

**A STUDY TO ASSESS THE EFFECTIVENESS OF CABBAGE
LEAF APPLICATION AMONG PRIMI POSTNATAL
MOTHER AT SELECTED HOSPITAL
IN KANYAKUMARI DISTRICT**



**A DISSERTATION SUBMITTED TO THE TAMILNADU
DR. M.G.R. MEDICAL UNIVERSITY CHENNAI,
IN PARTIAL FULFILMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING
OCTOBER -2019**

**A STUDY TO ASSESS THE EFFECTIVENESS OF CABBAGE
LEAF APPLICATION AMONG PRIMI POSTNATAL
MOTHER AT SELECTED HOSPITAL
IN KANYAKUMARI DISTRICT
2017-2019**

Certified that this is the bonafied work of

Mrs. Ezhil Kumari . R

Reg. No: 301722303

II Year M.Sc Nursing

Global College of Nursing

Edavilagam, Nattalam

Marthandam, Kanyakumari District



COLLEGE SEAL

SIGNATURE :

Prof. Mrs. Josephine Ginigo, M.Sc.(N),
Principal, Dissertation Committee,
Global College of Nursing,
Nattalam, Marthandam Pin-629165.

**A DISSERTATION SUBMITTED TO THE TAMILNADU
DR.M.G.R. MEDICAL UNIVERSITY CHENNAI, IN
PARTIAL FULFILMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING
OCTOBER - 2019**

**A STUDY TO ASSESS THE EFFECTIVENESS OF CABBAGE
LEAF APPLICATION AMONG PRIMI POSTNATAL
MOTHER AT SELECTED HOSPITAL
IN KANYAKUMARI DISTRICT**

Approved by the Dissertation committee on March- 2018

Chair Person : -----

Prof. Mrs. Josephine Ginigo, M.Sc.(N),
Principal, Dissertation Committee,
Global College of Nursing,
Nattalam, Pin-629165.

Professor in Nursing Research : -----

Prof. Mrs. Kavitha.S.K. M.Sc.(N),
HOD of Child Health Department,
Global College of Nursing,
Nattalam, Pin-629165.

Clinical Speciality Guide : -----

Mrs. Anantha Jothi, M.Sc.(N),
Assistant Professor,
Obstetrics and Gynecological Nursing,
Global College of Nursing,
Nattalam, Pin-629165.

**A DISSERTATION SUBMITTED TO THE TAMILNADU
DR. M.G.R. MEDICAL UNIVERSITY CHENNAI, IN
PARTIAL FULFILMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING
OCTOBER - 2019**

**A STUDY TO ASSESS THE EFFECTIVENESS OF CABBAGE
LEAF APPLICATION AMONG PRIMI POSTNATAL
MOTHER AT SELECTED HOSPITAL
IN KANYAKUMARI DISTRICT**

Internal Examiner

.....

External Examiner

.....

**A DISSERTATION SUBMITTED TO THE TAMILNADU
DR. M.G.R. MEDICAL UNIVERSITY CHENNAI, IN
PARTIAL FULFILMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING
OCTOBER - 2019**

CERTIFICATE

This is to certify that the dissertation entitled “**A STUDY TO ASSESS THE EFFECTIVENESS OF CABBAGE LEAF APPLICATION AMONG PRIMI POSTNATAL MOTHER AT SELECTED HOSPITAL IN KANYAKUMARI DISTRICT** ” is a bonafide research work done by **Mrs. R. Ezhil Kumari , II year M.Sc (N)**, Global College of Nursing under the Guidance of **Mrs. Anantha Jothi, M.Sc.(N), Assistant professor , Obstetrics and Gynecological Nursing**, in partial fulfilment of the requirements for the Degree of Master of Science in Nursing under Tamilnadu, Dr. M.G.R Medical University.

Name and Signature of the Guide :

Mrs. Anantha Jothi, M.Sc (N)

Date with Seal :

Name and Signature of the

Head of the Department :

Mrs. Sugitha, M.Sc.(N)

Date with Seal :

ACKNOWLEDGEMENT

“ I will Guide Thee with Mine Eye” (psalm; 32:8)

The journey had been long had to pass through bright and dark days Calm and storm. There were times when the path was rough and may at time it was smooth there were many guiding and supporting hands in this journey which made it easier. I take this opportunity to acknowledge.

I wish to acknowledge my heartfelt gratitude to the Lord Almighty for the wisdom , Knowledge guidance, strength, protection, shield and support throughout my study. He has offered me throughout this endeavor and given me courage to overcome the difficulties and thus to complete this study successfully.

I am extremely grateful to **Dr. Sam. G. Jeba Joslin, M.D., M.R.S.H (Lon)**, Chairman and **Mrs. Shakila Santha Kumari, M.A., M.Phil, Ph.D**, Secretary of Global College of Nursing for giving me an opportunity to study in this esteemed institution and supporting me in all the ways to complete this study.

I extend my sincere thanks to **Prof. Mrs.Josphine Ginigo, M.Sc.(N)**, Principal of Global College of Nursing, Nattalam for her valuable guidance, continued support, promising criticism, suggestions and concern during the entire course of this dissertation.

I extend my gratitude to **Prof. Vijila Berlin, M.Sc (N)**, Professor in nursing research, Global College of Nursing who has guided as a good mentor and for valuable suggestions, motivation and guidance throughout this dissertation.

I express my special thanks to **Mrs. Anantha Jothi, M.Sc (N)** for their support, guidance and clarification.

I express my humble and sincere gratitude to **All Faculty Members**, of Global College of Nursing, Nattalam, for their guidance and suggestion for the completion of the study.

My immense thanks to **Librarian , Mrs. Sindhu** of Global college of Nursing and the Library of The TamilNadu Dr.M.G.R Medical University, Chennai for having accessed me to procure the required literature review for the conduct of this study.

I honestly express my deep sense of gratitude and heartfelt thanks to **Experts** who devoted their valuable hours in solving my double and in providing meticulous attention, during content validation of my study.

I am grateful to **Sky Flash Computers** for having patiently deciphered and manuscripts into a legible piece of work.

I take this golden opportunity to thank my my beloved husband **Jayaraj** and son **J.Jesco**, who have been the foundation for my success in my educational endeavor.

A special thanks to all my lovable classmates and friends and who have helped me a lot to complete the study successfully.

EZHIL KUMARI .R

TABLE OF CONTENTS

CHAPTERS	CONTENT	PAGE No.
I	INTRODUCTION	
	<ul style="list-style-type: none">• Need for the study• Statement of the problem• Objectives• Hypotheses• Operational definitions• Assumptions• Delimitations• Conceptual framework	(1 -10)
II	REVIEW OF LITERATURE	
	<ul style="list-style-type: none">• Literature related to prevalence of Breast engorgement• Literature related to effect of Chilled cabbage leaf application on breast Engorgement.• Literature related to the other treatment for breast engorgement	(12-23)

III	RESEARCH METHODOLOGY	
	<ul style="list-style-type: none">• Research approach• Research design• Variables• Settings of the study• Population• Sample• Sample size• Sampling technique• Criteria for sample selection• Description of the tool• Description of the intervention• Content validity• Reliability of the tool• Pilot study• Procedure for data collection• Plan for data analysis• Ethical consideration	(24-33)
IV	DATA ANALYSIS AND INTERPRETATION	(34-61)
V	DISCUSSION	(62-67)
VI	SUMMARY, CONCLUSION, IMPLICATION, LIMITATION AND RECOMMENDATIONS	(68-75)
	BIBLIOGRAPHY	(76-80)
	ANNEXURES	

LIST OF TABLES

TABLE	TITLE	PAGE No.
4.1	Frequency and percentage distribution of primi postnatal mothers according to the demographic variables in experimental group and control group	35
4.2	Frequency and percentage distribution of primi postnatal mothers according to the obstetrical variables in study group and control group	41
4.3	Frequency and percentage distribution of primi postnatal mothers according to the level of breast engorgement in experimental group.	50
4.4	Frequency and percentage distribution of primi postnatal mothers according to the level of breast engorgement in experimental group.	51
4.5	Mean , Standard deviation and paired 't' value on pre and posttest level of breast engorgement among primi postnatal mothers in experimental group and control group.	53
4.6	Mean, Standard deviation and unpaired 't' value on level of breast engorgement among primi postnatal mothers in experimental group and control group after intervention	55
4.7	Association between the pretest level of breast engorgement among primi postnatal mothers with their selected demographic variables in experimental group	56

4.8	Association between the pretest level of breast engorgement among primi postnatal mothers with their selected obstetrical variables in experimental group	57
4.9	Association between the pretest level of breast engorgement among primi postnatal mothers with their selected demographic variables in control group	59
4.10	Association between the pretest level of breast engorgement among primi postnatal mothers with their selected obstetrical variables in control group	60

LIST OF FIGURES

FIGURE	TITLE	PAGE NO.
1.1	Conceptual Framework	11
3.1	Schematic Representation of research methodology	33
4.1	Percentage distribution of primi post natal mothers according to Age .	37
4.2	Percentage distribution of primi post natal mothers according to education.	38
4.3	Percentage distribution of primi post natal mothers according to type of family.	39
4.4	Percentage distribution of primi post natal mothers according to area of residence .	40
4.5	Percentage distribution of primi post natal mothers according to mode of delivery .	44
4.6	Percentage distribution of primi post natal mothers according to no of postnatal day .	45
4.7	Percentage distribution of primi post natal mothers according to type of nipple .	46
4.8	Percentage distribution of primi post natal mothers according to initiation of breast feeding .	47
4.9	Percentage distribution of primi post natal mothers according to pattern of breast feeding .	48

FIGURE	TITLE	PAGE NO.
4.10	Percentage distribution of primi post natal mothers according to mode of breast feeding .	49
4.11	Percentage distribution of primi post natal mothers according to the level of breast engorgement in experimental group	52
4.12	Percentage distribution of primi post natal mothers according to the level of breast engorgement in control group	54

LIST OF ANNEXURES

ANNEXURES	TITLE
I	Letter for Ethical Clearance
II	Letter granting permission to conduct the study
III	Letter for Project completion Certificate
IV	Letter for Plagarism Checking certificate
V	Tool for data collection in English
VI	Data collection procedure
VII	Intervention
VIII	Photographs of cabbage Leaf Application

ABSTRACT

A study to assess the effectiveness of cabbage leaf application was on breast engorgement among primi postnatal mothers at selected hospital at kanyakumari district.

Research Methodology

The research design adopted for this study was quasi experimental design. The sample size was 60. The experimental group consisted of 30 primi postnatal mothers and control group consisted 30 primi postnatal mother. Sample purposive sampling was drawn through simple purposive sampling technique. The feasibility of the study and the refinement of the tool were assessed through pilot study. The breast engorgement level among primi postnatal mother was assessed using six point engorgement scales.

Findings of study

The mean score level of breast engorgement among primi postnatal mothers in experimental group 1.86 and in control group 4.36 respectively. The estimated 't' values were 9.61 which is significant at $P < 0.05$. It shows that cabbage leaf application was effective in reducing the level of breast engorgement.

Conclusion

The present study assessed the effectiveness of cabbage leaf application on Breast engorgement among primi postnatal mothers at selected hospital at kanyakumari district. . Based on statistical findings, In pre test level of breast engorgement mean value were 4.53 with standard deviation 0.94 On the post test level of breast engorgement mean value were 1.86 with standard deviation 0.89 respectively. The mean difference were 2.67 .The paired 't' values were 16.44* which is highly statistically significant at $p < 0.05$. Hence the Luke warm bath compress was effective for reducing the level of breast engorgement among primi

postnatal mothers. So hypothesis (**H₁**) is accepted, from the results it is evident that Chilled cabbage leaf application given among primi postnatal mothers with breast engorgement significantly reduced the level of symptom of breast engorgement.

CHAPTER – I
INTRODUCTION

“Mother, the most beautiful word on the lips of mankind.”

- Kahlil Gibran

Mother Hood is a very humanizing effect .Mother is placed at the level of God to provide love warmth and satisfy need of baby. It is usually a joyful event. When women gives birth to a baby despite of tremendous and discomfort, the postnatal period of a mother.

The word ‘postnatal’ comes from the Latin word ‘post’ which means ‘after’ and ‘natails’ means ‘of birth’. It is the period beginning immediately after the birth of a child and extending for about 6 weeks.

Breast feeding is the most enriching experience for every woman. It plants the seeds of mother child bonding. It is most natural and unique experience for every mother. It is a cherished and a learned art. Breast milk the ‘Cinderella substance of the decade’ is nature’s most precious gift to the new born and equivalent despite tremendous advances in science and technology. Just as there is no substitute for mother’s love, there is no substitute for mother milk.

Breast feeding is beneficial to new born babies, infants, and mother Breast milk contain optimal nutrient that are necessary for the growth of babies as well as immunological ingredients that can protect babies from bacterial infection. In addition, the secretion of oxytocin a hormone that cause uterine contractions and reduces post partum bleeding is facilitated by breast feeding. Breast feeding reduces post partum depression and enhances the attachment between the mother and the baby. This practice also has economic benefits.

(Lawrence RA)

The breast produce milk which serves to nourish the infant .It provides complete nutrition for the newborn baby and contain carbohydrate (lactose) fat and protein as well as

micronutrients. In the first few days after delivery the breast secretes colostrums which is similar in composition to breast milk except has very little fat.

Breastfeeding is widely encouraged in current obstetric practice. While its advantages to mother and child are well recognized, there are a number of problems associated with it. One common problem that is encountered is breast engorgement, which makes continuation of breast feeding difficult. Breast engorgement occurs if the baby removes less milk from the breast when feeding than the amount that the mother produces. Breast engorgement is the overfilling of breast milk that causes discomfort and pain to the mother.

Correct breastfeeding technique is important to ensure successful breast feeding. Incorrect technique may contribute to breast engorgement, and in particular it is important for the baby to latch on to the breast correctly during feeding so that it can suck effectively. Breast engorgement may affect the area around the nipple and areola only or the entire breast, and may affect one breast only, or both. Once engorgement occurs, swelling around the nipple may make it even more difficult for the baby to latch-on and feed successfully, and this may make the engorgement worse.

Breast engorgement usually occurs within a week of the birth, but can occur later. Primary engorgement occurs in the first few days after the baby is born, and it occurs when the mother's body is still trying to adjust to the amount of milk that the baby demands. Secondary engorgement occurs later when the mother is not feeding as frequently as she used to, or the baby removes less milk from the breast.

Breast engorgement is associated with hard, painful, throbbing, aching and tender breasts which may result in the distress associated with breast engorgement may

mean that women initiating breastfeeding may not persevere beyond the first few days after the birth.

Once engorgement occurs application of moist heat on the breasts, hot shower before breastfeeding, cold compresses for 10 minutes after feedings, gentle massage and compress the breast when the baby pauses between sucks, frequent feeding, correct positioning, jasmine flower, frozen pea and cabbage leaf application to the breast have been advocated to relieve symptoms along with analgesia to relieve pain.

Need for the study

Breast feeding is one of the first bonding experiences between mother and child.

Breastfeeding her child is the most natural thing for every mother. Breastfeeding should be valued and supported by both maternity and neonatal caregivers. Breast pain during breastfeeding is a common problem that interferes with successful breastfeeding leading to exclusive abandonment of breastfeeding that result in breast engorgement.

Engorgement symptoms occur most commonly between days 3 to 5, with more than two – thirds of women with tenderness on day 5 but some as late as days 9 to 10. Two to third of women experience least moderate symptoms. More time used breastfeeding in the first 48 hours is associated with less engorgement. The 20% postnatal mothers especially primi gravida mothers are affected with breast engorgement from 0 to 4 days of postnatal period.

Breast engorgement occurs in 72% to 85% in postnatal mothers. It is a painful unpleasant condition affecting large number of women in the early postpartum. Breast engorgement inhibits the development of successful breast feeding, leading to early

breastfeeding cessation, associated with more serious illness including breast infection.

The chief editor of “The Nursing Journal of India” in her key address on the occasion of the Breastfeeding Week-2008 says lactating mothers face multifaceted constraints and difficulties in breastfeeding. They need support from various quarters – family, society, work place and government.

The most often stated reason for cessation of breastfeeding in the first two weeks of postpartum is pain. Breast engorgement is a painful problem that can lead to pre- mature weaning. It is a common complication of the early puerperium and usually occurs between 3-6 days after delivery. Dr. Ruth Lawrence defines engorgement as “the swelling and distension of breasts usually in the early days of initiation of lactation, due to vascular dilation as well as the early arrival of milk”

Numerous strategies have been adopted over the years in the treatment of breast engorgement. But very few researches have been conducted to monitor the effect of cabbage leaves on breast engorgement. Cabbage leaves have been used for centuries as a folk remedy for a wide variety of ailments and received much renewed interest from lactation professionals over the past ten years. The common green cabbage is used for engorgement therapy. Cabbage is known to contain sinigrin (allylisothiocyanate) rapine, magnesium, oxylate and sulphur heterosides. Herbalists believe that cabbage has both antibiotic and anti irritant properties. It helps to decrease tissue congestion by dilating (opening) local capillaries (small blood vessels), which improves the blood flow in and out of the area, allowing the body to reabsorb the fluid trapped in the breasts. Cabbage may also have a type of drawing, or wicking action that helps to move trapped fluid.

