

DISSERTATION ON

**A STUDY TO ASSESS THE EFFECTIVENESS OF FENUGREEK
CONSUMPTION ON LACTATION AMONG POSTNATAL MOTHERS
ADMITTED AT THE INSTITUTE OF OBSTETRICS AND GYNAECOLOGY
AND HOSPITAL FOR WOMEN AND CHILDREN, CHENNAI.**

**M Sc (NURSING) DEGREE EXAMINATION
BRANCH –III OBSTETRICS AND GYNECOLOGICAL NURSING**

COLLEGE OF NURSING

MADRAS MEDICAL COLLEGE, CHENNAI



A dissertation submitted to

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY

CHENNAI – 600 032.

In partial fulfillment of requirements for the degree of

MASTER OF SCIENCE IN NURSING

APRIL 2016

CERTIFICATE

This is to certify that this dissertation titled **“A study to assess the effectiveness of fenugreek consumption on lactation among postnatal mothers admitted at the institute of obstetrics and gynaecology and hospital for women and children, Chennai.”** is a bonafide work done by Ms.A.Bhuvaneshwari, II year MSc (N) student, College of Nursing, Madras Medical College, Chennai – 600003 submitted to THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI in Partial fulfillment of the requirements for the award of Degree of Master of Science in Nursing, Branch III, Obstetrics and Gynecological Nursing, under our guidance and supervision during the academic period from 2014 – 2016.

Dr. V. Kumari, M.Sc (N) Ph D (N),
Principal,
College of Nursing,
Madras Medical College,
Chennai-03.

Dr.R.Vimala, MD.,
Dean,
Madras Medical College,
Rajiv Gandhi Govt.General
Hospital, Chennai-03.

“A study to assess the effectiveness of fenugreek consumption on lactation among postnatal mothers admitted at the institute of obstetrics and gynecology and hospital for women and children, chennai.”

Approved by the Dissertation committee on

21.10.14

RESEARCH GUIDE

Prof.Dr.V.Kumari ,M.Sc(N), PhD,
Principal, College of Nursing,
Madras Medical College, Chennai-10

CLINICAL SPECIALITY EXPERT

Dr. V. Kumari M.Sc(N),,
Principal,
College of Nursing,
Madras Medical College, Chennai-03

MEDICAL EXPERT

Dr.M.Geetha, M.D, D.G.O.,
Assistant Professor,
Government Institute of Obstetrics & Gynaecology&
Hospital for Women and Children,
Chennai-08.

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

In partial fulfilment of requirements for the degree of
MASTER OF SCIENCE IN NURSING

APRIL 2016

ACKNOWLEDGEMENT

Throughout my personal and professional experiences, I have focused the concept of, Importance of breast milk and breastfeeding to newborn baby. Every woman plays a vital role in their children's life and she only introduces and feed the baby with nutrient food as breastfeeding. New mothers are getting ready to receive the knowledge to influences of breast feeding in child's health.

After I enter into the nursing profession, I am impressed with this profession and I gained more knowledge regarding efficient nursing care. In 2014, I decided to contribute to the body of knowledge of my profession, to the development of research in nursing in health and well-being of the women and their baby because nowadays most of the children are suffered with many medical illness due to discontinuation of breast feeding by the perception on insufficient breast milk secretion and lack of awareness in importance of exclusive breast feeding to the mother.

First of all, I wish to acknowledge my sincere and heartfelt gratitude to the **ALMIGHTY GOD** for life, health, energy and for being with me and guiding me to reach my professional goals.

I would like to express my deep and sincere gratitude to our respected **Dr. R. Vimala, MD. Dean**, Madras Medical College, Chennai-600 003 for granting me permission to conduct the study in this esteemed institution.

Words are beyond expression for the valuable guidance of **Dr. V. Kumari, M.Sc.(N), Ph.D., Principal**, College of Nursing, Madras Medical College, Chennai-600 003, who made this research a real experience and role modeling in the field of nursing research.

I am deeply indebted to **Dr. V. Kumari M.Sc (N), Lecturer in Obstetrics and Gynecological Nursing**, College of Nursing, Madras Medical College, Chennai-03, for

her valuable guidance and inexhaustible mentorship, encouragement and perusal during this study.

