpose of the review is to get a comprehensive knowledge base regarding breast feeding techniques to lay a broad foundation for the study.

This chapter deals with a broad view of related literature and studies in the following sections.

Section–A : Studies related to breast feeding technique and importance of breast feeding.

Section–B : Studies related to effectiveness of antenatal teaching regarding breast feeding and breast feeding technique.

SECTION – A: Studies related to breast feeding technique and importance of breast feeding

Henderson., et al. (2011)⁵⁴, has conducted a randomized clinical trial to assess the effectiveness of postpartum position and attachment education to increase the breast feeding rates, at a public hospital in Adelaide, south Australia.160 primi mothers were participated in this study. The study results showed that 90% of the study group were continued breast feeding ;in the control group 60%of them were stopped breast feeding due to nipple pain and nipple trauma; 25% of them reported lactation failure and remaining had introduced bottle feeding within 6 weeks. The researcher concluded that postpartum position and attachment education increases breast feeding rates.

Garg BS. (2010)⁵⁰, conducted cross sectional study to assess the effectiveness of breast feeding promotion initiatives. The study has been conducted at Kasturba Rural Health Training center Pondicherry, India. Data collected among 23 villages and about 99 primi mothers were participated. The study results showed that 94.4% of the mothers followed proper position and attachment. The researcher concluded that institutional deliveries, health education, support and practical guidance from midwives may enhance knowledge and practice on breast feeding technique among primi mothers.

Simpson., et al. (2010)⁷¹, has conducted a randomized controlled trail to assess the effectiveness of home – based early intervention on infant feeding practices, at Sydney and Australia.660 primi mother – infant pairs were participated in this study. The intervention consisted of 5-6 home visits from a specially trained research nurse. The study results showed that the intervention group had a significantly longer duration of breast feeding (at 12 months) than the control group. The intervention group has less breast complications (5.9%) than the control group(70%).The researcher conclude that the home – based early intervention delivered by trained community nurse significantly($p<0.001$) improved infant feeding practices.

Hall J. (2010)⁵³, has conducted a systematic review⁵³ to assess the effective community based interventions to improve breast feeding practices and exclusive breast feeding. A systematic review of literature identified through searches of Medline, Global Health and CINAHAL data base. Four studies, from four different countries, were included in the final review. All showed a significant improvement in the breast feeding practices and exclusive breast feeding rates.

Aguilar Cordero MJ. (2010)⁴⁰, has conducted an epidemiological research to assess the breast feeding an effective method to prevent breast cancer at the hospital universitario- san cecilio of spain.504 medical record aged 19 to 91 years were reviewed, the study reports showed that there was a significant relationship

between breast cancer and duration of breast feeding. The researcher concluded that breast feeding more than six months, not only provides many health benefits to the baby, but also protect the mother from the serious diseases, such as breast cancer.

Chandra RK (2010)⁴⁷, has conducted a comparative study to assess the effectiveness of exclusive breast feeding and early supplemental feeding on infant morbidity in the first few weeks after birth, at rural and urban community in India. The study results showed that Exclusively Breast-fed infants had a significantly lower incidence of respiratory infection, otitis, diarrhoea, dehydration and pneumonia than the urban infants. The researcher concluded that breast feeding decreases the occurrence of otitis, respiratory disease, diarrhoea and dehydration. So all the mothers encouraged to exclusively breast feed their babies upto six months to reduce infant mortality and morbidity rates.

Bedinghaus M, Milnikow (2009)⁴², Metro Health Medical centre proved that breast feeding provides ideal nutrition to the baby. Attention to proper positioning is essential to successful breast feeding. This successful breast feeding and proper latch on method prevents the postnatal breast complications, such as sore nipples, engorgement and nipple pain.

Dutta DC. (2009)¹⁴, states about advantages of breast feeding that are, breast feeding is the ideal composition that provides adequate protein, carbohydrate, minerals and vitamins. It protects the baby from infectious disease, it act as a natural contraception and it improves the immunity of the baby.

Kornberg H, Vaeth M. (2009)⁵⁹, has conducted an experimental study to assess the effectiveness of breast feeding technique on breast feeding problems, at The Institute of Public Health-Punjab. 570 mothers – baby pairs were participated in this study. The study results showed that the experimental group 93.4% of mothers did not developed any feeding problems.3.6% showed ineffective breast feeding technique, remaining 3 % showed ineffective latch on method. Where as in

the control group 40% showed in effective breast feeding technique, 60% showed ineffective position and latch on method. The researcher concluded that adequate information and practice about breast feeding technique were helped the primi mothers to overcome breast feeding problems.

Guardiol., et al. (2009)⁵², has conducted a retrospective study to evaluate the relationship between breast feeding and the prevalence of obesity and metabolic syndrome in a group of obese children and adolescence, at endocrinology and nutrition service of the hospital de Getafe(Madrid). 126 patients with obesity were recruited and evaluated, 36.8% were breast feed for more than 3 months and 63.2% were fed with artificial milk. The study result shows that breast feeding for at least 3 months was associated with lower levels of obesity, smaller waist circumference and fewer complications related to metabolic syndrome in childhood and adolescence. 64% of children with complete metabolic syndrome had received artificial feeding.

Brent., et al. (2008)⁴⁶, has conducted a randomized clinical trial to assess the effectiveness of breast feeding technique and hydrogel wound dressing for sore nipples at mercy hospital, Pittsburgh. 42 breast feeding women who had already sore nipples were participated. Study group were instructed to follow (latching method) breast feeding technique. Control group received hydrogel moist wound dressing. The patients were seen for a maximum of 3 follow up within 10 days. The study results showed that there was greater (85%) reduction of sore nipples in study group than control group; control group developed infections. The researcher concluded that breast feeding technique has a positive effect on reduction of sore nipples.

Frank.MC. (2008)⁴⁹, has conducted a cross- sectional study to assess the effectiveness of breast feeding technique during first month of life, at city of Porto Alegre Brazil. A total of 211pairs of healthy mothers and infants were participated. The study results showed that 56.9% of the mothers were bottle fed to their babies.

The investigator found that lack of knowledge and practice of breast feeding technique, which developed sore nipples, nipple trauma and early cessation of breast feeding. These mothers were taught about breast feeding technique after a week by the health care people. At day 30, most of the mothers (92%) followed breast feeding technique. The researcher concluded that breast feeding technique was found to be more effective than the bottle fed.

Santo LC. (2008)⁶⁹, has conducted a prospective study to identify factors that are associated with low incidence of breast feeding, at maternity unit west Bengal. 220 healthy mothers – baby pairs were participated. The study results showed that 95% of the mothers reported breast feeding cessation before 6 months; the factors responsible for early cessation of breast feeding were improper breast feeding technique - latch on method and sore nipples. The researcher concluded that to improve breast feeding in the first 6 months, effective antenatal teaching regarding breast feeding technique –latch on, duration and breast care to be promoted.

Nonavathi., et al. (2008)⁶³, has conducted a descriptive study to assess the breast feeding problems during first six weeks among 100 primi postnatal mothers, at Western Australia, and reported that 47.2% of the mothers had low milk production, 17.5% had cracked nipple and 3.5% had breast congestion who has inadequate knowledge and practical skills regarding breast feeding technique. The researcher concluded that all of these problems which could be corrected by improving the breast feeding technique and latch on method.