A quasi experimental study was conducted in AIIMS, New Delhi to assess and

compares the efficacy of cold cabbage leaves and hot and cold application in the treatment of breast engorgement. The study comprises of total 60 mothers; 30 in experimental group and 30 in the control group. The control group received alternate hot and cold compresses and experimental group received cold cabbage leaf for relieving breast engorgement. Both the treatment i.e., cabbage leaf applications were effective in decreasing breast engorgement and pain in postnatal mothers ($p \leq 0.001$). cabbage leaf application were effective in decreasing breast engorgement. ($p = 0.07$).

Belogum D R(2007) conducted a effective study on women's problem when discharged early from the hospital after a normal vaginal birth, result revealed that breast engorgement was one of the most prevalent problem which constituted 71.4%.

So the investigator being a nurse interested in non pharmacological measures. The expert in the field and many researchers has given idea about cabbage leaf application on reduction of breast engorgement during post natal days. Therefore the researcher interested in study to evaluate the effectiveness of luke warm water compress on breast engorgement among primi post natal mothers in selected hospitals at kanyakumari district.

STATEMENT OF THE PROBLEM

“A STUDY TO ASSESS THE EFFECTIVENESS OF CABBAGE LEAF APPLICATION AMONG PRIMI POSTNATAL MOTHER AT SELECTED HOSPITAL IN KANYAKUMARI DISTRICT ”

Objectives

The objectives of the study are to :

- To assess the pre test and post test level of breast engorgement among primi postnatal mothers in experimental group and control group
- To evaluate the effectiveness of cabbage leaf application water compress on breast engorgement among primi postnatal mothers in experimental group and control group.
- To find out the association between the pre test level breast engorgement among primi postnatal mothers with their selected demographic variables and Obstetrical Variables among primi postnatal mother.

Hypotheses:

H₁: There will be a significant difference between the pretest and post test level of breast engorgement among primi postnatal mothers in experimental and control group.

H₂ : There will be a significant association between the pre test level of breast engorgement among primi postnatal mothers with their selected demographic variables and Obstetrical Variables.

Operational definitions:

Assess:

It refers to evaluate and estimate the nature.

In this study assess refers to systematically measuring the level of breast engorgement among primi postnatal mother by using breast engorgement six point scale.

Effectiveness:

In this study effectiveness refers to the extent to which cabbage leaf application has produced desired effect on breast engorgement among primi postnatal

mothers as measured by breast engorgement six point scale.

Cabbage leaf application:

In this study cabbage leaf application refers to cabbage leaf. The cabbage leaf contains sulfa compound which pass through the skin and constrict the vessels and reduces inflammation. This reduction in inflammation and swelling allows the milk to flow. Place the cabbage leaf on the engorged breast, leaving the nipple exposed. Wrap bandage on the top of the leaves to keep them in place. Change the leaf as soon as they start to wet which should be about 15-20 minutes.

Breast engorgement:

In this study breast engorgement refers to symptoms experienced by primi postnatal mothers assessed by breast engorgement six point scale, it includes soft, no change in the breast, slight change in the breast, Firm, non-tender breast, Firm, beginning tenderness in breast , firm tender, Very firm and very tender.

Primi Postnatal mothers:

In these study primi postnatal mothers refers to women who have delivered a first baby within three to five days of postnatal period and have the evidence of bilateral breast engorgement.

Assumptions

- Cabbage leaf application is one of the complementary therapy used to reduce breast engorgement.
- Cabbage leaf application was found to have no side effect when compared with other pharmacological treatment.

- Breast engorgement if not given attention may lead to breast abscess leading to poor feeding of neonate.

Delimitations

The study is delimited to

- Primi postnatal mothers with age group of 20 – 35 years
- Data collection period is limited in to 4 weeks.
- Primi postnatal mothers with breast engorgement

CONCEPTUAL FRAME WORK

Conceptual frame work is a group of related ideas, statements or concepts which deals with concepts that are assembled by the virtue of their relevance to a common theme. A conceptual model broadly presents an understanding of the phenomenon of interest and reflects the assumption and philosophic views of the models designer.

The conceptual framework of the study was based on **Ludwing Von Bertanlaffys general system theory. In 1968** Bertanlaffys introduce this theory as universal theory that could be applied to many field of study.

According to Bertanlaffys , general system theory provides a way of examining interrelationship and deriving principles .Theorist described human being as an open system . For proper functioning of human being depends on the quality of its input and feedback. Being an open system, the client is capable of receiving information and gain knowledge from his environment. Utilizing this capacity of client, investigation examines whether the information is processed or not with the help of feedback.

Bertanlaffys model includes the following components.

SYSTEM

System is connected interdependent, interacting elements [E.g.; components, people] that are hierarchically organized into a single entity for purpose of achieving a common goal .In the field of nursing system can be individual, a family or a community. These systems are always complex and often studied as systems.

In the present study, hospital considered as a system.

INPUT

It consists of information, material or energy that enters the system. In this study, an input includes selected demographic and obstetrical variables such as age, education , type of family , area of residence, mode of delivery ,no of postnatal day , type of nipple , initiation of breast feeding , pattern of breast feeding , mode of breast feeding.

THROUGHPUT

The system uses, organizes and transforms the information in between input and output in through put or process. In this study throughput is providing cabbage leaf application on breast engorgement among Primi post natal mothers.

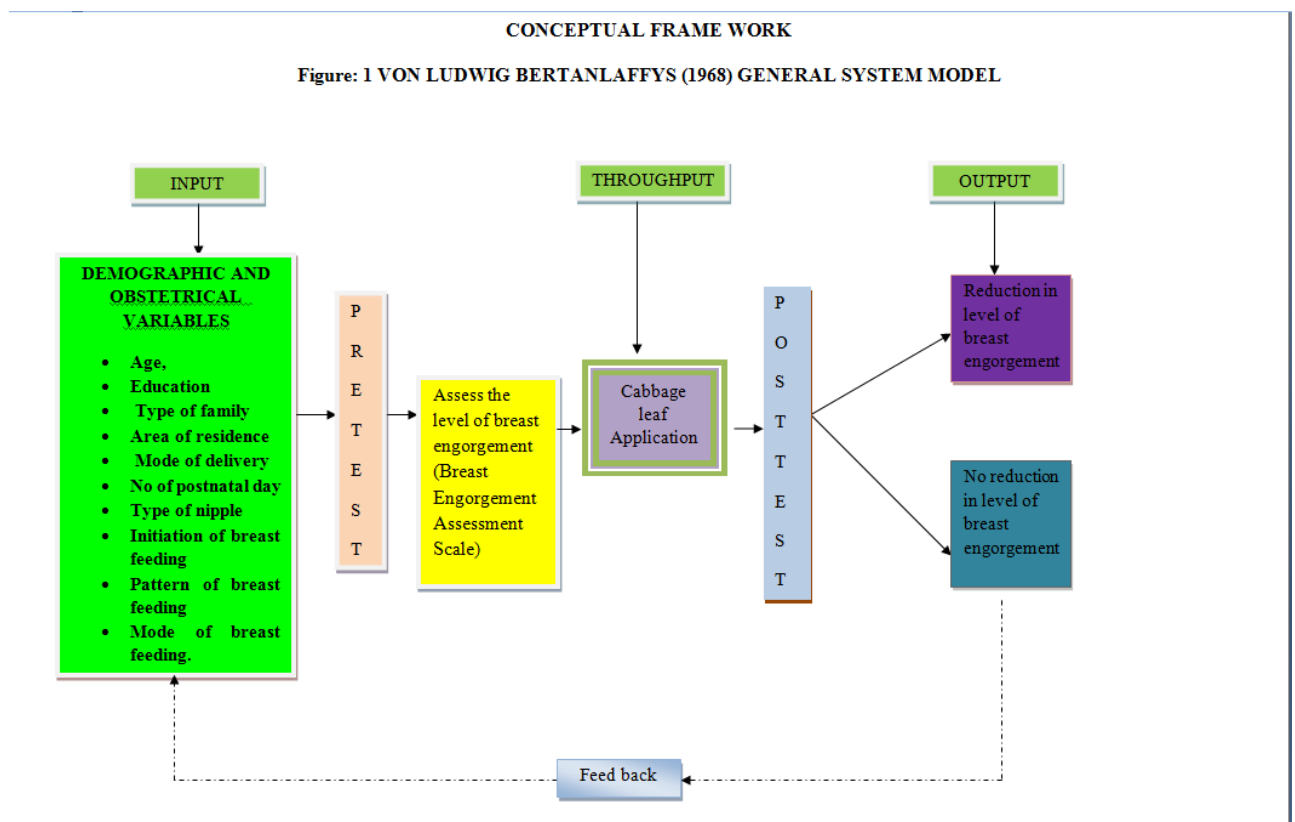
OUTPUT

Output in the transformed form of information, energy and matter that given out by individual after processing. It is the evaluation phase. In this present study, output is considered as the evaluation of cabbage leaf application on breast engorgement among Primi postnatal mothers by using six point scale. After the post test, there will be significant reduction in the level of breast engorgement among primi postnatal mothers.

FEEDBACK

According to this system theory feedback refers to the output that is returned to the system and it allows monitoring itself over time to a steady state known as equilibrium.

In this present study feedback refers to re-evaluate the effectiveness cabbage leaf application on breast engorgement by using six point scale among Primi post natal mothers with the selected demographic and obstetrical variables such as age, education, type of family, area of residence, mode of delivery, no of postnatal day, type of nipple , initiation of breast feeding , pattern of breast feeding , mode of breast feeding.



CHAPTER - II

REVIEW OF LITERATURE

“ A literature review involves the systematic identification, location, seeing and summary of written material that contains information of the research problem.”

-(Polit and Beck 2009).

Thorough literature review will assist the researcher with the selection or development of the theoretical and methodological approaches to the problem. The researcher has reviewed various literature and research articles that are presented in this chapter. The literature review is discussed under the following headings.

- **Section – A :** Literature related to prevalence of Breast engorgement
- **Section – B :** Literature related to the other treatment for breast engorgement
- **Section – C :** Literature related to effect of cool cabbage leaf on breast Engorgement.

SECTION – A : LITERATURE RELATED TO PREVALENCE OF BREAST ENGORGEMENT

Roslyn C Tarrant (2010) , was conducted cross sectional study factor's associated with breast-feeding initiation and prevalence any breast feeding at 6 weeks in a sample of Irish-national mother. N=401 Irish national mother (n=49) non-Irish national mother Breast feeding initiation were 47% and 79.6% respectively, significancy (p=0.000) associated with both breast feeding initiation and feeding at 6 weeks included mother who were ≥ 35 years educated third level reported positive postnatal encouragement to breast feed from their partners. Public health campaign that focus on increasing the social acceptability of breast feeding may prove effective in addressing cultural barrier.

Indrani D and Sowmya 2019 , was conducted a study saveetha hospital and saveetha rural health centre aim of the study find out the prevalence of breast engorgement among lactating mothers. Subjects selected 2-3 days after delivery. Scale used six point self rated engorgement scale (SPES) and visual analogue scale (VAS). The study showed that prevalence of breast engorgement among lactating mothers was 65% -75%.

Pamela D hill and Sharrons (1994) , was describes breast engorgement during days 1-14 post partum of vaginal and cesarean delivery breast feeding mothers. 114 sample was collected six point breast engorgement scale is used. Mean rating of engorgement pre group vaginal birth 3.19 in first time second time in first time, second time 3.43 cesarean delivery breast feeding mothers experienced engorgement sooner and more severely than did vaginal delivery mothers.

Akters, Tasnims (2015), was a study on post partum breast problems of mothers attending at lactation management center at Bangladesh. 114 sample was collected age distribution of mother shows, 35.96% at the age of <20 years, 58.77% were between 20-30Years and 5.26% were >30 Years , 91.22% were house wife and 8.77% were working mother 100% mother were consoled about breast feeding 78.95% mother were proper portion and attachment, In out study all mother.

Olga pustotina (2015), was identify the best management approaches to breast engorgement in management in breast feeding women and breast engorgement treatment antibiotics should be administered for 10-14 days during 5-7 days with temporary breast feeding suppression. Antibiotics with temporary suppression of breastfeeding more effective than with continuing breast feeding.

Evans et al., (2008) conducted “retrospective study to find the reason for breast engorgement” researcher selected 100 samples in Ireland. Samples in the study were selected

by the convenience sampling technique. Study concluded that poor attachment leading to milk stasis and engorgement might be more likely to occur on the side that was more difficult to feed. It shows the frequency of breast engorgement in left or right breast has no significant difference was observed. 37 % - 52 % of case involves engorgement in the right breast and 38 % - 52 % of case involves engorgement in the left breast and 3 % - 12 % of cases involve bilateral engorgement.

Mallikarkuna (2008) conducted “a effective study on breast feeding problems in the first six months of life in rural Karnataka” Total sample of 420mothers selected by interview method. Study showed that onset of breast feeding problem occurred in 31.7 % of women during first month of life, 76.9 % in the first week, 7.7 % in second week, 15.4 % in third week, insufficient milk was reported by 53.6 % while 23.1 % had problems like sore nipple, mastitis and engorgement

Ganguli, Dhavan, et al., (2008) conducted “a descriptive study on prevention and management of post natal breast complication among 600 post natal mothers at Allahabad”. Samples were selected randomly for the study. Study concluded that 20% of mothers were found to have breast complication. Breast engorgement 43.3 %was the most common complication followed by cracked nipple 17.8 %, retracted nipple 10 %, cracked and sore nipple 8.33 %, cracked and retracted nipple 7.5 %, failing lactation 7.5 % and breast abscess 3.33 %.

Hill PD et al., (2004) conducted “a prospective study to describe breast engorgement during 1-14 postpartum days of 114 first and second times vaginal and caesarean delivery breast feeding mothers in south Australia”. Most mothers reported experiencing their most intense engorgement after hospital discharge. Previous breastfeeding experience of the mother is more critical variable than parity in predicting engorgement. Second time breast

feeding mothers experienced the engorgement sooner and more severely than did first time breast feeding mothers, regardless of delivery method. Anticipatory guidance by the care provider is discussed in an effort to enhance the experience of the breast feeding dyad.

Humenick ss et al., (2004) conducted “a study on breast engorgement patterns and selected outcomes for 1- 14 days following birth in South Africa”. 120 breast feeding mothers rated their breast engorgement twice daily using a six point engorgement scale. Individual engorgement ratings were plotted by intensity overtime to provide a visual display of each subject’s breast engorgement experience. Four distinct patterns of breast engorgement emerged. Mother experienced either a bell shaped pattern of minimal engorgement. Characteristics of mother and infants and feeding frequency were having relation to breast engorgement patterns.

Inch and Fisher (2003) conducted a correlation study between the breast engorgement and holding the baby by dominant hand. Selected the samples by randomization, Study concluded that no relationship was found between the dominant hand and the side affected but in 78 % of cases engorgement occurred in the opposite side to the preferred side.

May kay smith (2003) conducted “a study on breast feeding and breast engorgement” has stated that breast engorgement is associated with maternal discomfort, difficulty with latch on which lead to plugged ducts and mastitis. He also reported that engorgement is most common during first week of breast feeding and occur as a result of delayed, infrequent or interrupted removal of breast milk from the breast. While breast fullness is normal from the second to fourth day after birth, this normal condition is caused by congestion and swelling of breast tissue as blood and other fluids begin to accumulate along with increased milk volume in the alveoli as milk production begins.

Foxman (2003) conducted “a descriptive study on occurrence of breast engorgement, and medical management among 946 breast feeding women in United States” Sampling technique used in this study was simple random sampling. Study revealed that, incidence of breast engorgement was 56%-67%. The study concluded that, the risk of engorgement was higher among women who had breast fed previously.

Yadav (2003) conducted “a study on breast feeding practices and problems related to breast feeding among 327 rural women in India.”The researcher adopted a randomization to select the samples. Study revealed that about one quarter of mothers had lactation problem. The study found that 28.4% had initial sucking problem, 8.6%had sore nipple, 18.6% had engorgement, and 9.8% had mastitis and engorgement.