My heartfelt gratitude to **Mrs.J.S. Elizabeth Kalavathy, M.Sc (N), Class Co-ordinator**, College of Nursing Madras Medical College, Chennai-600 003 for her guidance , support and encouragement for completing the study.

I extend my thanks to **Ms.R. Lakshmi, M.sc., (N), Ph.D., (N) Additional Director of Medical Education (Nursing), Directorate of Medical Education, chennai-600 010**, who helped me to select the topic and guide me to do the intervention successfully.

Iam deeply indebted to **Mrs.V.Jayanthi, M.Sc (N), Lecturer in Obstetrics and Gynecological Nursing**, College of Nursing, Madras Medical College, Chennai-03, for her valuable guidance and inexhaustible mentorship, encouragement and perusal during this study.

My sincere thanks to **Prof. Dr.S.Baby Vasumathi, M.D., D.G.O., Director** of Institute of Obstetrics & Gynaecology and Govt. Hospital for Women & Children, Egmore, Chennai-600 008 for granting the permission to conduct the study.

Extent my earnest gratitude to **Dr.M.Geetha M.D., D.G.O., Assistant Professor**, Institute of Obstetrics & Gynaecology and Govt. Hospital for Women & Children, Egmore, Chennai-600 008 for her guidance and help extended during the course of the study.

Extent my special thanks to all the **Faculty Members** of College of Nursing, Madras Medical College, Chennai. -3 for the support and assistance given by them in all possible manners to complete this study.

I gratefully acknowledge the Expert, **Mrs. Kanagavalli.P, M.Sc (N), Reader in Obstetrics & Gynecological Nursing**, Madha College of Nursing, Chennai-89 for her valuable suggestions, constructive judgments while validating the tool.

I express my heartfelt gratitude to the **Nursing Superintendent Grade-I, Staff Nurses of Oncology Ward**, Institute of Obstetrics & Gynaecology and Govt. Hospital for Women & Children, Chennai-600 008, for their assistance and help during my data collection.

I am extremely thankful to **Mrs. S. Valarmathi Msc. M. Phil.**, Research Officer, The Tamilnadu Dr.MGR Medical University, Chennai-32, for helping me in the analysis part of the study.

I extend my thanks to **Mr. Ravi, M.A, M.L.I.Sc., Librarian**, College of Nursing, Madras Medical College, Chennai-3 for his co-operation and assistance which built the sound knowledge for this study and also to the Librarians of The Tamilnadu, Dr.MGR Medical University, Chennai for their co-operation in collecting the related literature for this study .

I owe my great sense of gratitude to **Mr.Jas Ahamed Aslam, Shajee Computers** and **Mr. Ramesh, B.A, MSM Xerox** for their enthusiastic help and sincere effort in typing the manuscript with much value computer skills and also bringing this study in to a printed form.

My special and deep thanks to **my Mother & Father, Sisters and Brother** for their loving support and timely help to complete the study successfully and my whole hearted thanks to my colleague and well wisher for her timely help, support, and help in aligning the content.

My earnest gratitude to **all the postnatal mothers in the postnatal ward**, who had enthusiastically participated in this study without them it was not possible for me to complete this study.

I am greatly indebted to **all my classmates** and friends who helped me during the course of my study

My whole hearted thanks and gratitude to all dear and near ones for all their love, prayers, care, support and encouragement which gave confidence to achieve the goal.

Abstract

Title: “A study to assess the “Effectiveness of fenugreek consumption on lactation among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Hospital for women and children, Chennai”.

Breast feeding is an essential for survival, physical growth, mental development, performance, productivity, health and well-being across the entire life-span to human beings.

Need for study:

Breastfeeding is both a national and state public health priority. , breastfeeding is also economical due to the reduced healthcare costs (due to less illness) and saved time and wages lost while attending an ill child.

Objectives:

- To assess the level of maternal perception on breast milk secretion among postnatal mothers in the control and experimental group.
- To assess the level of maternal perception on breast milk secretion among postnatal mothers in experimental group after fenugreek consumption.
- To assess the effectiveness of fenugreek on maternal perception on breast milk secretion among postnatal mothers by comparing the control and experimental group.
- To find out the association between the levels of maternal perception on breast milk secretion among postnatal mothers with selected variable in the control and experimental group.