Ronfani (2008)⁶⁸, has conducted a randomized trial to assess the effectiveness of breast feeding technique at public health institute, Italy. 90 primi postnatal mothers having sore nipple divided into three groups respectively. The first group advised to apply ointment. Another group instructed to use of formula and pacifier. The third group got information and practice about breast feeding technique, guidance and support on positioning, latching, and modifications of

hospital practices. The researcher concluded that use of ointment and use of formula feeding, pacifiers showed less effective in reducing nipple problems. The third group shows more effective in reducing nipple problem.

Stevens DC.(2008)⁷², conducted a systematic review to assess the benefits of breast feeding to those American Indian women, at Sanford hospital USA; the study results showed that breast feeding provides physical and psychological benefits to both mother and baby. It is also a practical way for families, government and society to save money. The researcher concluded that breast feeding may be important to tribal communities because of its ability to alleviate health problems such as infant mortality and diabetes.

Righard L . (2008)⁶⁷, has conducted a randomized clinical trial to find out, are the breast feeding problems related to incorrect breast feeding technique and the use of bottles, at university hospital Sweden. 60 primi mother – infant pairs were included in this study. The study results showed that 28 among 30 of the mothers in the study group were not developed any breast feeding problems. 27 among 30 of the mothers in the control group were stopped breast feeding because of breast feeding problems, such as postnatal nipple pain and nipple traum. The researcher concluded that breast feeding technique was the effective method to prevent the breast feeding problems and lactation failure.

Oliveira LD. (2008)⁶⁵, conducted a cohort study to assess the effectiveness of breast feeding technique on postnatal nipple trauma in the first month of life, at Pinderfields Hospital Canada. Data collected from 211 pairs of mother- baby. Totally 8 parameters were used to assess the effectiveness of breast feeding technique. The parameters were 5 related to mother and baby positioning; 3 related to latching on method. These parameters were compared with those who were not exclusive breast feeding pairs. The study findings were showed that 95% of exclusive breast feeding mothers showed lower incidence of nipple trauma were as higher incidence in those who were followed improper breast feeding technique.

The researcher concluded that there is an association between breast feeding technique and nipple trauma.

Raman G. (2007)⁶⁶, has conducted systematic reviews to assess the effectiveness of breast feeding on maternal and infant health outcomes in developed countries. The study results showed that a history of breast feeding was associated with a reduction in the risk of acute otitis media, non specific gastroenteritis, severe and lower respiratory tract infections, atopic dermatitis, asthma (young children), obesity, type 1 diabetes, childhood leukemia, sudden infant death syndrome (SIDS), and necrotizing enterocolitis. For maternal outcomes, a history of lactation was associated with a reduced risk of type 2 diabetes, breast and ovarian cancer and prevents postnatal breast complications in the developing countries.

Akkuzu G, Ankara (2007)⁴¹, conducted an experimental study to assess the impact of breast feeding technique on prevention of possible post partum nipple problems, among 90 primi postnatal mothers at turkey. The study was designed to compare the three techniques on the prevention or reduction of nipple pain and cracked nipple during the first ten days of postpartum. The mothers were divided into three groups. The first group was instructed to apply warm compresses, second group was instructed to apply ointment and third group was taught about breast care, breastfeeding technique. The study reports showed that the nipple pain was very less in the group that followed breast care and proper breast feeding technique.

Jelliffe DB. (2006)⁵⁵, has conducted a study to compare the impact of breast feeding technique on reduction of breast feeding problems, among urban and rural lower socio economic class women at West Bengal- india. 155 lower income Bengali village women's were participated, among in that 99% of lower income urban were successfully breast feeding at one month and 95% were continuing at six months. The lower income mothers had very few lactation complications such as cracked nipples, breast abscess. 78% of upper socio economic women's were

showed less successful breast feeding results , with 48% of them not continued breast feeding , 13% were developed sore nipples, and 1 with a breast abscess during the puerperium .The researcher concluded that let – down reflex, breast feeding technique, and maternal effort has an greater impact on preventing breast complications.

Giugliani ER. (2006)⁵¹, has conducted a randomized clinical trail compared breast feeding technique and lactation related problems during the first 30 days among 75 mothers, at Porto Alegre, Brazil.82.5% of the study group were effectively practiced the breast feeding technique and fewer reported lactation cessation. Where as in the control group 79.7% of them stopped the breast feeding due to lactation failure and breast feeding problems such as cracked nipples and nipple pain. The researcher concluded that necessary information regarding breast feeding technique, enhance breast feeding rates and reduce the incidence of breast feeding problems.

SECTION – B: Studies related to effectiveness of antenatal teaching regarding breast feeding and breast feeding technique.

Olatona FA. (2011)⁶⁴, has conducted a descriptive cross sectional study to determine the knowledge and attitude of women to exclusive breast feeding in Ikosi district of Ikosi. Multi stage sampling technique was used to select 400 primi mothers. The study results showed that awareness was high (98.3%) but only about one third (39%) had knowledge of exclusive breast feeding. The researcher concluded that a relatively high proportion of mothers had positive attitudes despite the poor knowledge of exclusive breast feeding. Public enlightenment and continued health education especially, in the antenatal clinics should be promoted to improve knowledge and practice.

Henderson J. (2011)⁵⁴, done a clinical randomized study to assess the effectiveness of midwifery factors associated with successful breast feeding at national perinatal epidemiology unit, oxford. Data collected from 200 primi

mothers randomly. The study results shows that breast feeding was significantly associated with receiving consistent advice, practical help and active support, encouragement from midwives.

Yakoob MY. (2011)⁷⁵, had done a systematic review to assess the effectiveness of prenatal counseling and breast feeding outcome at Agakhan Hospital, Karachi. Among 965 abstracts 89% of the studies showed positive effect on prenatal counseling and feeding outcome in both developed and developing countries. 15% studies reported exclusive breast feeding outcomes at 4 – 6 months. Further sub group analysis proved that prenatal counseling had a significant impact on breast feeding outcomes, while both prenatal and postnatal counseling were important for successful continuation of breast feeding.

Bolteg G. (2010)⁴⁴, conducted prospective cohort study to assess the effectiveness of breast feeding training programme among maternity ward professionals at 10 hospitals, an advanced training was given based on the WHO / UNICEF criteria of the “10 steps to successful breast feeding”. Structural interviews were conducted before and after the intervention. Results showed that more than 80% of the participants started to practice.

Kemp., et al. (2010)⁵⁸, has conducted a cross-sectional study to determine the types and timing of breast feeding support and its impact on mother’s behavior, among 164 mothers at Liverpool hospital in south western Sydney. Types, timing and satisfaction with personal and professional sources of support such as antenatal teaching help at birth, practical lessons on breast feeding, and the impact of these on breast feeding intention and behaviors were assessed. The study results showed that most of them intended to breastfeed (76.2%) , and within the first 24 hours, 77.4% of babies were breastfed to some extent (45.1% exclusively) women felt most support from health care personal than the partners. Antenatal teaching, breast feeding help within half an hour of birth and positive health care team attitudes were related to improved breast feeding intentions and behaviors.