Subbiah (2003) conducted “a descriptive study to assess the knowledge, attitude, practice and problems of post natal mother regarding breast feeding among 100 postnatal mothers in Chennai” Randomization was done to select the samples. Study showed that 65% of population knew how to prevent breast engorgement, 56%remarked that frequent sucking is essential to prevent breast engorgement 76% of population knew the measures to get relief from breast engorgement, 59% opined that manual expression will relieve engorgement, 12% knew hot fomentation will relieve breast engorgement.

Marsha walker et al., (2006) conducted “a study on preventive strategies for breast engorgement” in Taiwan. The samples of 50 mothers were randomly selected from the maternity canter. The data were analyzed by using chi square test. The study revealed that the numerous preventive strategies were effective includes, pre natal expression of colostrums, prenatal breast massage, and post natal breast massage.

SECTION – B: LITERATURE RELATED TO THE OTHER TREATMENT FOR BREAST ENGORGEMENT

Roberts (2011) conducted “a comparative study to determine the effect of chilled gel packs in reducing breast engorgement in postpartum women in wisely guild hospital, Nigeria”. The study involves 34 lactating women with breast engorgement. Study subjects were selected by non probability purposive sampling technique. Chilled cabbage leaves on one breast and chilled gel packs on another for up to 8 hours. The pain level were compared before and after for both treatment. The study concluded that chilled gel packs leaves treatments was effective in reducing pain and breast engorgement and 68% obtained relief in two hours.

Katharyn Roberts (2008) conducted “a comparative study to identify the effectiveness of hot water cabbage leaf extract with placebo in treating breast engorgement among 39 lactating women in Tumkur”. In this study 21 participants received cream containing hot water cabbage leaf extract and 18 received placebo cream. The study concluded that two groups received equal relief in breast engorgement. Mothers perceived both creams to be equally effective.

Ruba (2008) conducted “a study to determine the effectiveness of cabbage leaves application to relieve breast engorgement at various Maternity Centres, Coimbatore. 24 post natal mothers with breast engorgement were taken as samples. Breast engorgement was assessed using check list and six point engorgement scale. The collected data were analyzed using paired ‘t’ test. The analysis based on six point engorgement scale documented that the mean score before application of cabbage leaves 4.067 was greater than mean score after application of cabbage leaves 1.2 with average mean difference 2.87. The calculated’ value 31.55 was found to be greater than ‘t’ table value 1.71. The study concluded that cabbage leaves application was effective in relieving breast engorgement.

Smrithi Arora (2007) was conducted a comparative study to identify the effectiveness of cabbage leaves versus hot and cold compress in treatment of breast engorgement among 60 postnatal mothers in the postnatal ward of the All India Institute of Medical Sciences, New Delhi. The control group was administered alternate hot and cold compress to the engorged breast and the mothers in the experimental group received cold cabbage leaves. Cabbage leaves were placed inside women's brassiere for 30 minutes, both treatments were performed three times a day and the engorgement was measured using Six Point Engorgement Scale. Hot and cold compress were found to be more effective in reducing pain due to engorgement.

Murata (2006) conducted "a study to compare the effect of protease complex a plant enzyme versus placebo in 59 women complaining painful and tender breast on the 3rd and 5th day after delivery in Spain." Samples in the study were selected by purposive sampling technique. The outcome measure includes improvement in pain and swelling and when the symptoms were assessed in the post test women in the experimental group received overall improvement in their symptoms.

Robson (2004) conducted "a non blinded study to identify the effect of cold packs for breast engorgement with 88 women who had caesarean delivery and who developed symptoms of breast engorgement in selected hospitals of Tehran" . The samples were randomly selected to experimental and control group, the control group received routine care and the experimental group received cold packs. The result of the study shows that women in experimental group experienced reduction in pain intensity and the author reported a decrease in mean pain intensity score from 1.84 to 1.23 compared with control group from 1.80 to 1.79. The study concluded that application of cold pack was effective in treatment of breast engorgement.

Health and Nutrition (2004) conducted “a study to identify the efficacy of Whillestone Breast Expresser in treatment of breast engorgement. For the study 20 women were selected as samples. 45% of mother had flattened nipple before using the expresser. The average milk ejection time was 1.3 minute. The difference in engorgement before and after the intervention was obtained by using six point engorgement scale. All the participants stated that they had release of pain and swelling after using Whillestone Breast Expresser, many women stated that they received further relief after the baby had nursed and, 18 women stated that the expresser felt gentle and soothing.

Yvonne mesemer (2004) conducted “a study to test the effectiveness of milk removal as a method of reducing the discomfort of postpartum breast engorgement in non breast feeding women in women and children Hospital, Turkey”. The course of breast involution was followed in 13 women. Minimal engorgement was experienced by 46% of the subject. A control group who experienced engorgement followed standard management practice was compared with experimental group who used a hand pump to relieve engorgement symptoms. The subjects in the experimental group experienced a shorter, more comfortable course of breast involution than the control group. The results suggested that mechanical removal of milk is an effective way to increase the comfort and decrease the symptom of engorgement in non breast feeding women.

Ingelman-Sundberg (2003) conducted “a study to determine the effect of subcutaneous oxytocin versus placebo in treatment of breast engorgement among 45women in Portuguese. The participants of the study were randomly selected and they received oxytocin for experimental group and placebo treatment for control. The main outcome of the study was duration of treatment; overall seven out of 45 women still had the symptoms of breast engorgement three days after starting the treatment. The study concluded that majority

of the women in the treatment group had decreased signs and symptoms when compared with the control group.

SECTION : C - LITERATURE RELATED TO EFFECT OF COOL CABBAGE LEAF APPLICATION ON BREAST ENGORGEMENT

Boi B et al (2012) conducted quasi experimental study the effectiveness of cabbage leaf application on pain and hardness in breast engorgement. Experimental group receiving cabbage leaf treatment improved pre treatment score 5.17 (70%) to 3.02 (20%) ($P < 0.001$) chilled cabbage leaf 2.1 points (38%) ($P = 0.0001$) mean ($p = 0.84$) Bourbonnais scale used. Decrease pain score 1.8 points in 30% with cabbage leaf. The final result p value 0.04 overall result showed that cabbage leaf treatment is effective.

Joy J Kharde S N (2016), A study to evaluate the effectiveness of chilled cabbage leaves application for relief of breast engorgement in voluntary postnatal mothers. Who are admitted in maternity ward of selected hospital in Belgium. 30 postnatal mothers with breast engorgement, the study were cabbage application for relief of breast engorgement. Rating scale used effectiveness of chilled cabbage leaf application reducing pain severity of breast post test score (1.33) willcoxon signed rank test shows different between pre and post treatment score $z = 4.792$ then $p < 0.001$ effectiveness of chilled cabbage application for breast engorgement on reduce pain.

Dr. Smriti Arora (2007) , Quazi experimental study conducted in the postnatal ward institute of medical science in Newdelhi. 60 postnatal mother with breast engorgement were taken as samples. Cabbage leaf was decrease breast engorgement and pain in postnatal mother ($p \leq 0.001$). Cabbage leaf application both equally effective in decreasing breast engorgement. ($p = 0.07$) effective than chilled cabbage leaves relieving pain due to breast engorgement.

Parvesh Saini (2014), Asses the effectiveness of cabbage leaves application on breast engorgement. Private hospital of district Amritstar in Punjab. One group pre test post test only. Research design without randomization was used in pre treatment mean score of postnatal mother was 5.06 (Standard Deviation SD 0.52 mean % 84.43, paired t test 5.25) This results was statistically significant at $p < 0.001$ level. Post treatment result of postnatal mother was 4.07 (SD 0.45 mean % 67.66, paired t test 4.87) High significant at $p < 0.001$ level in reducing breast engorgement of postnatal mother.

Rajni Sharma (2018), Quazi experimental non randomized effectiveness of chilled cabbage leaf application on breast engorgement among postnatal women's. Pre test (88%) Post test (15%) control group form pre test 68% to post test 13% experimental group pre test 68% to post test 22% and in control group from pre by 78% to 35%.The greater breast feeding success in effect of cabbage leaf application.

Angel A Kanksha (2017), A quazi experimental study to assess the effectiveness of chilled cabbage leaf of breast engorgement among the postnatal hospital of Delhi. 60 postnatal mothers with breast engorgement were taken as sample pre treatment score ($p=0.2880$) post test ($p=0.204$) effective in decreasing breast engorgement in postnatal mother ($p=0.05$ and $p=0.001$). Chilled cabbage leaf is affected.

Ruba (2008) conducted “a study to determine the effectiveness of cabbage leaves application to relieve breast engorgement at various Maternity Centres, Coimbatore. 24 post natal mothers with breast engorgement were taken as samples. Breast engorgement was assessed using check list and six point engorgement scale. The collected data were analyzed using paired ‘t’ test. The analysis based on six point engorgement scale documented that the mean score before application of cabbage leaves 4.067 was greater than mean score after application of cabbage leaves 1.2 with average mean difference 2.87. The calculated’ value

31.55 was found to be greater than 't' table value 1.71. The study concluded that cabbage leaves application was effective in relieving breast engorgement.

Robson (2004) conducted “a non blinded study to identify the effect of cold packs for breast engorgement with 88 women who had caesarean delivery and who developed symptoms of breast engorgement in selected hospitals of Tehran” . The samples were randomly selected to experimental and control group, the control group received routine care and the experimental group received cold packs. The result of the study shows that women in experimental group experienced reduction in pain intensity and the author reported a decrease in mean pain intensity score from 1.84 to 1.23 compared with control group from 1.80 to 1.79. The study concluded that application of cold pack was effective in treatment of breast engorgement.

Murata (2006) conducted “a study to compare the effect of protease complex a plant enzyme versus placebo in 59 women complaining painful and tender breast on the 3rd and 5th day after delivery in Spain.” Samples in the study were selected by purposive sampling technique. The outcome measure includes improvement in pain and swelling and when the symptoms were assessed in the post test women in the experimental group received overall improvement in their symptoms.

Cotterman (2004) conducted a study on reverse pressure softening technique on softening of areola among 40 postnatal mothers in Nigeria. Purposive sampling technique was used in this study. The technique uses gentle positive pressure to soften an area (1-2 inches) near the areola surrounding the base of the nipple. Relieving the edema from the areola has been shown to improve the latch of the infant during engorgement. Study revealed application of reverse pressure is effective to reduce the breast engorgement there by increasing the softness of areola.

CHAPTER - III

RESEARCH METHODOLOGY

Research methodology is the research designed to develop or refine methods of obtaining, organizing or analyzing data.

(Polit, 2011)

This chapter deals with research approach, the research design, variables under study, the settings, population, sample, sampling technique, criteria for sample selection, data collection tool and technique, description of the tool, validity, reliability, scoring interpretation, pilot study, method of data collection, plan for data analysis and ethical consideration.

RESEARCH APPROACH

Quantitative approach is the powerful approach for testing hypothesis of causal relationship among variables. **(Polit, 2011)**

In this study, quantitative research approach was adopted.

RESEARCH DESIGN

Research design is the overall plan for obtaining answer to the questions being studied for handling some of the difficulties encountered during research process.

(Polit,2011)

In this study, Quasi experimental design was adopted to determine the effectiveness of cabbage leaf application on breast engorgement among Primi postnatal mothers.

The diagrammatic representation of this design is as follows,

Group	Pre test	Intervention	Post test
Study Group	O ₁	X	O ₂
Control Group	O ₁	.	O ₂

O₁ - Represent the pre-test level of breast engorgement among primi postnatal mothers.

X - Represent administering the intervention Cabbage leaf application.

O₂ - Represent the post-test level of breast engorgement among primi postnatal mothers.

VARIABLES

Variables are qualities, properties or characteristics of a person, things or situation that change or vary. Variables are attributes that vary. Variability in the dependent variable is presumed to depend on the variability in the independent variable.

- **Independent variable** : An independent variable is the variable that is believe to cause or influence the dependent variable. In this study, Cabbage leaf is the independent variables.
- **Dependent variable** : Dependent variable: A dependent variable is the variable hypothesized to depend on or be caused by another variable (the independent variable) . In this study breast engorgement is the dependent variable.

SETTING OF THE STUDY

Setting is the physical location and condition in which data collection takes place in the study. (Polit, 2011)

The study was conducted in the post natal ward at PPK hospital at Kanyakumari district. Each month 250 babies delivered in this hospital. The hospital is 6km distance from the college.

POPULATION

TARGET POPULATION

A target population is defined as the entire population in which a researcher is interested and to which he or she would like to generalize the study result. **(Polit, 2011)**

In the present study, target population comprised of Primi postnatal mothers at PPK hospital, Marthandam.

ACCESSIBLE POPULATION

An accessible population is defined as the population of people available for a particular study – often a non-random subset of the target population. **(Polit, 2011)**

In the present study, accessible population comprised of primi postnatal mothers with breast engorgement with age group of 20 -35 years at PPK Hospital at kanyakumari district.

SAMPLE

Sample refers to a fraction or portion of the element in a universe drawn out deliberately in a planned representative manner for studying interested characteristics of a large group of population. **(Polit, 2011)**

In this study, the sample consists of primi postnatal mothers who are admitted in PPK Hospital, who fulfilled the inclusion criteria between the age group 20-35 Years.

SAMPLE SIZE

Sample size was the total number of sample participating in a study **(Polit, 2011)**.

In this study, the sample comprised of 60 primi postnatal mothers who are between the age group of 20- 35 years in PPK Hospital

SAMPLING TECHNIQUE

It refers to the process of selecting a portion of the population to represent the entire population **(Polit, 2011).**

In this study, purposive sampling technique was used to select the samples

CRITERIA FOR SAMPLE SELECTION

Sampling Criteria involves selecting cases that meet some predetermined criterion of importance. The criteria for sample selection are mainly depicted under two heading, which includes the inclusive criteria and exclusive criteria.

Inclusion criteria

The study includes:

- Primi postnatal mothers who are between the age group of 20- 35 years.
- Primi postnatal mothers who are willing to participate in the study.
- Primi postnatal mothers who can understand Tamil.

Exclusion criteria

The study excludes:

- Primi postnatal mothers who have breast complication such as infection in the breast, breast abscess, mastitis.
- Primi postnatal mothers who are not willing to participate in the study.

DEVELOPMENT OF THE TOOL

Tool development is a complex and time consuming process. It consists of defining the construct to be measured, formulating the items, assessing the items for content validity developing instructions for respondents, pre-testing, estimating the reliability and conducting pilot-study . (Polit, 2011)

DESCRIPTION OF THE TOOLS:-

The tool used for the study was demographic variables, obstetric variable and Breast engorgement Six point engorgement tool based on the objectives of the study and with the guidance of experts in the field of OBG . The data collection tool used for the study were,

Section A: Demographic Variables

It consists of 4 items ie, age, education, type of family and area of residence.

Section B: Obstetrical Variables

Obstetrical variables such as mode of delivery, postnatal day, type of nipple, initiation of breast feeding, Pattern of breast feeding at each time, mode of breast feeding.

Section C : Breast Engorgement Assessment Scale

Breast Engorgement was assessed using 6 point breast engorgement scale devised by **Hill.P.D and Humenick (1994)**. It was used to assess the level of breast engorgement in clinical breast assessment was done by the investigator and the findings were interpreted and scored as per the scale.

Six Point engorgement assessment scale

Score Description

- ❖ 1- Soft, no change in breasts
- ❖ 2- Slight change in breasts
- ❖ 3 -Firm, non-tender breasts
- ❖ 4 -Firm , beginning tenderness in breasts
- ❖ 5- Firm, tender
- ❖ 6- Very firm, very tender

Scoring key :

- ❖ Mild engorgement 1-2
- ❖ Moderate engorgement 3-4

Severe engorgement 5-6

VALIDITY

Validity is a degree to which an instrument measures what is intended to measure **(Polit, 2011)**.

The validity of the tool was established in consultation with five experts in the field of nursing and one OBG expert. Modifications were done as per suggestion of the experts in the tool.

RELIABILTY

Reliability is the degree of consistency of dependability with which an instrument measures the attribute it is designed to measure. **(Polit, 2011)**

The reliability of the tool was established by using test retest method (Karl-pearson formula). Reliability of the tool was $r = 0.74$, so the tool was found to be reliable.

Pilot study

A pilot study is a small scale version or trial run of the main study. The pilot study was conducted with the purpose of testing and refining the research process. It was conducted to obtain information for improving the project or for assessing its feasibility. The principle focus was the assessment of the adequacy of measurement.

The investigator conducted the pilot study among six postnatal mothers with breast engorgement from March 2019 in PPK Hospital, Kanyakumari. Permission from the Administrative Officer of the hospital was obtained before conducting the study. The purpose and the usefulness of the study were explained to the concerned authorities before taking permission. The investigator carried out the pilot study with one-tenth of the total sample. The non probability purposive sampling technique was used for the selection of sample. A total six postnatal mothers were taken for the pilot study. Three postnatal mother with breast engorgement were selected for intervention.