Key words:

Postnatal mother, fenugreek, effectiveness, maternal perception on lactation

Research methodology:

- *Research approach* – Quantitative approach
- *Duration of the study* – Four weeks (16.7.16 to 15.8.16)
- *Study setting*– Postnatal ward at IOG
- *Study design* – True experimental study design by lottery method
- *Study population* – Postnatal mothers with the perception of insufficient breast milk secretion.
- *Sample size* – Control 30 samples and Experimental 30 samples.
- *Sampling technique* – Simple randomized sampling technique by lot method.
- *Research variable* – Independent variable is fenugreek powder administration and dependent variable is postnatal mother with perception of insufficient breast milk Secretion.
- *Data collection procedure* – After obtaining informed and written consent approximately two to three samples were selected every day and fenugreek was given in a powder form of 2.5g mixed with the 100^{ml} of water twice a day (morning 9am and evening 4pm) for consecutive five days.

Data analysis:

The data were analyzed by using *descriptive statistics like mean, standard deviation frequency distribution, and percentage. Inferential statistics like paired t-test, unpaired t-test and chi-square test.*

Study results:

The findings of the study revealed that in experimental group had improved the perception of breast milk secretion with paired t – test P value is 0.001. There is a statistical significance in promotion of perception on breast milk secretion which shows the effectiveness of fenugreek administration.

Discussion:

There is a significant difference in level of maternal perception on breast milk secretion among postnatal mothers in experimental group. So H_1 hypothesis has accepted.

Recommendation:

An experimental study to assess the effectiveness of fenugreek in reducing the blood sugar level to postnatal mother who is on diabetes mellitus and taking with regular treatment.

Conclusion:

These data suggest that prescription of fenugreek seed powder during postnatal period can increase the perception on breast milk secretion among postnatal mothers.

TABLE OF CONTENT

Chapter	Content	Page No
I	INTRODUCTION	1
1.1	Need for the study	3
1.2	Statement of the problem	5
1.3	Objectives of the study	5
1.4	Operational definitions	5
1.5	Assumptions	6
1.6	Hypotheses	6
1.7	Delimitations	7
II	REVIEW OF LITERATURE	
2.1	Literatures review related to the study	8
2.2	Conceptual framework	19
III	RESEARCH METHODOLOGY	
3.1	Research Approach	25
3.2	Duration of the study	25
3.3	Study setting	25
3.4	Study design	25
3.5	Study Population	26
3.6	Sample size	26
3.7	Criteria for selection of samples	27
	3.7.1Inclusion criteria	27
	3.7.2Exclusion criteria	27
3.8	Sampling technique	27
3.9	Research variables	27
3.10	Development and description of tool	
	3.10.1Development of the tool	28

Chapter	Content	Page No
	3.10.2 Description of the tool	28
	3.10.3 Intervention protocol	29
	3.10.4 Content validity	30
3.11	Ethical consideration	30
3.12	Pilot study	30
3.13	Reliability	31
3.14	Data Collection Procedure	31
3.15	Data entry and analysis	31
IV	DATA ANALYSIS AND INTERPRETATION	32
V	SUMMARY OF STUDY RESULTS	46
VI	DISCUSSION	51
VII	CONCLUSION AND RECOMMENDATIONS.	
7.1	Limitations	55
7.2	Implications of the study	55
7.3	Recommendations	59
	REFERENCES	1-4
	APPENDICES	

LIST OF TABLE

Table. No	Title	Page. No
4.1	Distribution of demographic variables of postnatal mother	
4.2	Distribution of obstetric variables of postnatal mother	
4.3	Distribution of the practice and knowledge based information of postnatal mother	
4.4	Pre test level of perception on breast milk secretion among postnatal mothers	
4.5	Post test level of perception on breast milk secretion among postnatal mothers	
4.6	Mean Comparison between control and experimental by using t-test	
4.7	Effectiveness of fenugreek between control and experimental group among postnatal mother	
4.8	Association between post assessment of effectiveness of fenugreek with the demographic variables (Experimental group).	
4.9	Association between post assessment of effectiveness of fenugreek with the selected obstetric variables (Experimental group).	