Silvia IA.(2010)⁷⁰,conducted systematic interview among 235 primi mothers to assess the effectiveness of antenatal teaching regarding breast feeding technique and duration at maternity and child care hospital Punjab, india.95% of the women were expressed positive effect about antenatal classes.

Bottaro SM. (2009)⁴⁵, has conducted a cluster randomized trial to evaluate the effectiveness and residual effect of an educational intervention to improve breast feeding knowledge and attitudes among primi mothers at Brazil.560 primimothers were participated in the study, as a study and control group. The study results showed that antenatal teaching intervention improves breast feeding knowledge and attitudes among the study group than the control group.

Jolly., et al. (2009)⁵⁶, has conducted a cluster randomized controlled trail to assess the effectiveness of antenatal peer support workers and initiation of breast feeding at school of health and population sciences, Birmingham among 66 antenatal clinics with 2511 pregnant women: 33 clinics including 1140 women were randomized to receive the peer support worker service and 33 clinics including 1137 women were randomized to receive standard care. The peer group provided regular antenatal teaching about breast feeding and its importance. The study results showed that 95% of the study group followed early initiation of breast feeding and breast feeding technique. In the control group did not aware about breast feeding and its importance. The researcher concluded that antenatal peer education has a positive impact on breast feeding.

Thompson DM. (2008)⁷³, has done a literature review to assess the effectiveness of breast feeding education at university of Oklahoma health sciences centre, USA. The collected reviews showed that many studies under taken based on education and promotion of breast feeding , which aimed to encourage women to initiate and continue breast feeding according to healthy people 2010 objectives.

Lee CF., Lin SS., (2008)⁶², has conducted a quasi experimental study to assess the effectiveness of a prenatal education programme on breast feeding outcomes in Taiwan. 92 primi mothers were participated; 46 of experimental group women who received a 90 minute group educational programme on breast feeding during 20th – 36 weeks of pregnancy. Control group did not receive any intervention. The study results showed that the rate of exclusive breast feeding was higher in experimental group than the control group.

Duffy EP. (2007)⁴⁸, conducted observer blind experimental study to assess the positive effectiveness of antenatal teaching on position and attachment of the baby on the breast and reduction of postnatal nipple pain and nipple trauma the study was conducted at one public hospital, western australia. 70 primi mothers were selected from antenatal clinic, at 36 wks of gestation. Postnatally 31 of the 35 mothers were breast feeding compared to 10 of the 35 women in the control group. The researcher concluded that ante natal teaching had a positive effect on increasing breast feeding rates

Turnbull CJ. (2007)⁷⁴, has conducted a longitudinal study using pretest-post test design to assess the effectiveness of antenatal breast feeding workshops in improving breast feeding outcomes at maternity section of large Tasmanian teaching hospital. Fifty six primi mothers were attended workshop (study group) fifty primi mothers were not attended (control group). The result showed that those primi mothers who were attended a workshop perceived an increase their confidence level associated with breast feeding ($p < 0.001$), than the control group.

Bester ME. (2006)⁴³, conducted interview to evaluate the effectiveness of ante natal education and information about breast feeding among 100 primi postnatal mothers at Tygerberg Hospital West Bengal. The researcher concluded that more patients were felt positive about breast feeding after the information received it. Most of the patients prefers for nurses than doctors to know information and education about breast feeding.

CHAPTER – III

RESEARCH METHODOLOGY

This chapter describes the methodology adopted for the study. This phase of the study included the selection of a research design, variables, setting of the study, population, sample, criteria for sample selection, sample size, sampling technique, development and description of the tool, content validity, pilot study, reliability of the tool, procedure for data collection and plan for data analysis.

RESEARCH APPROACH

To accomplish the objectives of the study quantitative research approach was selected.

RESEARCH DESIGN

True experimental post test only design. Based on **Polit and Hungler (2011)** schematic representation of true experimental study, the study frame work was

Study group	Pretest --	Intervention X	Post test O ₂
Control group	--	----	O ₂

VARIABLES

Independent Variable

Training package on breast feeding technique.

Dependent Variable:

Postnatal nipple pain and nipple trauma.

Extraneous Variable

Age, education, occupation, family monthly income, type of family, condition of the nipple and source of information.

SETTING OF THE STUDY

The research setting was KASTURBA MEMORIAL HOSPITAL, DINDIGUL. It is a 300 bedded hospital. With regard to maternity it has an antenatal OPD, labour room, postoperative ward, postnatal ward, neonatal wards, NICU. Approximately the number of deliveries in the hospital was around 215 every month.

POPULATION

Target Population

The target population for the study was primi mothers with the gestational age of 38-40 weeks.

Accessible Population

The accessible population for the study was all primi mothers with the gestational age of 38-40 weeks, who were attending antenatal OPD and were available during the data collection period. Approximately 215 mothers attend the antenatal OPD per day..

SAMPLE

The primi mothers who were pregnant for the first time with the gestation age of 38 – 40 weeks who satisfy the inclusive criteria of the study were selected as sample.

CRITERIA FOR SAMPLE SELECTION

Inclusive Criteria

1. Antenatal mothers (primi) with the gestational age of 38 to 40 weeks.
2. Antenatal mothers who can understand Tamil and English.
3. Antenatal mothers who are willing to participate in this study.

Exclusive Criteria

1. Mothers with breast complications.
2. Mother who under goes LSCS.

SAMPLE SIZE

The study comprised of 60 primi mothers, 30 samples for study group and 30 samples for control group, using simple random sampling technique (lottery method).

SAMPLING TECHNIQUE:

The primi mothers, who satisfied the sample selection criteria, were included in the sampling frame work and these 60 samples were selected by simple random sampling technique. The participants were randomized using lottery method to experimental and control group.

DEVELOPMENT AND DESCRIPTION OF TOOL

With extensive review of literature and consultation with expert's opinion the tool was constructed to generate the data. The tool for data collection consisted of two sections.

Section A: Demographic variables of the primi mothers

This section deals with age, education, occupation, family monthly income, type of family, condition of the nipple, and source of information.

Section B: Tool to assess the effectiveness of training package

The tool consists of three sections:

Section I: The LATCH scoring system was used to assess the effectiveness of breast feeding technique

Section II: Postnatal nipple pain was assessed by numeric intensity pain scale score.

Section III: Postnatal nipple trauma was assessed by nipple trauma index.

SCORING KEY

SECTION I:

The effectiveness of training package regarding breast feeding technique was assessed by LATCH – ON method.