The investigator introduced herself and explained the purpose of the study and consent was obtained. The demographic data was directly collected from the mothers. The investigator assessed the breast engorgement by using breast engorgement six point scale before administering the treatment. The investigator administered the treatment two times a day for two days and the re- assessment was done on the 3rd day. The result of the pilot study shows that study was feasible.

Data collection procedure for the main study

The investigator conducted the main study in PPK Hospital, Kanyakumari. The permission from the Administrative Officer of the hospital was obtained before conducting the study. Based on inclusion criteria, 60 samples were selected and 30 samples were assigned in cabbage application using non probability purposive sampling

technique.

The investigator introduced herself and explained the purpose of the study to the samples and their consent was obtained. The demographic data was directly collected from the mothers. The level of breast engorgement was assessed for group, using breast engorgement six point scale. To assess the breast engorgement the investigator observes each sample by using signs and symptoms which is mentioned in the engorgement six point scale and put a tick mark in the space against the present symptoms.

The investigator administered the cabbage leaves on the engorged breast 2 times a day for 2 days to Group. Post test assessment of breast engorgement was done by using breast engorgement six point scale on third day. The data collection was terminated by thanking the participants for their participation and co-operation.

Plan for data analysis:-

The data collected was analyzed by means of descriptive statistics and inferential statistics.

Descriptive statistics:-

1. Frequency and percentage distribution was used to describe demographic variable.
2. Mean and standard deviation was used to analyze the pre test and post test level of breast engorgement on primi postnatal mothers.

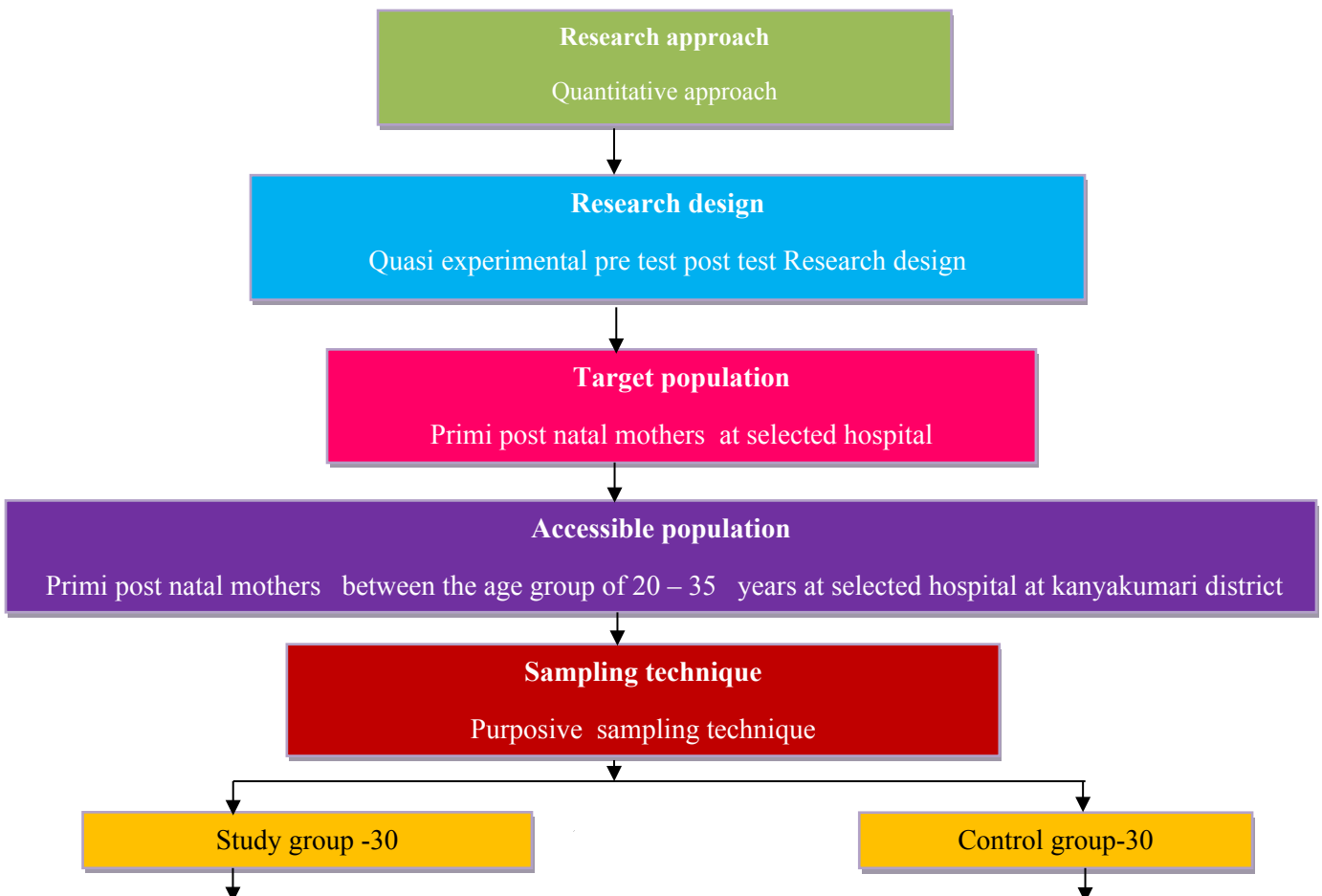
Inferential statistics:-

3. Paired t-test was used to compare the pre test and post test level of breast engorgement on primi postnatal mothers.

4. Chi- square test was used to associate pre test level of breast engorgement on primi postnatal mothers with their selected demographic and obstetric variables.

ETHICAL CONSIDERATION

The proposed study was conducted after the approval of the dissertation committee of Global College of nursing. Permission was obtained from the dean from selected schools. The oral consent was obtained before starting data collection. Assurance was given to the study subject that anonymity of each individual would be maintained. This was done for maintaining the moral and ethical as well as for the legal safety of the investigator.



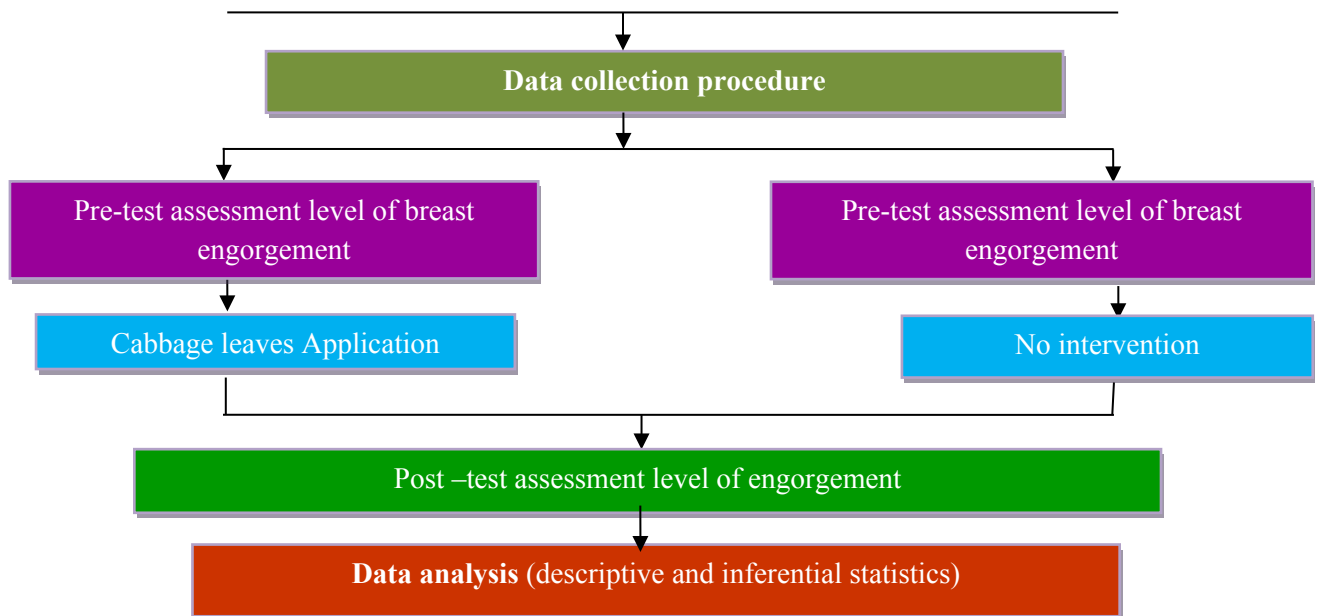


Fig 3.1: SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY

CHAPTER -IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the statistical analysis and interpretations of the data to assess the effectiveness of Cabbage leaf application on Breast engorgement among Primi postnatal mothers at PPK hospital at Kanyakumari district.

The data were collected from 60 Primi postnatal mothers with Breast engorgement . The data obtained was analyzed according to the objectives and hypothesis of the study. Data analysis was computed after transferring the collected data into a coding sheet. The data was analyzed, tabulated and interpreted using descriptive and inferential statistics.

ORGANIZATION OF DATA

The data has been tabulated and organized as follows,

- SECTION A** : Frequency & percentage distribution of sample according to the demographic variables and Obstetrical variables in experimental group and control group
- SECTION B** : Assess the pre test and post test level of breast engorgement among primi postnatal mothers in experimental group and control group
- SECTION C** : Assess the effectiveness of Cabbage leaf application on breast engorgement among primi postnatal mothers in experimental group .
- SECTION D** : Association between pre test level on breast engorgement among primi postnatal mothers with breast engorgement with their selected demographic variables and Obstetrical variables in experimental group and control group.

SECTION - A

This Section deals with frequency and percentage distribution of demographic variables and Obstetrical variables among Primi postnatal mothers with breast engorgement.

TABLE 4.1: Frequency and percentage distribution of demographic variables among primi postnatal mothers with breast engorgement in experimental group and control group

N=30+30

S. No	Demographic Variables	Experimental Group (n= 30)		Control Group (n= 30)	
		f	%	f	%

1	Age				
	a) 20 -25 years	13	43.34	11	36.67
	b) 26-30 years	16	53.33	17	56.67
	c) 31-35 years	1	3.33	2	6.66
2	Education				
	a) Illiterate	1	3.33	3	10
	b) School education	12	40	12	40
	c) Undergraduate	13	43.34	14	46.67
	d) Post graduate	4	13.33	1	3.33
3	Type of family				
	a) Nuclear	21	70	22	73.33
	b) Joint	9	30	8	26.67
4	Area of residence				
	a) Rural	17	56.67	12	40
	b) Urban	13	43.33	18	60

Table 4.1: Revealed that the demographic variables regarding age, majority 16(53.33%) belongs to the age of 26 – 30 years, 13(43.34%) belongs to the age of 20-25 years and least 1 (3.33%) belongs to age of 31 -35 Years in experimental group .In control group, majority 17(56.67%) belongs to the age group of 26-30 years, 11(36.67%) belongs to the age group of 20-25 years. 2 (6.66) belongs to the age group of 31 – 35 years.

Regarding education in experimental group, majority 13(43.34%) were undergraduate 12(40%) were school education, 4(13.33) were postgraduate and 1 (3.33) were illiterate. In control group majority 14(46.67%) were undergraduate, 12(40%) were school education. 3(10%) illiterate, 1 (3.33%) were post graduate.

According to type of family, majority 21(70%) belongs to nuclear family, 13(30%) belongs to joint family in experimental group. In control group, majority 22(73.33%) belongs to nuclear family, 8(26.67%) belongs to joint family.

Regarding area of residence in experimental group, majority 17(56.66%) were in rural area and 13(43.33%) were in urban area. In control group, majority 18(60%) were in urban area, 12(40%) were in rural area

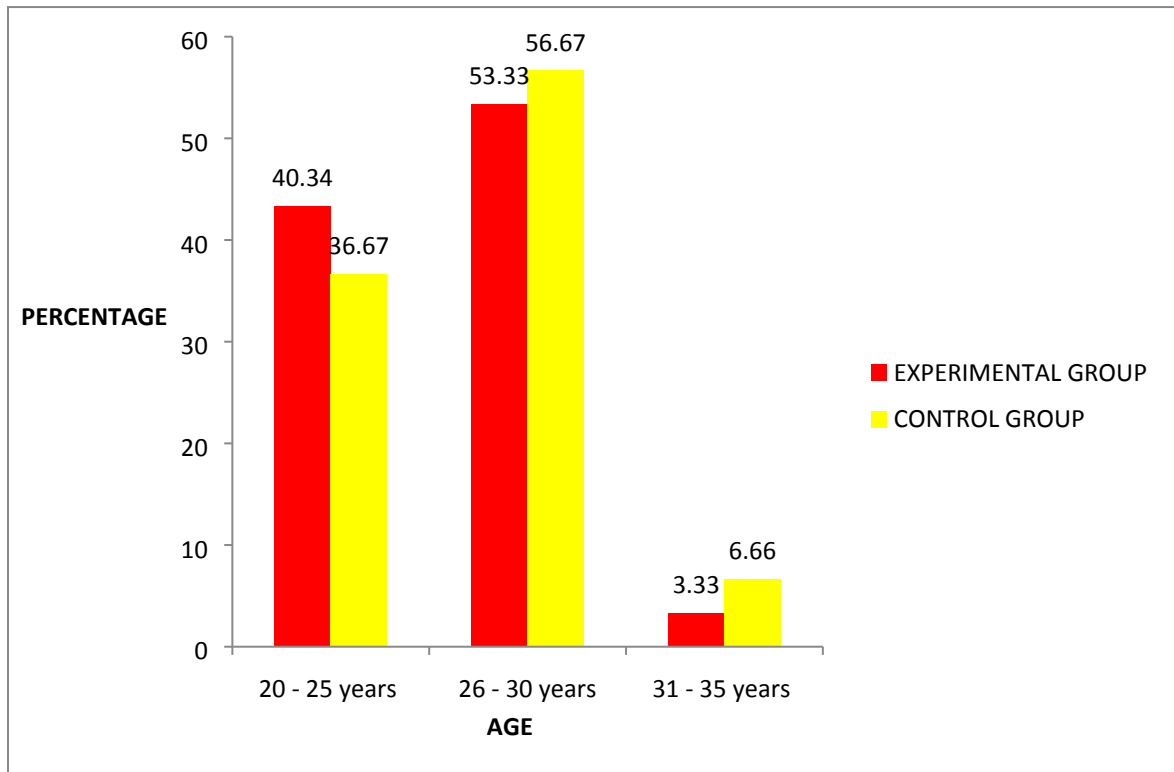


FIG 4.1 : Percentage Distribution of primi postnatal mothers according to Age

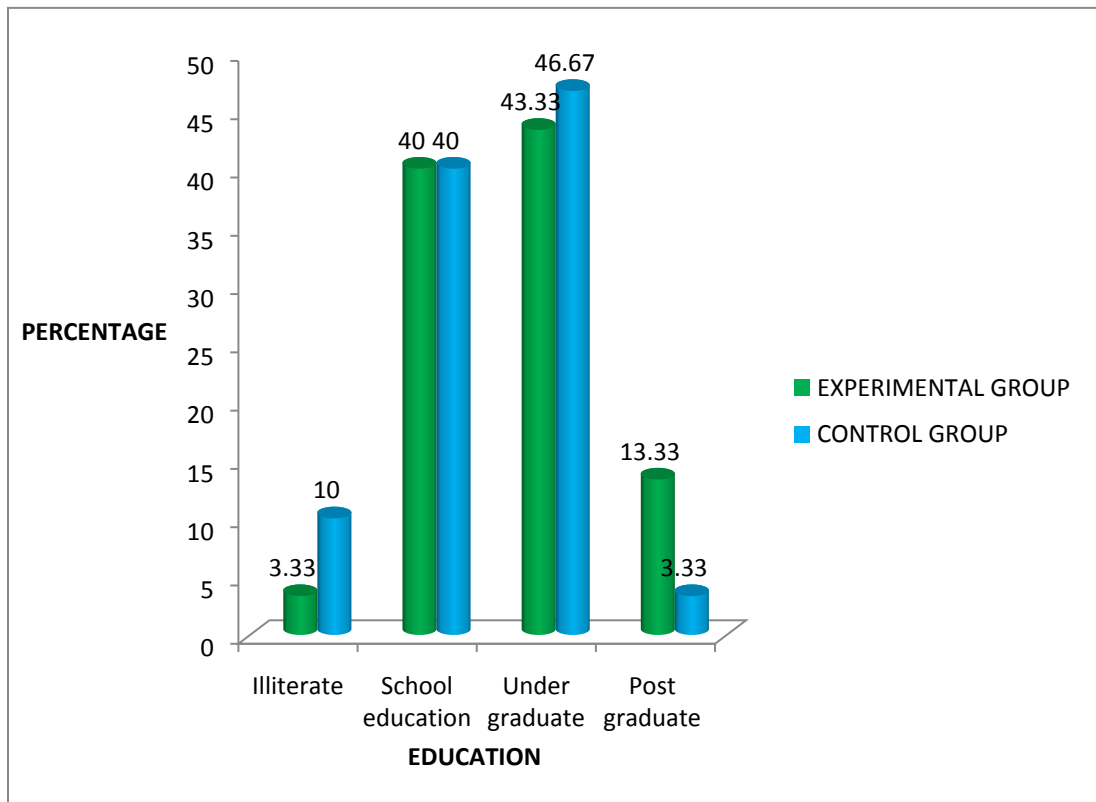


FIG 4.2 : Percentage Distribution of primi postnatal mothers according to Education