LIST OF FIGURES

Fig. No	Title	Page. No
2.2.1	Modified Wiedenbach's Helping art of clinical nursing theory	
3.1	Schematic representation of the study	
4.1	Age wise distribution of postnatal mothers	
4.2	Education wise distribution of postnatal mothers	
4.3	Occupation wise distribution of postnatal mothers	
4.4	Family monthly income wise distribution of postnatal mothers	
4.5	Religion wise distribution of postnatal mothers	
4.6	Residence wise distribution of postnatal mothers	
4.7	Family type wise distribution of postnatal mothers	
4.8	Food habits wise distributions of postnatal mothers	
4.9	Mode of delivery wise distribution of postnatal mothers	
4.10	Number of children wise distribution of postnatal mothers	

Fig. No	Title	Page. No
4.11	Initiation of breast feeding wise distribution of postnatal mothers	
4.12	Condition of nipple among postnatal mothers	
4.13	Distribution of newborn feeding pattern	
4.14	Frequency of breastfeeding among postnatal mothers	
4.15	Distribution of knowledge regarding alternative therapy in breast feeding among postnatal mothers	
4.16	Distribution of mentioned things by postnatal mother to promotion of breastfeeding	
4.17	Source of information regarding breast feeding among postnatal mother	
4.18	Distribution of galactogogues to promotion of breastfeeding	
4.19	Distribution of health benefits of fenugreek	
4.20	Distribution of pre-assessment level of perception on breast milk secretion between control and experimental & control group	
4.21	Distribution of post-assessment level of perception on breast milk secretion between control and experimental & control group	
4.22	Mean comparison between control and experimental group by using paired t- test	
4.23	Association between residence and level of perception on breast milk secretion among postnatal mother	
4.24	Association between type of family and level of perception on breast milk secretion among postnatal mother	

LIST OF APPENDICES

APPENDIX	TITLE	P.NO
A	Certificate of approval from institute of ethics committee	
B	Certificate of content validity	
C	Letter seeking permission for conducting study	
D	Modified tool of questionnaire items and responses (English & Tamil)	
E	Informed consent	
F	Coding sheet	
G	Certificate of English editing	
H	List of abbreviations	

INTRODUCTION

CHAPTER II

REVIEW OF LITERATURE

The purpose of Review of Literature is the identification, selection, critical analysis and reporting of existing information on the problem chosen for the study.

Review of literature helps to know what is already known and helps in developing a broad conceptual content in to which the research problem will fit in. Main goal is to develop a sound study that will contribute to further knowledge in development of nursing theory, education, practice and research

2.1. Literature review related to the study

2.1.1 Section -I Literatures related to health benefits of fenugreek.

2.1.2. Section - II Literatures related to importance of breastfeeding.

2.1.3 Section -III literatures related to factors determining the effect of breastfeeding .

2.1.4. Section -IV Literature related to lactation failure.

2.1.5 Section -V Literatures related to the effectiveness of fenugreek consumption on lactation among postnatal mothers.

2.1.1. Section -I Literatures related to health benefits of fenugreek.

Umesh C. S. Yadav et al., (2013) In this Cochrane study summarizes that the health benefits, pharmaceutical effects and medicinal properties of *Trigonella* such as carminative, gastric stimulant, anti-diabetic and *galactagogue (lactation-inducer)* effects, newer research has identified hypocholesterolemic, anti-lipidemia, antioxidant, hepato protective, anti-inflammatory, antibacterial, antifungal, antiulcer, anti-lithigenic, anti-carcinogenic and other miscellaneous

medicinal effects of fenugreek. Although most of these studies have used whole seed powder or different forms of extracts, some have identified active constituents from seeds and attributed them medicinal values for different indications. The research on *Trigonella* exhibits its health benefits and potential medicinal properties in various indications and has little or no side effects, suggesting its pharmaceutical, therapeutic and nutritional potential⁴.

A study was conducted by **Rajeev Gupta, S Verma (2014)** the sample are drawn from the patients attending the medicine OPD of Muzaffarnagar Medical College & Hospital from June 2012 – August 2014, 100 patients of Type II Diabetes Mellitus were selected randomly, including both male and female of age group 40-75 years. They were then divided into 2 groups, study group and control group. One group consisting of fifty patients was given only Anti-Diabetic treatment (control group) and another group consisting of fifty patients was given 50gm of powdered fenugreek seeds in two divided doses in their diet along with their Anti-Diabetic treatment (study group). All the hundred patients included in the study were on lifestyle modification also. Their serum fasting lipid profile levels were repeated every two months for a study period of six months and then the data from study and control group was evaluated and compared. There was significant reduction in total cholesterol, low density lipoprotein, very low density lipoprotein, and triglyceride and significant rise in the high density lipoprotein levels⁵.