	Score	0	1	2
L	Latches on to breast	No latch achieved	Repeated attempts hold nipple stimuli to suck	Grasp breast tongue down Lips flanged rhythmic
A	Audible swallowing	None	A few with stimulation	Span intermittent
T	Type of Nipple	Inverted	Flat	Erect
C	Comfort breast / Nipple	Engorged (or) Cracked Severe Discomfort	Moderate discomfort	Soft tender
H	Hold (Position)	Full assist staff holds infants at breast	Minimal assist	Mother herself holds infant

Scoring Key

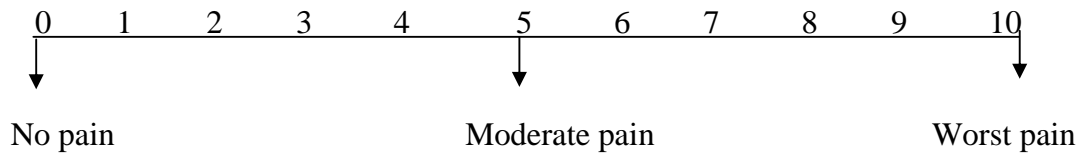
8 – 10 - Good

6 – 7 - Satisfactory

< 6 - Poor

Section II: Postnatal nipple pain was assessed by numeric intensity pain scale

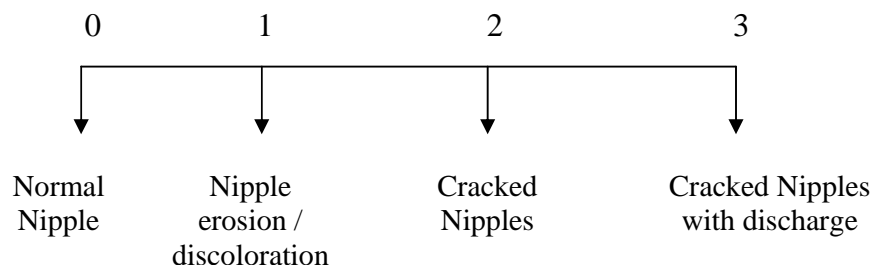
Score



Scoring Key

0	-	No pain
1-3	-	Mild pain
4-6	-	Moderate pain
7-9	-	Severe pain
10	-	Worst pain

SECTION III: Postnatal nipple trauma was assessed by nipple trauma index.



CONTENT VALIDITY

The content validity of the data collection tool was done by 5 nursing experts and 2 medical experts in the field of Obstetrics and Gynaecology and the tools were modified as per the consensus of all experts and the tool was finalized.

The tool was submitted to research committee and necessary corrections were made before main study data collection.

The suggestions given by experts were included before conducting the main study data collection with concurrence of all experts in the field who did the content validity.

ETHICAL CONSIDERATION

The ethical principles followed in the study were

I. BENEFICIENCE

1. Freedom from harm and discomfort

Participants were not subject to unnecessary risks for harm or discomfort during the study period.

2. Protection from exploration

Participants were assured that their participation or information they provided would not be used against them in any way.

II. RESPECT FOR HUMAN DIGNITY

Participants were given full rights to ask questions refuse to give information and also to withdraw from the study.

A written consent was obtained from the participants initially for their willingness to participate in the study.

III. JUSTICE

The selection of the study participants was completely based on research requirement. A full privacy was maintained throughout the process of data collection.

PILOT STUDY

The pilot study is a trial run, done in preparation for a major study. The study was planned and conducted after a formal research proposal presentation before the ethical committee, ICCR and faculty of Omayal Achi College of nursing.

The pilot study was conducted after obtaining formal permission from the Principal, Omayal Achi College of Nursing. Ethical committee clearance was obtained from the International Centre for Collaborative Research and written permission was obtained from medical director and nursing superintendent of Sir Ivan Stedeford Hospital, Chennai.

The investigator selected 10 primi mothers (5 for study group and 5 for control group) from the antenatal OPD who were in 38- 40 weeks of gestation, using simple random sampling technique. The participants were randomized using lottery method to study and control group. The primi mothers were made to sit comfortably in a well ventilated room and confidentiality regarding the data was assured. After obtaining oral and written consent from the primi mothers, data collection was commenced. A brief explanation on the purpose of the study was given to the primi mothers both in study and control group. Data pertaining to the demographic variables were collected by interview method.

In study group, self introduction about the investigator and information about the nature of the study was explained to the primi mothers. General information about breast feeding and its importance were given by lecture method individually to all participants. It took 10-15 minutes for every participant. Breast feeding technique was demonstrated individually to all primi mothers in well equipped privacy room it took around 20-30minutes. Resource material regarding importance of breast feeding was given to them. Every day 9-10 study participants were selected and the training package were given to them individually.

Post test level of practice was assessed after the delivery. The primi mothers were assessed three times a day during the first three postnatal days for their practice, by using LATCH scoring system by individually in the separate room. It took around 20-30 minutes for every mother. Postnatal nipple pain and nipple trauma were assessed after seven days of postnatal period in private room postnatal nipple pain was assessed by using numerical intensity pain scale and nipple trauma

was assessed by using nipple trauma index. It took around 5-7 minutes for every mother.

In control group, the investigator collected demographic variables by interview method. The control group advised to follow usual postnatal care which was given in the hospital setting. Post test level of practice was assessed after the delivery. The primi mothers were assessed three times a day during the first three postnatal days for their practice, by using LATCH scoring system by individually in the separate room. It took around 20-30 minutes for every mother. Postnatal nipple pain and nipple trauma were assessed after seven days of postnatal period in private room. Postnatal nipple pain was assessed by using numerical intensity pain scale and nipple trauma was assessed by using nipple trauma index. It took around 5-7 minutes for every mother.

The gathered pilot study data was analyzed using both descriptive and inferential statistics. The finding of the pilot study showed that the calculated 't' value was 9.00 which suggest effectiveness of training package and high statistically significant difference at $p < 0.001$. The findings revealed the feasibility and practicability of the study and after which the plan for actual study was made. The report was presented before the international centre for collaborative research (ICCR) and after occurrence of the committee members, the main study was conducted.

RELIABILITY

The reliability of the tool was established by using Inter rater method. The reliability of the tool was found to be $r = 0.84$. It was highly reliable for the researcher to continue with the main study.

PROCEDURE FOR DATA COLLECTION

The main study was conducted after obtaining formal permission from the Principal, Omayal Achi College of Nursing. Ethical committee clearance was

obtained from the International Centre for Collaborative Research and written permission was obtained from Chairman of Kasturba Memorial Hospital and Nursing superintendent, Dindigul.

The investigator selected 60 primi mothers (30 for study group and 30 for control group) from the antenatal OPD who were in 38- 40 weeks of gestation, using simple random sampling technique. The participants were randomized using lottery method to experimental and control group. The primi mothers were made to sit comfortably in a well ventilated room and confidentiality regarding the data was assured. After obtaining oral and written consent from the primi mothers, data collection was commenced. A brief explanation on the purpose of the study was given to the primi mothers both in study and control group. Data pertaining to the demographic variables were collected by interview method.

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PLAN FOR DATA ANALYSIS

Descriptive Statistics

1. Frequency and percentage distribution was used to analyze the demographic variables.
2. Mean and standard deviation was used to assess the post test level of practice among primi mothers in study and control group.

Inferential Statistics

1. Unpaired 't' test to assess the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers between study group and control group.
2. Correlation coefficient used to correlate the post test level of practice with postnatal nipple pain and nipple trauma in the study group and control group.
3. Chi - Square test was used to associate the post test level practice on postnatal nipple pain and nipple trauma among primi mothers with selected demographic variables in the study group.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data to study the effectiveness of training package regarding breast feeding technique on post natal nipple pain and nipple trauma, among primi mothers at selected hospital, Dindigul.