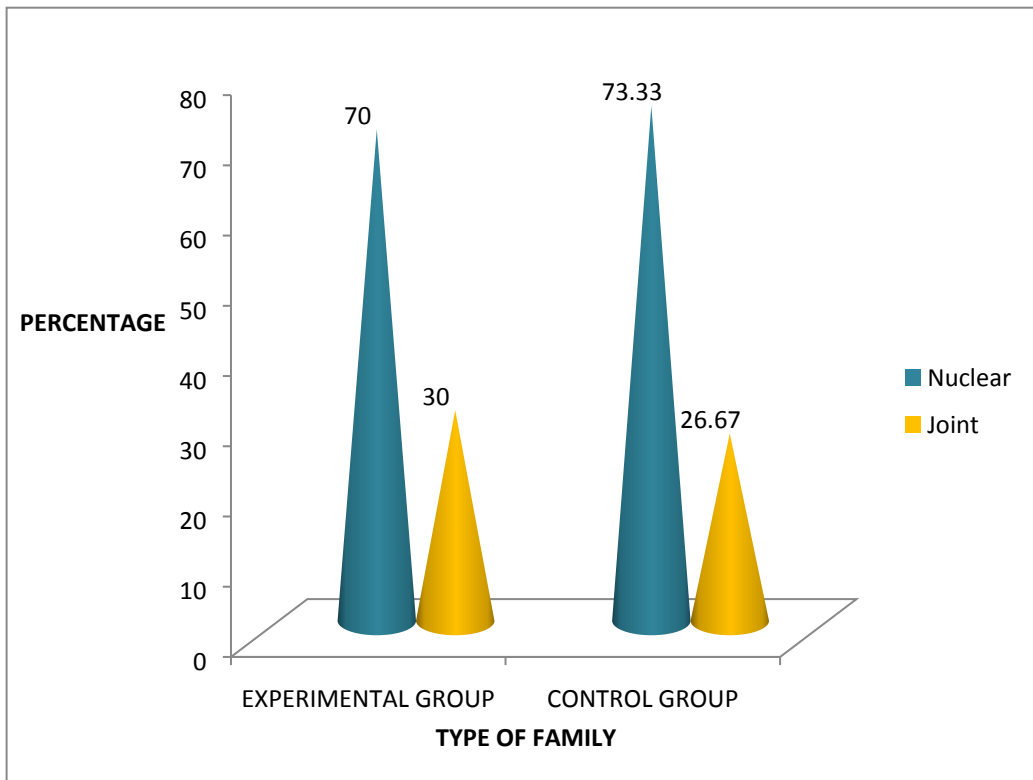


FIG 4.3 : Percentage Distribution of primi postnatal mothers according to Type of family

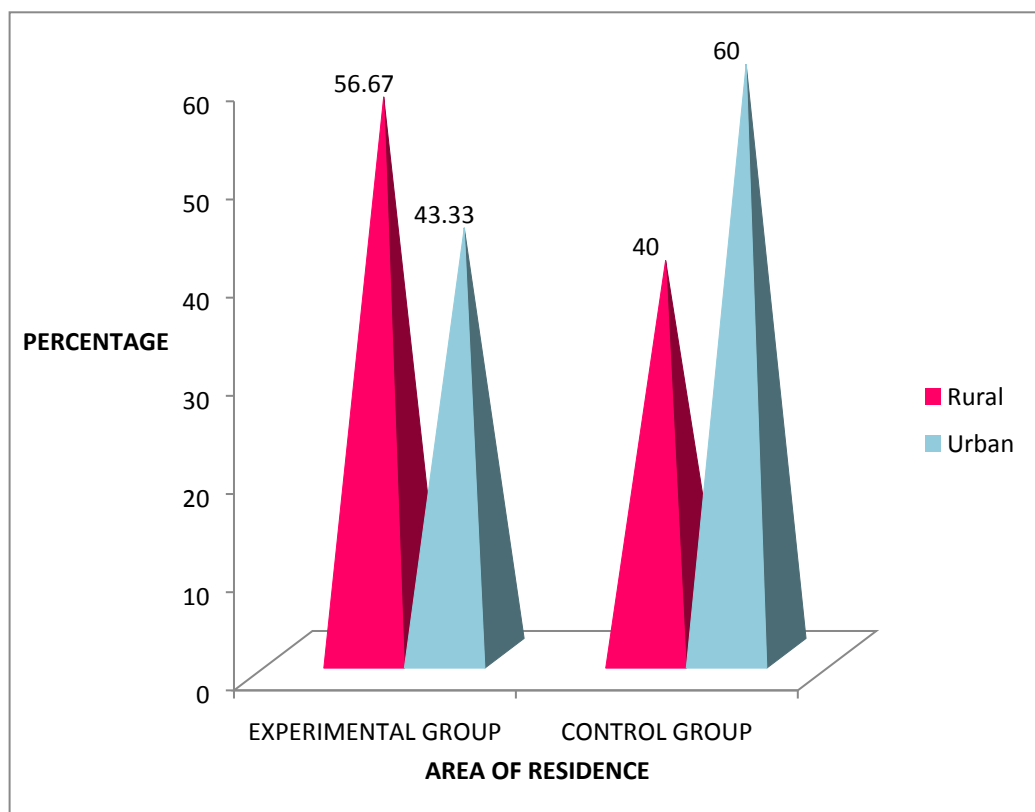


FIG 4.4 : Percentage Distribution of primi postnatal mothers according to Area of reside

TABLE 4.2: Frequency and percentage distribution of Obstetrical variables among primi postnatal mothers with breast engorgement in experimental group and control group
N =30+30

S. No	Obstetric Variables	Experimental Group (n= 30)		Control Group (n=30)	
		f	%	f	%
1	Mode of delivery				
	a) Vaginal delivery	9	30	12	50
	b) Caesarean section	21	63.33	15	50
2	No of post natal day				
	a) 3-5 days	18	60	10	33.34
	b) 6-8 days	9	30	13	43.34
	c) More than 8 days	3	10	7	23.33
3	Type of nipple				
	a) Normal	19	63.33	17	56.67
	b) Flat	2	6.67	1	3.33
	c) Inverted	1	3.33	2	6.67
	d) Cracked	8	26.67	10	33.33
4	Initiation of breast feeding				
	a) <2 hours	18	60	12	40
	b) 2-4 hours	11	36.67	10	33.33
	c) >4 hours	1	3.33	8	26.67
5	Pattern of breast feeding				
	a) Feeding on one side	1	3.33	6	20

	breast b) Feeding on both breast	29	96.67	24	80
6	Mode of breast feeding				
	a) Direct breast feeding	27	90	27	90
	b) Expressed breast feeding	3	10	3	10

Table 4.2: Revealed that the Obstetrical variables regarding mode of delivery ,majority 21 (70%)had caesarean section,9(30%) had vaginal delivery in experimental group.In control group ,majority15(50%) had caesarean section,15 (50%) had normal vaginal delivery.

With regard to number of postnatal day ,majority 18(60%) were in 3 – 5 days ,9(30%) were in 6-8 days and 3(10%) were in more than 8 days in experimental group. In control group ,majority 13(43.34%) were in 6-8 days ,10(33.33%) were in 3-5 days . 7 (23.33%) more than 8 days.

Regarding type of nipple in experimental group, majority 19(63.33%) normal nipple,8(26.67%) cracked nipple ,2 (6.66%) flat nipple, 1(3.33%) inverted nipple. In control group majority 17(56.67%) normal nipple,10(33.33%) cracked nipple. 2 (6.66%) inverted nipple, 1 (3.33%) cracked nipple.

With regard to initiation of breast feeding in experimental group majority 18(60.00%)within 2 hrs ,11(36.67%) were feed in between 2- 4 hours 1(3.33%)more than 4 hours. In control group majority 12(40%) within 2 hrs, 10(33.33%) were feed in between 2-4 hours.

With regard to pattern of breast feeding at each time in experimental group majority 29 (96.67%) mothers feed, in both breast and 1 (3.33%)mothers feed in one side breast. In control group ,majority 24(80%)mothers feed in both breast,6(20%) mothers feed in one side breast.

Regarding mode of breast feeding in experimental group, majority 27(90%) feed the baby by direct, 3 (10%) Expressed breast feeding. In control group ,majority 27(90%) feed the baby by direct feeding ,3(10%) feed the baby by expressed method.

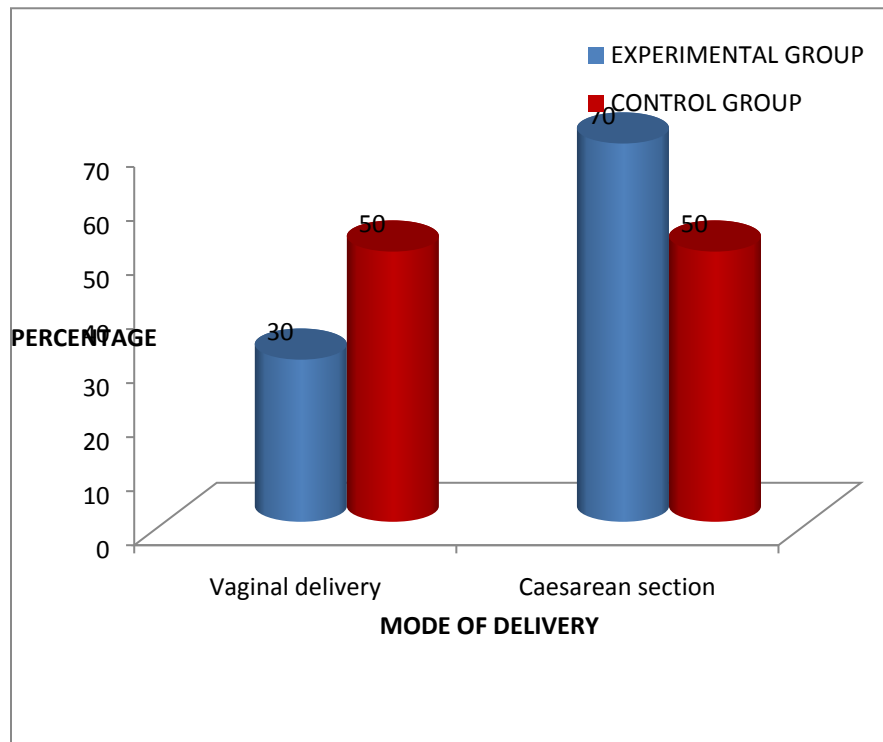


FIG 4.5 : Percentage Distribution of primi postnatal mothers according to mode of delivery

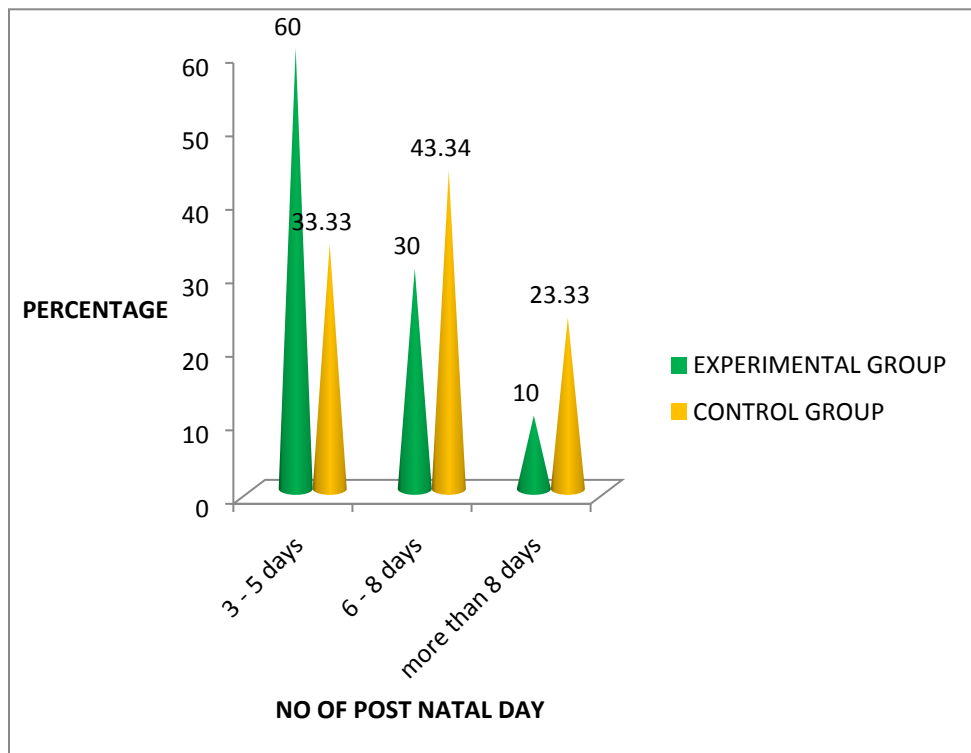


FIG 4.6 : Percentage Distribution of primi postnatal mothers according to no. of postnatal day

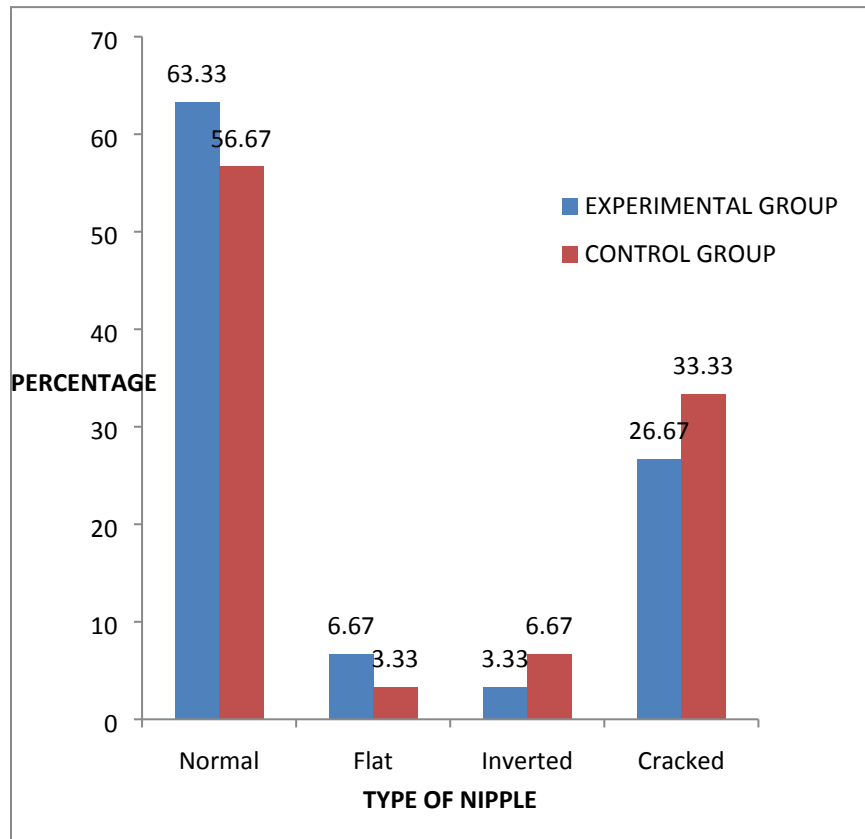


FIG 4.7: Percentage Distribution of primi postnatal mothers according to type of nipple