The data collected for the study were grouped and analyzed as per the objectives of the study. Descriptive and inferential statistics were used to analyze the collected data.

ORGANIZATION OF DATA

The findings of the study were grouped and analyzed under the following sections.

- SECTION – A:** Description of the demographic variables of primi mothers in the study and control group.
- SECTION – B:** Assessment of post test level of practice regarding breast feeding technique on postnatal nipple pain and nipple trauma, among primi mothers in the study group and control group.
- SECTION – C:** Comparison of post test level of practice regarding breast feeding technique on postnatal nipple pain and nipple trauma, between study and control group.
- SECTION – D:** Correlation of post test level of practice with postnatal nipple pain and nipple trauma in the study and control group.
- SECTION – E:** Association of findings with the demographic variables in the study group.

SECTION – A: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES OF PRIMI MOTHERS IN THE STUDY AND CONTROL GROUP.

Table 1 (a) : Frequency and percentage distribution of demographic variables like age, education, occupation and family monthly income of the primi mothers.

N=60

S.No.	Demographic variables	Study group		Control group	
		No.	%	No.	%
1.	Age				
	18 – 20 years	4	13.33	4	13.33
	21 – 25 years	17	56.67	17	56.67
	26 – 30 years	8	26.67	8	26.67
	Above 31 years	1	3.33	1	3.33
2.	Education				
	Non literature	0	0.00	3	10.00
	Primary	2	6.67	4	13.33
	Middle school	2	6.67	8	26.67
	High school	9	30.00	5	16.67
	Higher secondary	9	30.00	8	26.67
	Graduate and above	8	26.67	2	6.67
3.	Occupation				
	Unemployed	22	78.33	20	66.67
	Employed	8	26.67	10	33.33
4.	Family monthly income				
	Less than Rs. 3000	2	6.67	2	6.67
	Rs. 3001 – 5000	12	40.00	12	40.00
	Rs. 5001 & above	16	53.33	16	53.33

The table 1 (a) shows frequency and percentage distribution of demographic variables such as age, education, occupation and family monthly income.

With regard to the distribution of demographic variables in study group, 4(13.33%) were between 18- 20 years, a majority of the primi mothers 17 (56.67%) were between 21 – 25 years, most of them 8 (26.67%) were between 26 – 30 years; and 1(3.33%) of them were above 31 years.

With regard to the distribution of demographic variables in control group, 4(13.33%) were between 18- 20 years, a majority of the primi mothers 17 (56.67%) were between 21 – 25 years, most of them 8 (26.67%) were between 26 – 30 years; and 1(3.33%) of them were above 31 years.

With regard to education in study group 2 (6.67%) had primary education and middle school education respectively, 9(30.00%) had high school education and higher secondary education respectively and 8 (26.67%) had graduate and above.

With regard to education in control group 3 (10%) were non literature, 4(13.33%) had primary education, 8(26.67%) had middle school education, 5(16.67%) had high school education, 8(26.67%) had higher secondary education and 2 (6.67%) had graduate and above.

With regard to occupation in study group most of them 22(78.33%) were unemployed, 8(26.67%) were employed. Where as in control group most of them 20(66.67 %) were unemployed, 10(33.33%) were employed.

With regard to family monthly income in study group 2(6.67%) of them earning less than Rs. 3000, most of them 12(40.00%) were earning Rs 3001 – 5000 and 16 (53.33%) were earning above Rs. 5001. In the control group the family monthly income 2 (6.67%) earning less than Rs. 3000, most of them 12(40.00%) were earning Rs 3001 – 5000 and 16 (53.33%) were earning above Rs. 5001.

Table 1 (b): Frequency and percentage distribution of demographic variables such as type of family, condition of nipple and source of information.

N = 60

S.No.	Demographic variables	Study group		Control group	
		No.	%	No.	%
4	Type of family				
	Joint family	10	33.33	10	33.33
	Nuclear family	20	66.67	20	66.67
	Extended family	0	0.00	0	0.00
5.	Condition of the nipple				
	Erect nipple	30	100.00	30	100.00
	Inverted nipple	-	-	-	-
	Cracked nipple	-	-	-	-
6.	Source of information				
	Yes	2	6.67	2	6.67
	No	28	93.33	28	93.33

The table 1(b) shows the frequency and percentage distribution of demographic variables of study group and control group with respect to type of family, condition of nipple and source of information.

With regard to type of family 10(33.33%) of them belongs to joint family in study and control group, most of them 20 (66.67%) belongs to nuclear family in study and control group.

With regard to condition of nipple 30(100%) of them had erect nipple in study and control group.

With regard to source of information 2(6.67%) of them were aware about breast feeding in study and control group. Most of them 28(93.33%) were unaware about breast feeding in study and control group.

SECTION – B: ASSESSMENT OF POST TEST LEVEL OF PRACTICE REGARDING BREAST FEEDING TECHNIQUE ON POSTNATAL NIPPLE PAIN AND NIPPLE TRAUMA AMONG PRIMI MOTHERS IN THE STUDY GROUP AND CONTROL GROUP

N= 60

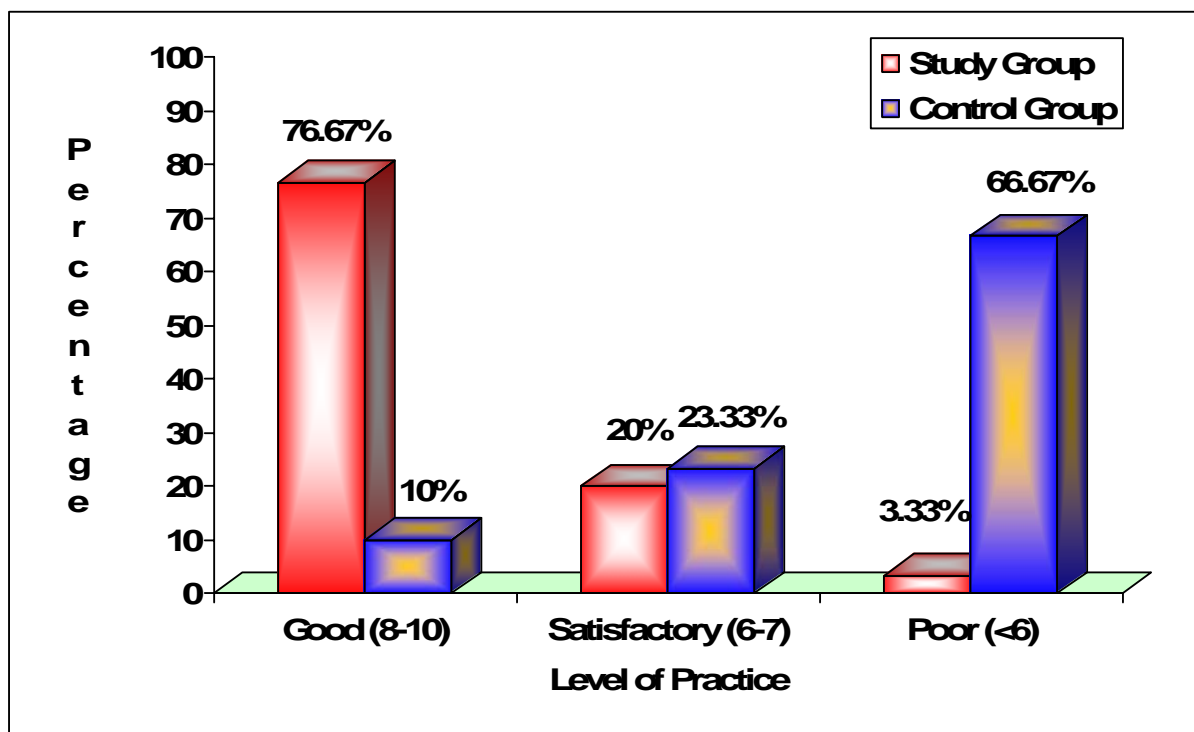


Fig.2 (a): Percentage distribution of post test level of practice in the study and control group

The figure (2) shows the percentage distribution of post test level of practice regarding breast feeding technique.

With regard to the study group most of them 23(76.67%) had good practice, 6(20.0%) had satisfactory practice and 1(3.33%) had poor practice.

With regard to control group 3(10.0%) of them had good practice, 7(23.33%) had satisfactory practice and 20(66.67%) had poor practice.

Table 2(b): Percentage and frequency distribution of postnatal nipple pain in the study group and control group.

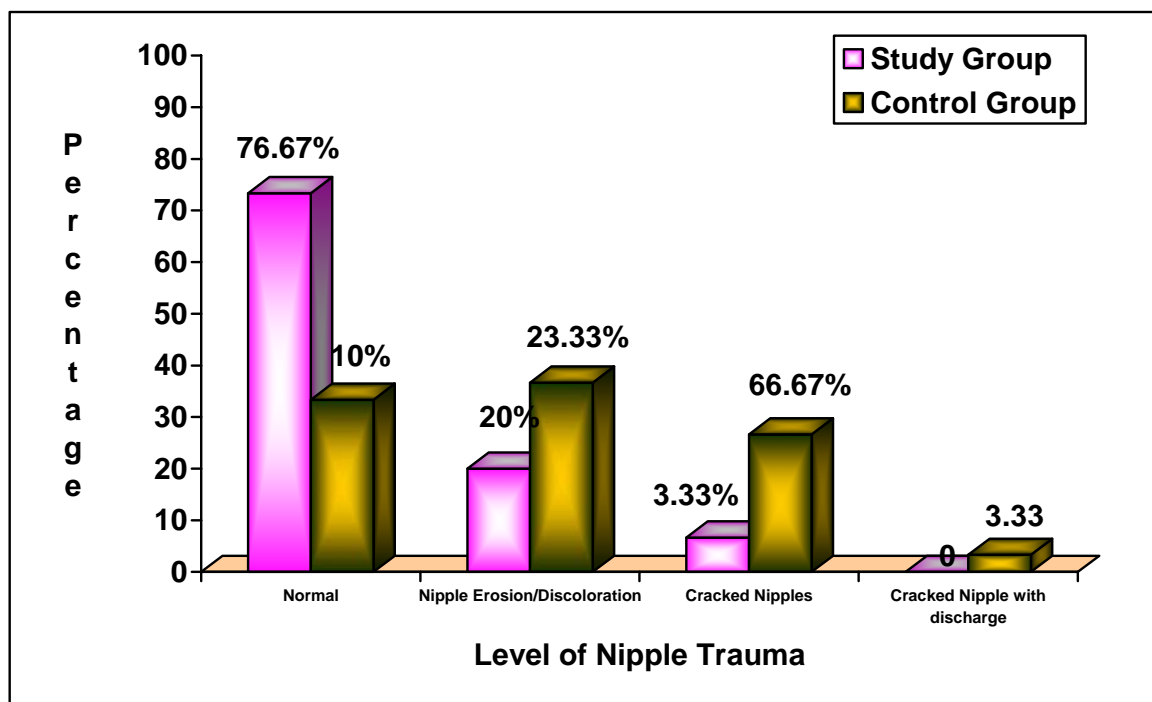
N=60

Pain	No Pain		Mild		Moderate		Severe		Worst	
	No.	%	No.	%	No.	%	No.	%	No.	%
Experimental	21	70.0	5	16.67	4	13.33	0	0	0	0
Control	10	33.33	12	40.0	8	26.67	0	0	0	0

Table 2(b) revealed that with regard to postnatal nipple pain in study group most of them 21 (70.0%) had no pain, 5(16.67%) had mild pain, and 4(13.33%) had moderate pain.

With regard to postnatal nipple pain in control group 10(33.33%) of them had no pain, 12(40.0%) had mild pain and 8(26.67%) had moderate pain.

N= 60



Fig,2(c): Percentage distribution of postnatal nipple trauma in the study and control group.

Figure 2(c) revealed that with regard to postnatal nipple trauma in study group most of them 22(73.33%) had normal nipple, 6(20%) had nipple erosion and 2(6.67%) had cracked nipples.

With regard to postnatal nipple trauma in control group 10(33.33%) had normal nipple, 11(36.67%) had nipple erosion and 8(26.67%) had cracked nipple.

SECTION - C: COMPARISON OF POST TEST LEVEL OF PRACTICE REGARDING BREAST FEEDING TECHNIQUE ON POSTNATAL NIPPLE PAIN AND NIPPLE TRAUMA BETWEEN STUDY AND CONTROL GROUP

Table 3 : Frequency and percentage distribution of post test level of practice regarding breast feeding technique.

N = 60

Practice	Mean	S.D	Unpaired 't'Value
Study group	8.27	1.31	t = 8.751***
Control group	4.87	1.68	S*

***p = <0.001, S – Significant

The table (3) shows that with regard to breast feeding technique in the study group the mean score was 8.27 with S.D 1.31. Whereas in the control group the mean score was 4.87 with S.D 1.68. The calculated 't' value was 8.751 which showed statistically high significant difference at p = <0.001 level.

SECTION – D: CORRELATION OF POST TEST LEVEL OF PRACTICE WITH POSTNATAL NIPPLE PAIN AND NIPPLE TRAUMA IN THE STUDY AND CONTROL GROUP.

Table 4(a) : Correlation of post test level of practice with postnatal nipple pain in the study group.

n =30

Variables	Mean	S.D	'r' Value
Practice	8.27	1.31	t =0.869
Nipple pain	0.90	1.71	S***

***p<0.001, S- Significant

Table 4(a) revealed that with regard to post test practice of breast feeding technique in study group the mean score was 8.27 with S.D 1.31. With regard to postnatal nipple pain the mean score was 0.90 with S.D 1.71. The calculated 'r' value was 0.869 which showed statistically high significant difference at p<0.001 level.