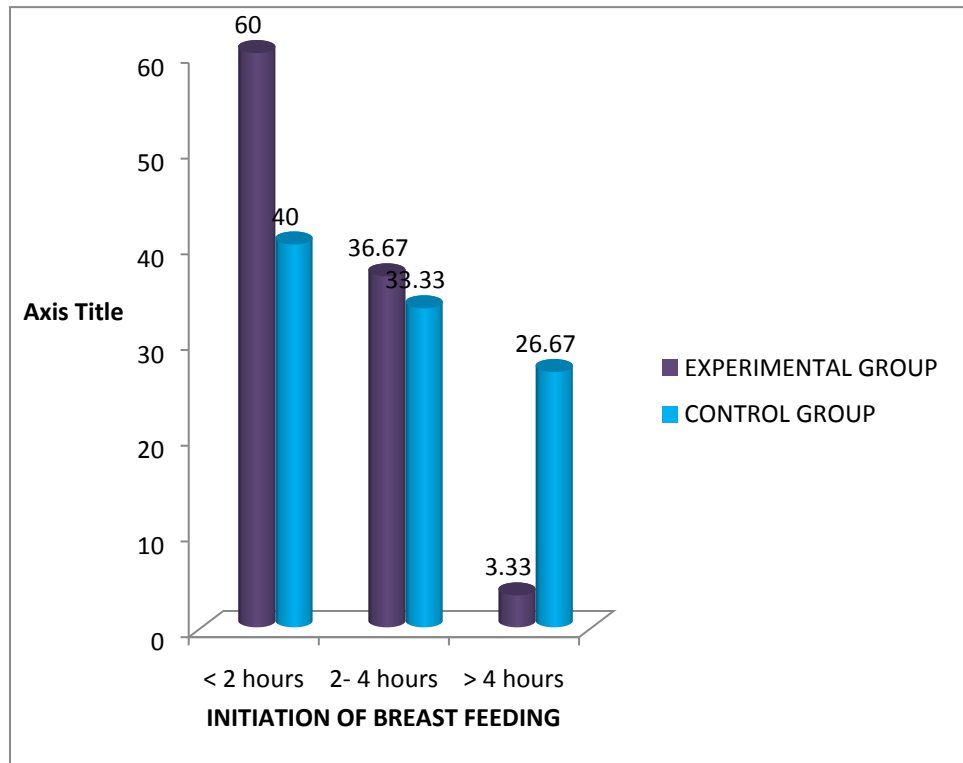


FIG 4.8 : Percentage Distribution of primi postnatal mothers according to initiation of breast feeding

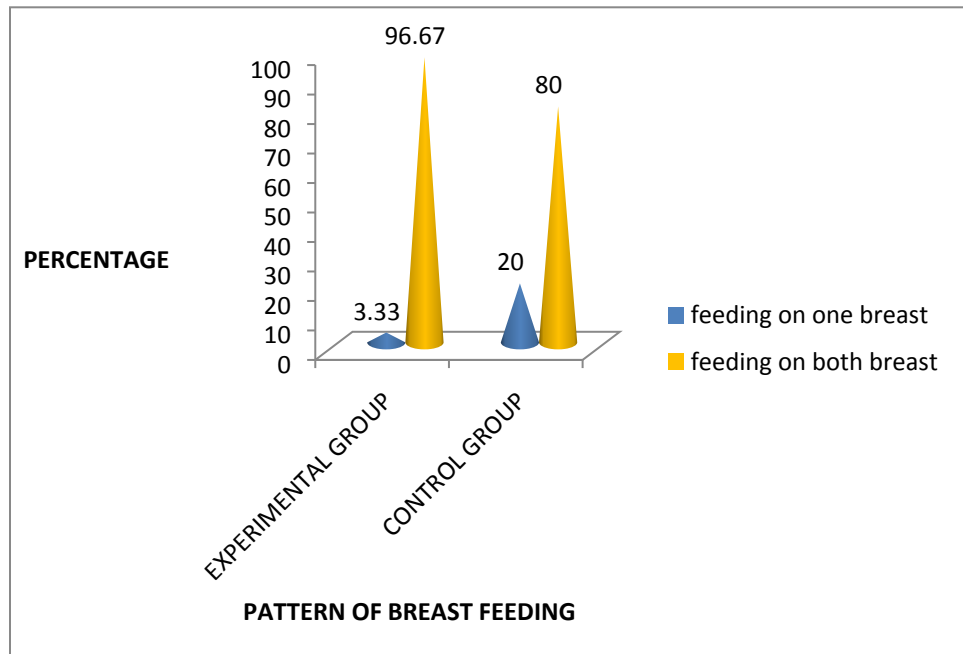


FIG 4.9 : Percentage Distribution of primi postnatal mothers according pattern of breast feeding

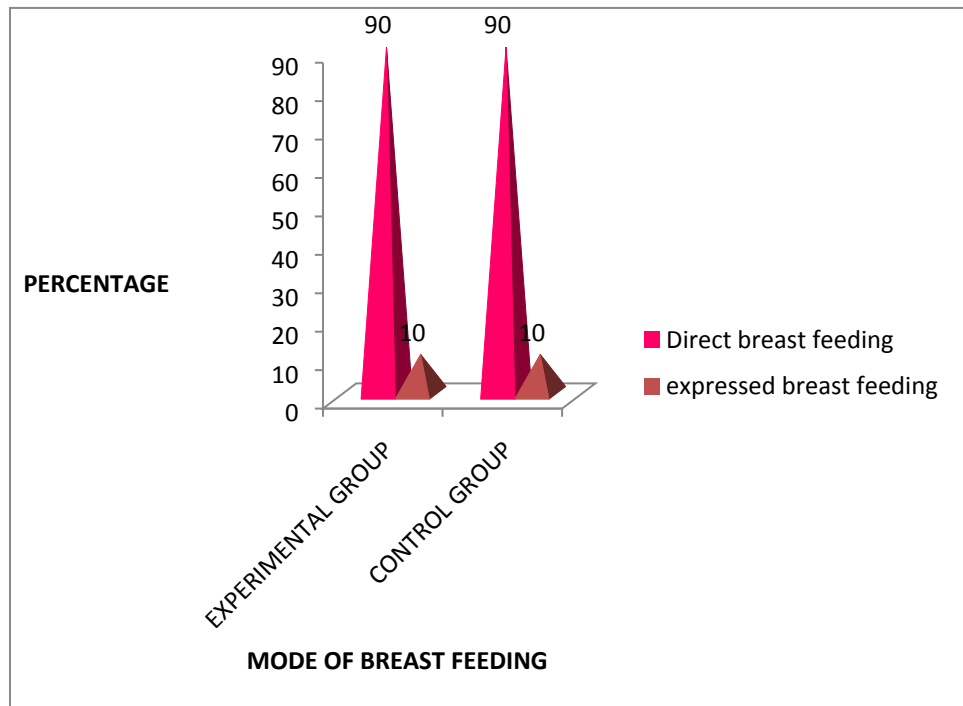


FIG 4.10 : Percentage Distribution of primi postnatal mothers according to mode of breast feeding

SECTION – B

Table:4.3: Assess the pre test and post test level of Breast engorgement among primi postnatal mothers in Experimental group.

N = 30

S.NO	Level of Breast engorgement	Pre test		Post test	
		f	%	f	%
1	Normal	0	0	12	40
2	Mild	4	13.33	16	53.33
3	Moderate	13	43.33	2	6.67
4	Severe	13	43.33	0	0

Table:4.3 shows that, majority 13 (43.33%) had moderate and severe level of breast engorgement and 4 (13.33%) had mild level of breast engorgement in the pretest. In the post test, majority 24 (80%) had mild level of breast engorgement and 6 (20%) had moderate level of breast engorgement and none of them had severe level of breast engorgement.

Table:4.4: Assess the pre test and post test level of Breast engorgement among primi postnatal mothers in control group.

S.NO	Level of Breast engorgement	Pre test		Post test	
		f	%	f	%

1	Normal	0	0	0	0
2	Mild	4	13.33	3	10
3	Moderate	10	33.33	14	46.67
4	Severe	16	53.33	13	43.33

N = 30

Table:4.4 shows that, majority 16(53.33%) had severe level of breast engorgement and 10(33.33%) had moderate level 4 (13.33%) had mild level of breast engorgement in the pretest. In the post test , majority 14(46.67%) had moderate level of breast engorgement and 13 (43.33%) had severe level of breast engorgement and 3(10%) had mild level of breast engorgement .

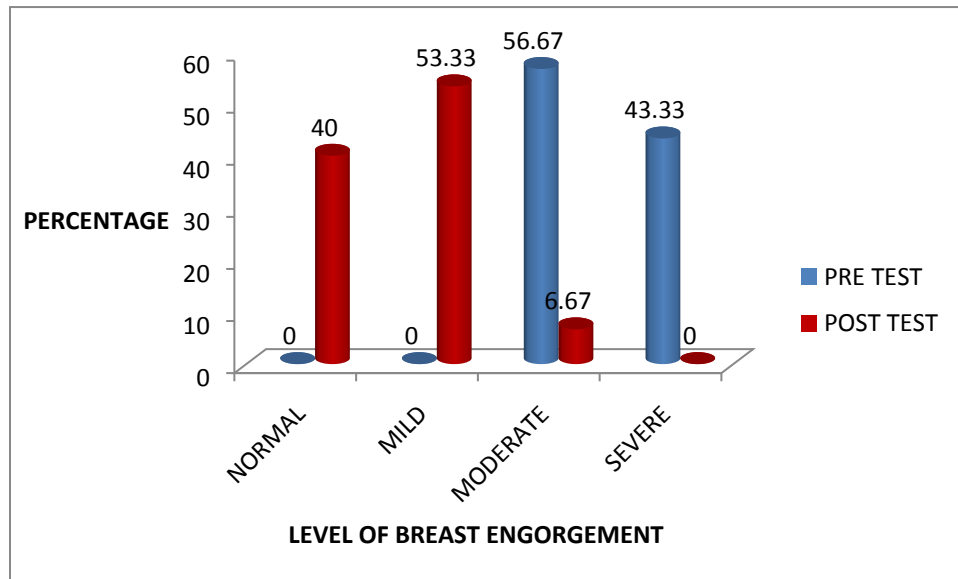


Fig : 4.11, Percentage Distribution of Primi Post natal mothers According to their level of breast engorgement before and after intervention in experimental Group

SECTION- C

TESTING HYPOTHESES

I. COMPARISON OF THE PRETEST AND POST TEST CABBAGE LEAF APPLICATION ON BREAST ENGORGEMENT AMONG PRIMI POSTNATAL MOTHERS IN EXPERIMENTAL GROUP AND CONTROL GROUP

Table 4.5: Mean , Standard deviation and paired ‘t’ value on pre and posttest level breast engorgement among primi postnatal mothers in Experimental group and control group

Sl. No	Variable	Group	Mean	Standard deviation	Mean difference	df	Paired 't' Value
1	LEVEL OF BREAST ENGORGEMENT	Experimental Group(n=30)			2.67	29	16.44 *
		Pre test	4.53	0.94			
		Post test	1.86	0.89			
		Control Group(n=30)			0.30	29	1.81 #
		Pre test	4.46	2.81			
		Post test	4.16	1.12			

Table value $t=2.04$,*Significant at $p<0.05$ level

Table:4.5 shows that, the level of pre test level of breast engorgement mean value were 4.53 with standard deviation 0.94 . In the post test the level of breast engorgement mean value were 1.86 with standard deviation 0.89respectively. The mean difference were 2.67.The paired't' values were 16.44* which is highly statistically significant at $p<0.05$. Hence the Cabbage leaf application was effective for reducing the level of breast engorgement among primi postnatal mothers .So hypothesis (H_1) is accepted. In control group the mean score level of breast engorgement among primi post natal mothers mean value were 4.36 with standard deviation 1.12. In the post test level of breast engorgement mean value were 1.86 with standard deviation 0.89.the paired 't'values were 1.81 which is non-significant at $p< 0.05$ level.

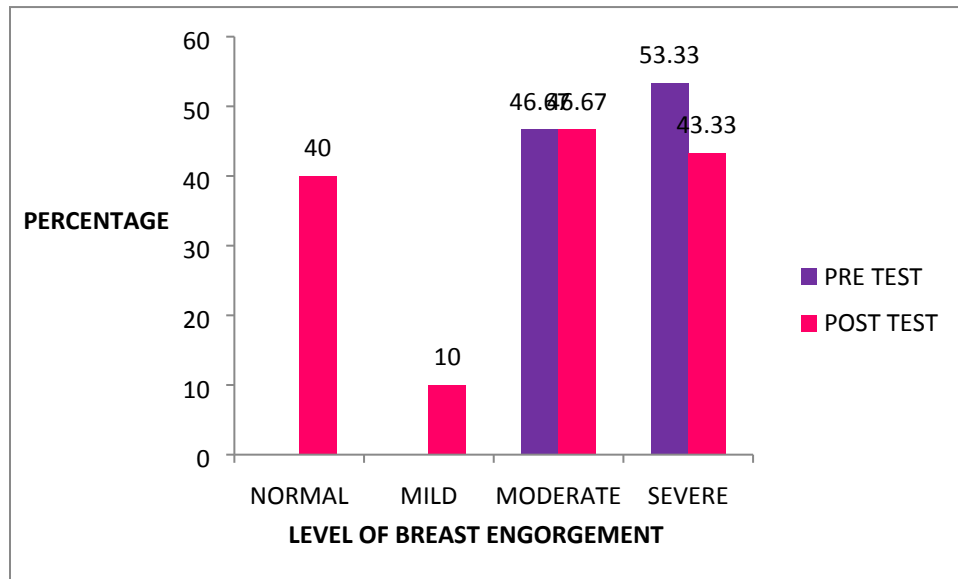


Fig : 4.12 Percentage Distribution of Primi Post natal mothers According to their level of breast engorgement before and after intervention in control Group

II. COMPARISON OF THE POST TEST LEVEL OF BREAST ENGORGEMENT AMONG PRIMI POSTNATAL MOTHERS IN EXPERIMENTAL GROUP AND CONTROL GROUP

Table 4.6: Mean, Standard deviation and unpaired ‘t’ value on level of breast engorgement in Experimental group and control group after intervention

n=60

S.No	Variables	Group	Mean	Standard deviation	df	Unpaired ‘t’ value
1	LEVEL OF BREAST ENGORGEMENT	Experimental group n=30	1.86	0.89	59	9.61 *
		Control group n=30	4.36	1.12		

Table value t= 2, * significant at p < 0.05 level

Table 4.6: represents the mean score level of breast engorgement among primi postnatal mothers in Experimental group 1.86 and in control group 4.36 respectively. The estimated unpaired ‘t’ values were 9.61 which is significant at p<0.05. It shows that Cabbage leaf Application was effective in reducing the level of breast engorgement.

SECTION -D

Table 4.7: Association between pre test level on breast engorgement among primi postnatal mothers with their selected demographic variables.

N= 30

S. No	Demographic Variables	Level of Breast engorgement			X ²	Table Value
		Mild	Moderate	severe		
1	Age					
	a) 20 -25 years	1	1	11	22.95 *	4 df 9.49
	b) 26-30 years	2	12	2		
c) 31-35 years	1	0	0			
2	Education					
	a) Illiterate	0	1	0	5.57 #	6 df 12.59
	b) School education	1	5	6		
	c) Undergraduate	2	4	7		
d) Post graduate	1	3	0			
3	Type of family					
	a) Nuclear	4	13	4	16.81 *	2 df 5.99
b) Joint	0	0	9			
4	Area of residence					
	a) Rural	2	7	8	0.24 #	2 df 5.99
b) Urban	2	6	5			

#NS-Non significant

* S-

Significant

Table:4.7 depicts that, there was Significant association between the level of breast engorgement with age and type of family and there is no significant association between the level of breast engorgement with education and area of residence

Table 4.8: Association between pre test level on breast engorgement among primi postnatal mothers with their selected Obstetrical variables.

N= 30

		Level of Breast engorgement		

S. No	Obstetrical Variables				X ²	Table value
		Mild	Moderate	Severe		
1	Mode of delivery					
	a) Vaginal delivery	0	7	2	6.56 *	2df 5.99
	b) Caesarean	4	6	11		
	c) section					
2	No of post natal day					
	a) 3-5 days	0	9	9	11.28 *	4 df 9.49
	b) 6-8 days	2	4	3		
	c) More than 8 days	2	0	1		
3	Type of nipple					
	a) Normal	3	7	9	6.36 #	6 df 12.59
	b) Flat	1	1	0		
	c) Inverted	0	0	1		
	d) Cracked	0	5	3		
4	Initiation of breast feeding					
	a) <2 hours	3	6	9	2.64 #	4 df 9.49
	b) 2-4 hours	1	6	4		
	c) >4 hours	0	1	0		
5	Pattern of breast feeding					
	a) Feeding on one side breast	0	1	0	1.35 #	2 df 5.99
	b) Feeding on both breast	4	12	13		
6	Mode of breast feeding					
	a) Direct breast feeding	4	13	13	0 #	2 df 5.99
	b) Expressed breast feeding	0	0	0		

#NS-Non significant

*** S- Significant**

Table:4.8: The data findings showed that there was no significant association between level of breast engorgement with type of nipple, initiation of breast feeding , pattern of breast feeding at each time , mode of breast feeding .there is significant association between the level of breast engorgement with mode of delivery , no of post natal day .Hence, the research hypothesis (H₂) is accepted.