Table 4(b): Correlation of post test level of practice with nipple trauma in the study group.

n =30

Variables	Mean	S.D	'r' value
Practice	8.27	1.31	r = 0.717
Nipple trauma	0.83	0.61	S***

***p<0.001, S- Significant

Table 4(b) revealed that with regard to post test practice of breast feeding technique in study group the mean score was 8.27 with S.D 1.31. With regard to postnatal nipple trauma the mean score was 0.83 with S.D 0.61. The calculated 'r' value was 0.717 which showed statistically high significant difference at p<0.001 level

Table 4(c): Correlation of post test level of practice with postnatal nipple pain in the control group.

n =30

Variables	Mean	S.D	'r' value
Practice	4.87	1.68	r = 0.118
Nipple pain	2.17	2.05	NS

NS – Not significant

Table 4(c) revealed that with regard to post test practice of breast feeding technique in study group the mean score was 4.87 with S.D 1.68. With regard to postnatal nipple pain the mean score was 2.17 with S.D 2.05. The calculated 'r' value was 0.118 which was not statistically significant.

Table 4(d): Correlation of post test level of practice with nipple trauma in the control group.

n =30

Variables	Mean	S.D	'r' value
Practice	4.87	1.68	r = 0.107
Nipple trauma	1.00	0.87	NS

NS – Not significant

Table 4(d) revealed that with regard to post test practice of breast feeding technique in control group the mean score was 4.87 with S.D 1.68. With regard to postnatal nipple trauma the mean score was 1.00 with S.D 0.87. The calculated 'r' value was 0.107 which was not statistically significant.

SECTION-E: ASSOCIATION OF FINDINGS WITH THE DEMOGRAPHIC VARIABLES IN THE STUDY GROUP.

Table 5 : Association of post test level of practice with the demographic variables in the study group,

n= 30

Demographic Variables	Good (8 – 10)		Satisfactory (6 – 7)		Poor (<6)		Chi-Square Value
	No.	%	No.	%	No.	%	
Education							$\chi^2 = 20.085$ d.f = 8 p = 0.010 S*
Non literature	-	-	-	-	-	-	
Primary school	0	0	1	3.3	1	3.3	
Middle school	1	3.3	1	3.3	0	0	
High school	9	30.0	0	0	0	0	
Higher secondary	7	23.3	2	6.7	0	0	
Graduate & above	6	20.0	2	6.7	0	0	
Family month income							$\chi^2 = 14.928$ d.f = 4 p = 0.005 S***
Less than Rs.3000	1	3.3	0	0	1	3.3	
Rs.3001 – 5000	10	33.3	2	6.7	0	0	
Rs.5001 & above	12	40.0	4	13.3	0	0	

*p<0.05, ***p<0.001, S – Significant, N.S – Not Significant

The table (5) reveals that there was low level of significant association (<0.05) with education and moderate (< 0.01) level of significant association with family monthly income. And there is no statistical significant association with other demographic variables like age, occupation, type of family, condition of nipple and source of information in the study group.

CHAPTER – V

DISCUSSION

This chapter discusses the findings of the study derived from the statistical analysis and its pertinence to the objectives set for the study and related literature of the study. The purpose of the study was to assess the effectiveness training package regarding breast feeding technique on reduction of postnatal nipple pain and nipple trauma among primi mothers at selected hospital, Dindigul.

The first objective was to assess the post test level of practice regarding breast feeding technique on reduction of postnatal nipple pain and nipple trauma in the study group and control group.

The analysis on post test level of practice of primi mothers regarding breast feeding technique revealed that, majority of them 23(76.67%) had good practice,6(20.0%) had satisfactory practice and 1 (3.33%) had poor practice in study group.

Where as in the control group majority of them 20 (66.67%) had poor practice, 7 (23.33%) had satisfactory practice and 3 (10.0%) had good practice.

The above data were consistent with the study conducted by **Black RS. (2010)⁷⁸**, a randomized clinical trial to assess the effectiveness of postpartum position and attachment education to increase the breast feeding rates, at a public hospital in Adelaide, south Australia.160 primi mothers participated in this study. The study results showed that 90% of the study group continued breast feeding and in the control group 60% of them discontinued breast feeding due to nipple pain and nipple trauma. 25% of them reported lactation failure and remaining had introduced bottle feeding within 6 weeks. The researcher concluded that postpartum position and attachment education increases breast feeding rates.

The second objective was to compare the post test level of practice regarding breast feeding technique on postnatal nipple pain and nipple trauma between study group and control group.

The analysis on comparison of post test level of practice with regard to breast feeding technique in the study group the mean score was 8.27 with S.D 1.31. Whereas in the control group the mean score was 4.87 with S.D 1.68. The calculated 't' value was 8.751 which showed statistically high significant difference at $p < 0.001$ level. This indicates that the training package was highly effective.

Hence the null hypothesis NH1 stated earlier that" There is no significant difference in the post test level of practice regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers in the study and control group at the level of $p < 0.001$ " was rejected.

The above findings were consistent with the study conducted by **Duffy EP, Percival P. (2000)**⁸³, to assess the positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breast feeding rates, at one public hospital in Western Australia. 70 primi para who were at 36 weeks of gestation, participated in this study. During the first postnatal day position and attachment were measured by LATCH (Latch – on, audible swallow, type of nipple, comfort and help). Nipple pain was measured by visual analogue scale (VAS). Nipple trauma was assessed by nipple trauma index (NTI). The study results showed that 31 of the 33 women in experimental group continued the breast feeding; where as in control group 10 out of the 35 women continued the breast feeding. The researcher concluded that antenatal teaching enhances breast feeding practices and prevents feeding complications.

The third objective was to correlate the post test level of practice regarding breast feeding technique with post natal nipple pain and nipple trauma among primi mothers in the study group and control group.

The analysis of post test level of practice in study group revealed that the mean score of breast feeding technique was 8.27 with S.D 1.31. With regard to postnatal nipple pain the mean score was 0.90 with S.D 1.71. The calculated 'r' value was 0.869 which showed statistically high significant difference at $p < 0.001$ level.

With regard to post test practice in study group revealed that the mean score of breast feeding technique was 8.27 with S.D 1.31. With regard to postnatal nipple trauma the mean score was 0.83 with S.D 0.61. The calculated 'r' value was 0.717 which showed statistically high significant difference at $p < 0.001$ level.

With regard to post test practice in the control group revealed that the mean score of breast feeding technique was 4.87 with S.D 1.68. With regard to postnatal nipple pain the mean score was 2.17 with S.D 2.05. The calculated 'r' value was 0.118 which showed statistically not significant.

With regard to post test practice in the control group revealed that the mean score of breast feeding technique was 4.87 with S.D 1.68. With regard to postnatal nipple trauma the mean score was 1.00 with S.D 0.87. The calculated 'r' value was 0.107 which showed statistically not significant.

Hence the null hypothesis NH_2 stated earlier that "There is no significant relationship between the post test level of practice regarding breast feeding technique with postnatal nipple pain and nipple trauma among primi mothers in the study and control group at the level of $p < 0.001$ " was rejected.

The above findings were consistent with the study conducted by **Brent., et al (2008)**⁴³, to assess the effectiveness of breast feeding technique and hydrogel wound dressing for sore nipples at mercy hospital, Pittsburgh. 42 breast feeding women who had already sore nipples were participated. Study group were instructed to follow (latching method) breast feeding technique. Control group received hydrogel moist wound dressing. The patients were seen for a maximum of 3 follow up within 10 days. The study results showed that there was greater (85%) reduction of sore nipples in study group than control group; control group developed infections. The researcher concluded that breast feeding technique had positive effect on reduction of sore nipples.

The fourth objective was to associate the post test level of practice regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers with selected demographic variables in the study group.

The analysis revealed that there was low level of significant association with education and moderate level of significant association with family monthly income and there was no statistical significant association with other demographic variables such as age, occupation, type of family, condition of nipple, source of information.

Hence the null hypothesis NH₃ stated earlier that “there is no significant association of post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma was accepted for education, family monthly income and rejected for other demographic variable.

The above findings were consistent with the study conducted by **King SE. (2010)**⁸⁷, to assess the effectiveness of position and attachment of baby during breast feeding among primi mothers in Newyork. It was associated with selected demographic variables like age of the mothers, education, ethnicity, and occupation, monthly income, access to source of information through Medias and health care personal and condition of nipple. The study revealed that there was no association between the selected demographic variables.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter deals with summary, conclusion, implications, recommendations and limitations.

SUMMARY

Breast feeding is widely accepted as a best method to provide all essential nutrients and immunological factors to the baby. Breast feeding has lifelong benefits to mother, baby and society. Successful breast feeding depends upon proper breast feeding technique. The breast feeding technique is only best method which helps to maintain exclusive breast feeding upto six months. Breast feeding technique strengthens maternal - infant bonding and prevents feeding complications, early lactation failure.

Therefore the researcher undertook a study to assess the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers at selected hospital, Dindigul.

The objectives of the study were

1. To assess post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma among primi mothers in study group and control group.
2. To compare the post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma among primi mothers between study group and control group.

3. To correlate the post test level of practice regarding breast feeding technique with post natal nipple pain and nipple trauma among primi mothers in the study group and control group.
4. To associate the post test level of practice regarding breast feeding technique on post natal nipple pain and post natal nipple trauma among primi mothers with selected demographic variables in the study group.

The study was based on the assumptions that

1. The primi mothers may develop post natal nipple pain and nipple trauma.
2. The training package may enhance their practice regarding breast feeding technique in order to prevent the postnatal nipple pain and nipple trauma.

The null hypotheses formulated were

NH₁ - There is no significant difference in the post test level of practice regarding the breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers between the study group and control group at the level of $p < 0.05$.

NH₂ . There is no significant relationship between the post test level of practice regarding the breast feeding technique with postnatal nipple pain and nipple trauma among primi mothers in study group and control group at the level of $p < 0.05$.

NH₃ - There is no significant association of post test level of practice regarding breast feeding technique on post natal nipple pain and nipple trauma with selected demographic variables in the study group at the level of $p < 0.05$.

The review of literature included related studies which provided a strong foundation for the study. It also included the basis for conceptual frame work and formation of the tool.

The conceptual framework for the study was based on **ERNESTINE WIEDEN BACH'S HELPING ART OF CLINICAL NURSING THEORY** and

it provided a complete framework for evaluation of selected training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers.

The content validity of the tool was established from 5 nursing experts and 2 medical experts of obstetrics and gynecology. Reliability of the tool was established by inter rater method. The pilot study was conducted by selecting 10 samples who fulfilled the sample selection criteria (5 mothers for study group and 5 mothers for control group).

The main study was conducted at Kasturba Memorial Hospital, Dindigul. Simple random sampling technique (lottery method) was used and the sample size for the study was 60 primi mothers (30 mothers for study group and 30 mothers for control group) who fulfilled the sample selection criteria. And the ethical aspects of the study were maintained throughout the study.

The major findings of the study revealed that

The collected data was analyzed by using descriptive and inferential statistics the calculated 't' value of training package (breast feeding technique) was found to be 8.751 which showed statistically high significant difference at the level of $p = <0.001$. This showed the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers.

CONCLUSION

The present study assessed the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma among primi mothers. The findings of the study revealed that the training package was effective regarding breast feeding technique on prevention of postnatal nipple pain and nipple trauma among primi mothers.

IMPLICATIONS

The investigator had derived from the study, the following implications which are a vital concern in the field of nursing service, nursing administration, nursing education and nursing research.

Nursing Practice

- Maternity nurses should have the commitment and updated knowledge to promote the breast feeding practices.
- The midwives have a vital role to teach the mothers and to build their knowledge and practice in relation to breast feeding technique to prevent postnatal breast complications.

This can be facilitated by motivating the mothers:

- ❖ Attending breast feeding counseling classes.
- ❖ Have an institutional delivery to get adequate information about breast feeding.
- Implement and practice the breast feeding policies in maternity wards to increases breast feeding rates.
- As a community nurse midwife, she should act as a prime service provider in promotion and improvement of breast feeding practices. Involves partner and family members in the breast feeding classes to provide adequate support to the mothers.
- Conducts workshop and exhibition in relation with breast feeding in the community areas to create the public awareness.
- Train the peer group among the mothers to provide adequate knowledge and practice on breast feeding technique.

Nursing Education

- Ensure the current nursing curriculum should have updated information on breast feeding techniques.

- The students should be reinforced and motivated to acquire in-depth knowledge on breast feeding.
- Provide adequate opportunity to integrate the theoretical concept into practice for an every student to give effective and safe nursing care to breast feeding mothers.
- The student nurse should be educated about the importance of breast feeding health education.
- Encourage the student for effective utilization of evidence based practices in handling postnatal mothers.
- More training modules on breast feeding technique should be prepared and utilized.

Nursing Administration

- Collaborate with governing bodies to formulate standard policies and protocols to enhance breast feeding practices in every institution
- Conduct camps regarding recent advancement in breast feeding in collaboration with other health care professionals, non professional organizations and private sectors in both hospital and community settings.
- Conduct in-service program and continuing education programme for effective nursing care to prevent the breast feeding complications.
- Arrange and conduct workshops, conferences and seminars on human milk banking.
- Provide opportunities for midwives to attend training programme to provide efficient nursing care in order to reduce the maternal mortality.

Nursing Research

As a nurse researcher,

- Promote more research on breast feeding technique and its latest advancement.

- Disseminate the findings of the research through conferences, seminars and publish in nursing journal.
- Promote utilization of research findings on lactation management effectively.

RECOMMENDATIONS

The researcher gives strong recommendation to the nurses to involve actively in antenatal teaching and breast feeding programme to create awareness regarding the importance of infant feeding to prevent the feeding complications .The study also recommend the government to make standard policies for breast feeding technique in all institutions to increase breast feeding rates.

The study recommends the following for further research

1. A similar study could be conducted by increasing the sample size in different setting for better generalization.
2. A comparative study can be conducted between urban and rural communities.
3. A study can be replicated in different setting.
4. A follow up study can be done to evaluate the effectiveness of training package regarding breast feeding technique on postnatal nipple pain and nipple trauma to improve breast feeding outcomes.

LIMITATION

Researcher found difficulty in getting Indian reviews related to latching method.

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