Table 4.9:Association between pre test level on breast engorgement among primi postnatal mothers with their selected demographic variables in control group.

N=

S. No	Demographic Variables	Level of Breast engorgement			X ²	Table Value
		Mild	Moderate	severe		
1	Age					
	a) 20 -25 years	1	3	7	1.30 #	4 df 9.49
	b) 26-30 years	3	6	8		
c) 31-35 years	0	1	1			
2	Education					
	a) Illiterate	0	1	2	8.63 #	6 df 12.59
	b) School education	1	3	8		
	c) Undergraduate	2	6	6		
d) Post graduate	1	0	0			
3	Type of family					
	a) Nuclear	3	5	14	4.43 #	2 df 5.99
b) Joint	1	5	2			
4	Area of residence					
	a) Rural	3	5	4	3.96 #	2 df 5.99
b) Urban	1	5	12			

#NS-Non significant

* S-

Significant

Table:4.9 depicts that, there is no Significant association between the level of breast engorgement with age education , type of family and area of residence

Table 4.10:Association between pre test level on breast engorgement among primi postnatal mothers with their selected Obstetric variables.

N= 30

		Level of Breast engorgement		

S. No	Obstetric Variables	Mild	Moderate	severe	X ²	Table value
1	Mode of delivery a) Vaginal delivery b) Caesarean section	2 2	3 7	10 6	2.60 #	2df 5.99
2	No of post natal day a) 3-5 days b) 6-8 days c) More than 8 days	2 1 1	4 3 3	4 9 3	2.47 #	4 df 9.49
3	Type of nipple a) Normal b) Flat c) Inverted d) Cracked	2 0 0 2	6 1 1 2	9 0 1 6	3.43 #	6 df 12.59
4	Initiation of breast feeding a) <2 hours b) 2-4 hours c) >4 hours	2 2 0	4 2 4	6 6 4	2.82 #	4 df 9.49
5	Pattern of breast feeding a) Feeding on one side breast b) Feeding on both breast	1 3	3 7	2 14	1.25 #	2 df 5.99

6	Mode of breast feeding					
	a) Direct breast feeding	3	9	15	1.25	2 df
	b) Expressed breast feeding	1	1	1	#	5.99

#NS-Non significant

*S- Significant

Table:4.10:The data findings showed that there was no significant between level of breast engorgement with mode of delivery, no of post natal day , type of nipple, initiation of breast feeding , pattern of breast feeding at each time , mode of breast feeding .Hence, the research hypothesis (H₂) is accepted.

CHAPTER – V

DISCUSSION

The discussion chapter deals with sample characteristics and objectives of the study. The aim of this present study was to assess the effectiveness of cabbage leaf application compress on Breast engorgement among Primi postnatal mothers at PPK hospital at Kanyakumari district.

OBJECTIVES OF THE STUDY

- To assess the pre test and post test level of breast engorgement among primi postnatal mothers in experimental group and control group,
- To evaluate the effectiveness of Cabbage leaf Applications on breast engorgement among primi postnatal mothers in Experimental group
- To find out the association between the pretest level breast engorgement among primi postnatal mothers with their selected demographic variables and Obstetrical Variables.

DESCRIPTION OF DEMOGRAPHIC VARIABLES

The demographic variables regarding age, majority 16(53.33%) belongs to the age of 26 – 30 years, 13(43.34%) belongs to the age of 20-25 years and least 1 (3.33%) belongs to age of 31 -35 Years in experimental group .In control group, Age majority 17(56.67%) belongs to the age group of 26-30 years ,11(36.67%) belongs to the age group of 20-25 years, 2(6.66%) belongs to the age group of 31- 35.

Regarding education in experimental group, majority 13(43.34%) were undergraduate 12(40%) were school education ,4(13.33) were postgraduate and 1 (3.33) were illiterate. In control group majority 14(46.67%) were undergraduate, 12(40%) were school education, 3(10%) were illiterate, 1(3.33%) were post graduate.

According to type of family ,majority 21(70%) belongs to nuclear family, 9(30%) belongs to joint family in experimental group. In control group, majority 22(73.33%) belongs to nuclear family,8(26.67%) belongs to joint family.

Regarding area of residence in experimental group, majority 17(56.67%) were in rural area and 13(43.33%) were in urban area. In control group, majority 18(60%) were in urban area, 12(40%) were in rural area

DESCRIPTION OF OBSTETRICAL VARIABLES

It revealed that the Obstetrical variables regarding mode of delivery ,majority 21 (70%) had caesarean section and 9(30%) had vaginal delivery and 2 (6.67%) had forceps delivery in experimental group. In control group, majority 15(50%) had caesarean section, 15(50%) had normal vaginal delivery.

With regard to number of postnatal day, majority 18(60%) were in 3 – 5 days, 9(30%) were in 6-8 days and 3(10%) were in more than 8 days in experimental group. In control group, 13(43.34%) were in 6-8 days, 10(33.33%) were in 3-5 days, 7(23.33%) more than 8 days.

Regarding type of nipple in experimental group, majority 19(63.33%) in normal nipple,8(26.67%) cracked nipple,2(6.67%) flat nipple, 1(3.33%) inverted nipple. In control group majority 17(56.67%) mothers in normal nipple,10(33.33%) , cracked nipple 2(6.67%) Inverted nipple , 1 (3.33) flat nipple.

With regard to initiation of breast feeding in experimental group majority 18(60.00%) within 2 hrs , 11(36.67%) were feed in between 2- 4 hours 1(3.33%) more than 4 hours. In control group majority 12(40%) within 2 hrs,10(33.33%) were feed in between 2-4 hours, 8(26.67%) in > 4 hours.

With regard to pattern of breast feeding at each time in experimental group majority 29(96.67%) mothers feed in both breast and 1 (3.33%)mothers feed in one side breast. In control group ,majority 24(80%)mothers feed in both breast,6(20%)mothers feed in one side breast.

Regarding mode of breast feeding in experimental group, majority 27(90%) direct breast feeding, 3(10%) expressed breast feeding. In control group ,majority 27(90%) direct feeding ,3(10%) feeding.

THE FINDINGS OF THE STUDY WERE DISCUSSED ACCORDING TO THE OBJECTIVES AS FOLLOWS

The first objective to assess the pre test and post test level of breast engorgement among primi postnatal mothers in experimental group and control group

In experimental group majority 13(43.35%) had moderate and severe level of breast engorgement and 4(13.33) had mild level of breast engorgement in the pretest. In the post test , majority 16(53.33%) had mild level of breast engorgement and 2(6.67%) had moderate level of breast engorgement and none of them had severe level of breast engorgement .

In control group majority 16(53.33%) had severe level of breast engorgement and 10(33.33%) had moderate level of breast engorgement in the pretest. In the post test , majority 14 (46.67%) had moderate level of breast engorgement and 13 (43.33%) had severe level of breast engorgement and 3(10%) had mild level of breast engorgement .

The study findings were consistent with the findings of **Evans et al., (2008)** conducted “retrospective study to find the reason for breast engorgement” researcher selected 100 samples in Ireland. Samples in the study were selected by the convenience sampling technique. Study concluded that poor attachment leading to milk stasis and engorgement

might be more likely to occur on the side that was more difficult to feed. It shows the frequency of breast engorgement in left or right breast has no significant difference was observed. 37 % - 52 % of case involves engorgement in the right breast and 38 % - 52 % of case involves engorgement in the left breast and 3 % - 12 % of cases involve bilateral engorgement.

The second objective to evaluate the effectiveness of cabbage leaf application on breast engorgement among primi postnatal mothers in experimental group and control group.

In pre test level of breast engorgement mean value were 4.53 with standard deviation 0.94 . In the post test level of breast engorgement mean value were 1.86 with standard deviation 0.89 respectively. The mean difference were 2.67. The paired 't' values were 16.44* which is highly statistically significant at $p < 0.05$. Hence the cabbage leaf application was effective for reducing the level of breast engorgement among primi postnatal mothers .So hypothesis (H1) is accepted. In control group the mean score level of breast engorgement among primipost natal mothers mean value were 4.36 with standard deviation 1.12. In the post test level of breast engorgement mean value were 1.86 with standard deviation 0.89. the paired 't' values were 1.81 which is non-significant at $p < 0.05$ level.

The mean score level of breast engorgement among primi postnatal mothers in experimental group 1.86 and in control group 4.36 respectively. The estimated unpaired 't' values were 9.61 which is significant at $p < 0.05$. It shows that cabbage leaf application was effective in reducing the level of breast engorgement.

The study findings were consistent with the finding of **Tawheda Mohamed et al (2016)** conducted a study to effect of two different nursing care approach on reduction of breast engorgement among postnatal women in Egypt. Quasi experimental research design adopted for this study. A total of 90 postnatal mothers they were randomly assigned in to two group, 45 post natal mother are cabbage application, 45 post natal mother getting cabbage

leaf application. Data were collected by using of maternal structured interviewing questionnaire, six point engorgement scales. The data analysis was using the mean age of the mothers was 26.6 ± 4.3 years old more than twenty percent of each group suffered from firm and tender breast (22.2% and 28.9%). Also there was a statistically significant difference between the pre and post symptom of breast engorgement level of breast engorgement, pain score, engorgement score for both ($p < .05$). Conclude of this study an application of cabbage leaf application are effective, also cabbage application early detection of breast engorgement.

The third objective to find out the association between the pre test level breast engorgement among primi postnatal mothers with their selected demographic variables and Obstetrical Variables in experimental group and control group.

The study findings shows that in experimental group demographic variable there is Significant association between the level of breast engorgement with age and type of family and there is no significant association between the level of breast engorgement with education and area of residence

The study findings shows that in experimental group obstetrical variable that there is no significant between level of breast engorgement with mode of delivery, no of post natal day, type of nipple, initiation of breast feeding, pattern of breast feeding at each time, mode of breast feeding. Hence, the research hypothesis (H_2) is accepted.

The study findings shows that in control group demographic variable there is no Significant association between the level of breast engorgement with age and type of family and area of residence

The study findings shows that in control group obstetrical variable that there is no significant between level of breast engorgement with mode of delivery, no of post natal day, type of nipple, initiation of breast feeding, pattern of breast feeding at each time, mode of breast feeding. Hence, the research hypothesis (H_2) is accepted.

The study findings were consistent with the finding of **Rekhakumari (2017)** conducted a study effectiveness of cabbage leaf application on breast engorgement. The homogeneity was checked in both groups by using chi-square test, fisher exact test and t, test. It was found that except the educational status, the group were homogenous in term of age ($p=0.006$), parity ($p=0.36$), Type of delivery ($p=0.51$), Initiation of breast feeding ($p=0.68$), frequency of feeding ($p=0.92$), duration of breast feeding ($p=0.50$). Postnatal day of engorgement ($p=0.62$). The analysis of effectiveness of cabbage leaf application for reducing breast engorgement . Concluded the study finding Luke warm water bag can be used in reducing pain and breast engorgement.

CHAPTER – VI
SUMMARY, CONCLUSION, IMPLICATION
RECOMMENDATIONS AND LIMITATIONS

The heart of the research project lies in reporting the findings. This is the most creative and demanding part of the study. This chapter gives a brief account of the present study including the conclusion drawn from the recommendations.

The findings of the study has implications in the different branches of nursing profession. By assessing the effectiveness of cabbage leaf application on Breast engorgement among Primi postnatal mothers at PPK hospital . It helps to improve the standards of nursing profession. This is the most creative and demanding part of the study. This chapter gives a brief account of the present study including the conclusion drawn from the findings, nursing implications of the study and recommendations.

This chapter deals with

- Summary of the study
- Conclusion
- Implication of nursing
- Recommendations
- Limitations

SUMMARY OF THE STUDY

The study was done to assess the effectiveness of cabbage leaf application on Breast engorgement among Primi postnatal mothers at PPK hospital

The research design used for this study was quasi experimental research design adopted .The research approach used for the study was quantitative research approach which was conducted in PPK Hospital, Marthandam. Conceptual frame work adopted in the present study **Von Ludwig Bertanlaffys** (1981).The sample size was 60 primi postnatal mothers with breast engorgement.

The investigator gave brief introduction to the primi postnatal mothers who met inclusion criteria and were selected by using purposive sampling within the age of 20- 35 years. Demographic variables were collected and Pre test was done by using 6 point engorgements scale. After pretesting cabbage leaf application was applied to experimental group. The procedure was explained to the patient. Exposed the cabbage leaf application over the breast was given compression. Compress was given 20 minutes over each breast at an interval of 12 hours , 2 times a day. Then both breast were cleaned. Post test was done for experimental group with the help of the same 6 points breast engorgement scale. The collected data were analyzed based on descriptive an inferential statistics. To test the hypothesis paired 't' test and chi-square were used. The level of significance was assessed by $p<0.05$ to test the hypothesis.

OBJECTIVES OF THE STUDY

- To assess the pre test and post test level of breast engorgement among primi postnatal mothers in experimental group and control group.
- To evaluate the effectiveness of cabbage leaf application on breast engorgement among primi postnatal mothers in experimental group

- To find out the association between the pre test level breast engorgement among primi postnatal mothers with their selected demographic variables and Obstetrical Variables in experimental group and control group,

Major findings of the study

The demographic variables regarding age, majority 16(53.33%) belongs to the age of 26 – 30 years, 13(43.33%) belongs to the age of 20-25 years and least 1 (3.33%) belongs to age of 31 -35 Years in experimental group .In control group ,Age majority 17(56.67%)belongs to the age group of 26-30 years ,11(36.67%)belongs to the age group of 20-25 years and 2(6.66%) belong to the age group of 31-35 Years.

Regarding education in experimental group, majority 13(43.33%) were undergraduate 12(40%) were school education ,4(13.33) were postgraduate and 1 (3.33) were illiterate. In control group majority 14(46.67%) were undergraduate ,12(40%) were school education, 3(10%) were illiterate and 1(3.33%) were Post Graduate.

According to type of family ,majority 21(70%) belongs to nuclear family ,13(30%) belongs to joint family in experimental group. In control group ,majority 22(73.33%)belongs to nuclear family,8(26.67%)belongs to joint family.

Regarding area of residence in experimental group, majority 17(56.66%) were in rural area and 13(43.33%) were in urban area. In control group , majority 18(60%) were in urban area ,12(40%)were in rural area

DESCRIPTION OF OBSTETRICAL VARIABLES

It revealed that the Obstetrical variables regarding mode of delivery ,majority 21 (63.33%)had caesarean section,9(30%) had vaginal delivery experimental group. In control group , majority 15(50%) had caesarean section,15(50%) had normal vaginal delivery.

With regard to number of postnatal day ,majority 18(60%) were in 3 – 5 days ,9(30%) were in 6-8 days and 3(10%) were in more than 8 days in experimental group. In control group ,majority 13(43.34%) were in 6-8 days ,10(33.34%) were in 3-5 days , 7(23.33%) were in more than 8 days.

Regarding type of nipple in experimental group, majority 19(63.33%) in normal nipple,8(26.67%) cracked nipple ,2(6.67%) were flat nipple, 10(33.33%) mothers in inverted nipple. In control group majority 17(56.67%) normal nipple, 10(33.33%) mothers in nipple, 2(6.67%) inverted nipple, 1(3.33%) Flat nipple.

With regard to initiations of breast feeding in experimental group majority 18(60.00%)within 2 hrs ,11(36.67%) were feed in between 2- 4 hours 1(3.33%)more than 4 hours. In control group majority12(40%) within 2 hrs,10(33.33%) were feed in between 2-4 hours, 8(26.67%) more than 4 hours.

With regard to pattern of breast feeding at each time in experimental group majority 29(96.67%) mothers feed in both breast and 1 (3.33%)mothers feed in one side breast.In control group ,majority 24(80%)mothers feed in both breast,6(20%)mothers feed in one side breast.

Regarding mode of breast feeding in experimental group, majority 27(90%) feed the baby by direct breast feeding. In control group ,majority 27(90%) feed the baby by direct feeding ,3(10%) feed the baby by expressed method.

- In experimental group majority 13 (43.33%) had moderate and severe level of breast engorgement and 4(13.33%) had mild level of breast engorgement in the pretest. In the post test , majority 16 (53.33%) had mild level of breast engorgement and 2 (6.67%) had moderate level of breast engorgement and none of them had severe level of breast engorgement.

- In control group majority 16(53.33%) had severe level of breast engorgement and 10(33.33%) had moderate level and 4(13.33%) Mild level of breast engorgement in the pretest. In the post test , majority 14 (46.67%) had moderate level of breast engorgement and 13 (43.33%) had severe level of breast engorgement and 3(10%) had mild level of breast engorgement .
- In pre test level of breast engorgement mean value were 4.53 with standard deviation 0.94 . In the post test level of breast engorgement mean value were 1.86 with standard deviation 0.89 respectively. The mean difference were 2.67.The paired‘t’ values were 16.44* which is highly statistically significant at $p < 0.05$. Hence the cabbage leaf application was effective for reducing the level of breast engorgement among primi postnatal mothers .So hypothesis (H1) is accepted. In control group the mean score level of breast engorgement among primi post natal mothers mean value were 4.36 with standard deviation 1.12. In the post test level of breast engorgement mean value were 1.86 with standard deviation 0.89.the paired ‘t’values were 1.81 which is non-significant at $p < 0.05$ level.
- The mean score level of breast engorgement among primi postnatal mothers in experimental group 1.86 and in control group 4.36 respectively. The estimated unpaired ‘t’ values were 9.61 which is significant at $p < 0.05$.It shows that cabbage leaf application was effective in reducing the level of breast engorgement.
- The study findings shows that in experimental group demographic variable there is Significant association between the level of breast engorgement with age and type of family and there is no significant association between the level of breast engorgement with education and area of residence
- The study findings shows that in experimental group obstetrical variable that there is no significant between level of breast engorgement with mode of delivery, no of post

natal day , type of nipple, initiation of breast feeding , pattern of breast feeding at each time , mode of breast feeding .Hence, the research hypothesis (H2) is accepted.

- The study findings shows that in control group demographic variable there is no Significant association between the level of breast engorgement with age and type of family and area of residence
- The study findings shows that in control group obstetrical variable that there is no significant between level of breast engorgement with mode of delivery, no of post natal day , type of nipple, initiation of breast feeding , pattern of breast feeding at each time , mode of breast feeding .Hence, the research hypothesis (H2) is accepted.

CONCLUSION

The present study assessed the effectiveness of cabbage leaf application on Breast engorgement among Primi postnatal mothers at PPK hospital .Based on statistical findings, In pre test level of breast engorgement mean value were 4.53 with standard deviation 0.94. In the post test level of breast engorgement mean value were 1.86 with standard deviation 0.89 respectively. The mean difference were 2.67 .The paired 't' values were 16.44* which is highly statistically significant at $p < 0.05$. Hence the cabbage leaf application was effective for reducing the level of breast engorgement among primi postnatal mothers .So hypothesis (**H₁**) is accepted ,from the results it is evident that cabbage leaf application given among primi postnatal mothers with breast engorgement significantly reduced the level of symptom of breast engorgement.

IMPLICATIONS FOR NURSING

The implication of the parents study has been discussed under the heading as

- ❖ Nursing Practice
- ❖ Nursing Education

❖ Nursing Administration

❖ Nursing Research

NURSING PRACTICE

- Cabbage leaf application is a safe and better modality which brings a higher level of satisfaction among primi postnatal mother
- This intervention could bring benefits to the primipostnatal mothers who are having breast engorgement.
- Nurses as a change agent can introduce various methods to reduce breast engorgement among primi postnatal mothers.

NURSING EDUCATION

- The research results can be kept in library for reference of health care professionals.
- The nurse educator can take independent decision based on principles of health care among primi postnatal mothers .
- Nurse educator can train and encourage the student nurse to implement cabbage leaf application over breast as a non-pharmacological management.

NURSING ADMINISTRATION

- Nurse administrators can conduct workshop and seminars on cabbage leaf application for breast engorgement to all level of nursing personnel .
- The nurse administration to conduct in service education programs on various typed of non-pharmacological treatment to decrease the breast engorgement. .
- Cabbage leaf application over breast is a very good cost-effective nursing intervention to reducing breast engorgement.

NURSING RESEARCH

- Nurse researcher can do various studies related to effectiveness of cabbage leaf application for reducing breast engorgement among primi post natal mothers.
- A experimental study can be done to determine the effectiveness of cabbage leaf application with other intervention.
- Similar study can be conducted on a large sample

RECOMMENDATIONS

- ❖ Similar study can be done in different settings (Hospital and Community)
- ❖ Similar study can be replicated on larger samples there by findings can be generalized.
- ❖ The study can be conducted to compare the reduce of breast engorgement among primi and multi post natal mothers.

LIMITATIONS

- ❖ The sample size of primi postnatal mother was 60 and hence generalization is not possible.
- ❖ The data collection period was only one month.

BIBLIOGRAPHY

BOOKS

- Annamma Jacob (2005) A Comprehensive text book of midwifery New Delhi : Jay pee Brother, Page Number 230 – 235
- Basavathappa , B.T. (2002). Nursing Research. New Delhi: Jaypee Brothers, page Number :72-78.
- Basavathappa , B.T. (2006). Text Book of Midwifery and Reproductive health Nursing, New Delhi Jaypee Brothers, page number 734-738.
- Charles R. B. Bechman (2006). Obstetrics and Gynecology' (5th edition). Philodelphia, Lippincott Willianes and Willens publication. Page No.442-447.
- D.C. Dutta's (2013) . 'Text book of gynaecology' (6th edition). New Delhi; Jaypee Brother medical publication. Page No.339-350.
- Donna L.W., & Shannon E.P.(2011). Maternal Child Nursing Care. U.S.A; Mosby, pageNumber : 665-675.
- George, B.Julia.(1995). Nursing theories, 4th edition. Appleton and Lange; New Delhi.
- Helen Varney.(2009). Nurse Midwifery. USA Balckwell, Page number 535 - 540
- Howkins and Bourne (2008). 'Text book of Gynaecology' (14th edition). Logik Park; Elsevier publication. Page No; 365-372.

- Marie Elizabeth (2010). ‘ Midwifery for Nurses’ (1st edition). New Delhi; CBS publishers, Page No.451-452.
- Polit, F.P.(1999). Nursing Research Principles and methods. 7th edition. Philadelphia; Lippincott Williams.
- Rao, N.S.N. Murthy, N.S. (2010). Applied statistics in health science. (2nd edition). Jaypee brother; New Delhi.

- Ross and Wilson (2010). 'Anatomy and Physiology in Health and Illness' (11th edition). Toronto; Elsevier publication Page No;438-443.
- Sadhana Gupta.(2011). 'A comprehensive Textbook of Obstetrics and Gynecology'.(1st edition). New delhi. Jaypee Brothers Medical publishers. Page No.258-263.
- Sharma K. Suresh. (2002). Nursing Research and Statistics. 2nd edition. New delhi; Sounders Elsevier's Publications.

JOURNALS:

- Angel Akansha Thomas, Maju Chuugani (2017), A Quasi-experimental study to Assess the Effectiveness of Chilled Cabbage leaves on Breast Engorgement among Postnatal Mothers ,ADR Journal, (vol.4), Page No. 8-13.
- Apurva A, Mahadalkar(2015), Comparative study Effectiveness of Ultrasound and Transcutaneous Electrical Nerve Stimulation in Postnatal Painful Breast Engorgement.Inter Copernicus value, (Vol. 6), Page No. 58-62.
- Joy, J Kharde SN, (2016) A study to evaluate the effect iveness of chilled cabbage leaves application for relief of breast engorgement in volunteered post natal mothers. International of Journal of Biological and medical Research. Page No.510-514
- Moumita Manna, Lily Podder (2016), Effectiveness of Hot Fomentation Versus Cold Compression on Breast Engorgement, International Journal of Nursing Research and Practice, (Vol.3), Page No. 13-20.
- Mrs. Chaithanya Prashanth (2014), Effectiveness of cabbage Leaves application on breast engorgement. Indian Journal of applied research,(vol. 4) page no. 472-476
- R. Nalini, G. Bhuavaneshwari(2015), Effectiveness of Cold and Cabbage leaves Vs Hot water application on Breast Engorgement, International Journal of Science and Research, (Vol.4), Page No. 838-840.

- Rekha kumari (2017), Effectiveness of Green Cabbage Leaves and Hot water Bag Application of Breast Engorgement, Journal of science ,(Vol.5), Page No. 234-236.
- Resmy V, S.J Nalini (2014), Effect of Lukewarm water compress on prevention of nipple pain and breast engorgement, Journal of Science,(Vol.4), Page No.620-624.
- Smriti Arora, Manju vasta(2016), A comparison of cabbage Leaves vs. Hot and Cold Compresses the Treatment of Brest Engorgement. Article the Indian Journal of Community Medicine (Vol. 33) Page No.160-163.
- Tawheda Mohamed Khalefa El-Saidy(2016), Effect of two different nursing care approaches on reduction of breast engorgement among postnatal women, Journal of Nursing Education and practice, (vol.6), Page No. 18-28.

Electronic Version:

- <http://dx.doi.org>
- <http://orchid.org>
- <http://www.uphtr.com/IJNRP/home>
- <https://scholar.google.co.in/scholar>
- [www. Journalofscience.net](http://www.Journalofscience.net)
- www.biomediscidirector.com
- www.google.com
- www.ijsr.net
- www.ijsr.net
- www.modp.com/journal/ijerp

APPENDICES : I

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY



Tel. (O) : 273297
270753

GLOBAL COLLEGE OF NURSING

Recognised by the TNC & INC
Affiliated to Tamil Nadu Dr. M.G.R. Medical University
Edaivilagam, Nattalam, Kanyakumari District.

Off: S.G. Multi Speciality Hospital, Old Theatre Jn, Pammam, Marthandam - 629 165,
K.K. Dist., Tamil Nadu. Mob : 9443606955, 9944110448.

ETHICAL CLEARANCE CERTIFICATE

Dear Ms. R. Ezhil Kumari (Obstetrics and Gynecological Nursing) (2017-2019)

Sub: Your letter dated 12/04/2018 for the approval of above reference study and its related documents.

Ref: "A study to assess the effectiveness of cabbage leaf application on Breast engorgement among primi postnatal mother of selected hospital at Kanyakumari District."


Ethics committee of Global College of Nursing, Edaivilagam, Nattalam, Marthandam, Reviewed and discussed the study proposal the documents submitted by you related to the content of the above referenced study and its meeting held on 26/04/2018.

The following Ethical committee members were present at the meeting held on 26/04/2018.

S.No.	Name	Profession	Position in the committee
1.	Prof. Josephine Ginigo	Nursing	Chair Person
2.	Dr. Sam.G.Jeba Joselin	Medical	Basic Medical Scientist
3.	Mrs. Kavitha S.K	Nursing	Clinician
4.	Adv. Sreenivasan	Legal	Legal Exports
5.	Prof. A. J. Benzam	Social	Social Scientist
6.	Dr. Ahilan	Management	Philosopher
7.	Mr. Sujin	Lay person	Community Person

After due Ethical and scientific consideration, the ethics committee has approved the above presentation submitted by you.

With Regards


Prof. Josephine Ginigo.,
Ethical Committee Chair Person
Global College of Nursing,
Edaivilagam, Nattalam


Date: 26/04/2018
Place: Nattalam



APPENDICES : II

LETTER GRANTING PERMISSION TO CONDUCT THE STUDY

Tel. (O) : 273297
270753

**GLOBAL COLLEGE OF NURSING**
Recognised by the TNC & INC
Affiliated to Tamil Nadu Dr. M.G.R. Medical University
Edaivilagam, Nattalam, Kanyakumari District.
Off: S.G. Multi Speciality Hospital, Old Theatre Jn, Pammam, Marthandam - 629 165,
K.K. Dist., Tamil Nadu. Mob : 9443606955, 9944110448.

To

The Medical Officer,
P.P.K Hospital,
Marthandam,
Kanyakumari District.

Respected Sir,

Sub: Permission seeking letter for conducting Research-Reg.

This is to request you to kindly permit our student Mrs.Ezhil Kumari(Obestrics and Gynaecology Nursing) 2nd year M.Sc. (N), Global College of Nursing to conduct her study in your esteemed hospital..


1. She will abide the rules and regulation of the Institution.
2. She will not interrupt the normal routine of the hospital functions.


STATEMENT OF THE STUDY


“A study to assess the effectiveness of Cabbage leaf Application on Breast Engorgement among primi postnatal mothers at selected hospital at Kanyakumari District.”


So kindly consider this letter and do the needful.

Thanking You,


Principal
GLOBAL COLLEGE OF NURSING
Edaivilagam, Nattalam,
Kanyakumari District - 629 195




Dr. V. DIVYA, M.B.B.S., M.D.(OB&G)
Reg. No: 76916
Consultant Gynaecologist
P.P.K. HOSPITAL, MARTHANDAM



APPENDICES : III

LETTER FOR PROJECT COMPLETION



PPK HOSPITAL

Main Road, Marthandam - 629 165

Ph:04651-270135, 273245, 273255

E-mail : ppkvijayakumar@gmail.com

Website : www.ppkhospital.com



26/08/2019

Ref.No.PPK/L95/2019

Project Completion Certificate

This is to Certify that **Mrs. Ezhil Kumari**, II year M.Sc., Nursing student of Global college of Nursing, Edaivilagam, Nattalam, Kanyakumari District. She has successfully completed the data collection in our hospital for the project work on "**A study to assess the effectiveness of cabbage leaf application on Breast Engorgement among primi postnatal mothers at selected hospitals at Kanyakumari District**" during the period from 01/03/2019 – 30/03/2019.




A. Mathivanan
Administrative Officer
A. MATHIVANAN MBA
ADMINISTRATIVE OFFICER
PPK HOSPITAL
MARTHANDAM - 629 165

APPENDICES :IV

PLAGARISM CHECKING CERTIFICATE

CERTIFICATE OF PLAGIARISM CHECK

This is to certify that dissertation work titled "A study to assess the effectiveness of cabbage leaf application on Breast engorgement among primi postnatal mother of selected hospital at Kanyakumari District." of the candidate . Ezhil Kumari .R.with registration Number(301722303) for the award of M.Sc (N) in the branch of Medical Surgical Nursing. I personally verified the urkund.com website for the purpose of plagiarism check. I found that the uploaded thesis file contains from introduction to conclusion pages and result shows 11% of plagiarism in the dissertation.


Principal Sign with Seal
GLOBAL COLLEGE OF NURSING
Edavilagam, Nattaiam,
Kanyakumari District - 629 195




Guide Sign with Seal

APPENDICES : V

TOOLS FOR THE DATA COLLECTION

SECTION – A :DEMOGRAPHIC VARIABLES

- 1) Age
 - a) 20 -25 years
 - b) 26-30 years
 - c) 31-35 years
- 2) Education
 - a) Illiterate
 - b) School education
 - c) Undergraduate
 - d) Post graduate
- 3) Type of family
 - a) Nuclear
 - b) Joint
- 4) Area of residence
 - a) Rural
 - b) Urban

SECTION – B: OBSTETRIC VARIABLES

- 5) Mode of delivery
 - c) Vaginal delivery
 - d) Vaccum delivery
 - e) Forceps delivery
 - f) Caesarean section
- 6) No of post natal day
 - d) 3-5 days
 - e) 6-8 days
 - f) More than 8 days

- 7) Type of nipple
 - e) Normal
 - f) Flat
 - g) Inverted
 - h) Cracked
- 8) Initiation of breast feeding
 - d) <2 hours
 - e) 2-4 hours
 - f) >4 hours
- 9) Pattern of breast feeding
 - c) Feeding on one side breast
 - d) Feeding on both breast
- 10) Mode of breast feeding
 - c) Direct breast feeding
 - d) Expressed breast feeding

APPENDICES - VI

DATA COLLECTION PROCEDURE

Meaning

The cabbage leaf contains sulfa compound which pass through the skin and constrict the vessels and reduces inflammation. This reduction in inflammation and swelling allows the milk to flow.

Purpose

- Reduces swelling in breast engorgement
- Improves the blood flow
- Allows the body to reabsorb the fluid trapped in breast

Articles

A tray containing

- Cabbage leaves
- Cotton pad
- towel

Preliminary

- arrange all the articles near to the bed side
- provide comfortable position to the mother
- provide privacy
- explain the procedure to the mother
- do hand washing
- Cabbage leaves should be washed and gently peel individual leaves away from the centre of the head pulling outward.

Procedure

- expose only the needed part
- wipe the mother's breast with a clean wet towel
- Place the cabbage leaf on the engorged breast leaving the nipple exposed.
- Wrap bandage on the top of the leaves to keep them in place and to soak up leaking. Change leaves as soon as they start to wet which should be 20-30 minutes. It should be continued for 2days, 4 times a day or until engorgement get better.

After care

- replace all the articles
- provide comfortable position to the mother
- wipe the breast with towel

APPENDICES :VII

INTERVENTION

After the Pre test 60 primi mother's divided into two group. Each group consist of 30 mothers. Administer Cabbage leaf application for 3 days one group Administer the cabbage leaf application 20-30 mts per day. The post test was conducted with same six engorgement scale on third day.

APPENDICES VIII

PHOTOGRAPH OF CABBAGE LEAF APPLICATION