Sancheti v.p,Shinde puja (2014) study deals with the pharmacognostic, preliminary phytochemical studies and anticancer properties of seeds of *Trigonellafoenum-graecum*. Fenugreek (*Trigonellafoenum-graecum* Linnaeus) is an important herb and spice; its dried seeds have wide application in food and beverages as a flavoring additive as well as in medicines. Pharmacological properties attributed to fenugreek have been reported to be associated with its

unique phyto chemicals. It is a rich source of calcium, iron, carotene and other vitamins⁶.

Nithya Neelakantan & Madanagopal Narayanan, (SCOPUS, the Cochrane Trials Registry, Web of Science, and BIOSIS -2014) were searched up to 29 Nov 2013 for trials of at least 1 week duration comparing intake of fenugreek seeds with a control intervention. Data on change in fasting blood glucose, 2 hour post load glucose, and HbA1c were pooled using random-effects models. A total of 10 trials were identified. Fenugreek significantly changed fasting blood glucose by -0.96 mmol/l (95% CI: -1.52,10 trials), 2 hour post load glucose by -2.19 mmol/l (95% CI: -3.19; 7 trials) and HbA1c by -0.85% (95% CI: -1.49%, -0.22%; 3 trials) as compared with control interventions. The considerable heterogeneity in study results was partly explained by diabetes status and dose: significant effects on fasting and 2 hr glucose were only found for studies that administered medium or high doses of fenugreek in persons with diabetes⁷.

Sima Younesy, Sedigheh Amiraliakbari (2014), In this study, sample drawn from Unmarried Students were randomly assigned to two groups who received fenugreek (n = 51) or placebo (n = 50). For the first 3 days of menstruation, 2–3 capsules containing fenugreek seed powder (900 mg) were given to the subjects three times daily for two consecutive menstrual cycles. Pain severity was evaluated using a visual analog scale and systemic symptoms were assessed using a multidimensional verbal scale. Pain severity was significantly reduced in both groups after the intervention; however, the fenugreek group experienced significantly larger pain reduction ($p < 0.001$). Systemic symptoms of dysmenorrhea (fatigue, headache, nausea, vomiting, lack of energy, syncope) decreased in the fenugreek seed group ($p < 0.05$). No side effects were reported in the fenugreek group⁸.

2.1.3 Section–III Literatures related to importance of breastfeeding.

The study was conducted by **W H Oddy P G Holt, (1999) (Australia)**, through prospective cohort study to investigate the association between the duration of exclusive breast feeding and the development of asthma related outcomes in children at age 6 years. Samples are 2187 children ascertained through antenatal clinics at the major tertiary obstetric hospital in Perth and followed to age 6 years. The introduction of milk other than breast milk before 4 months of age was a significant risk factor for all asthma and atopy related outcomes in children aged 6 years: asthma diagnosed by a doctor, (95% confidence interval 1.02 to 1.52); wheeze three or more times since 1 year of age (1.14 to 1.76); sleep disturbance due to wheeze within the past year (1.42, 1.07 to 1.89); and positive skin prick test reaction to at least one common aeroallergen (1.30, 1.04 to 1.61). A significant reduction in the risk of childhood asthma at age 6 years occurs if exclusive breast feeding is continued for at least the 4 months after birth⁹.

Ricardo Carbajal, Soocramanien Veerapen et al., (2003), in this study, to investigate whether breast feeding is effective for pain relief during venepuncture in term neonates and compare any effect with that of oral glucose combined with a pacifier through the randomized controlled trial. During venepuncture infants were either breast fed (group 1), held in their mother's arms without breast feeding (group 2), given 1 ml of sterile water as placebo (group 3), or given 1 ml of 30% glucose followed by pacifier (group 4). Video recordings of the procedure were assessed by two observers blinded to the purpose of the study. There were significant reductions in both scores for the breast feeding and glucose plus pacifier groups compared with the other two groups ($P < 0.0001$) Breast feeding effectively reduces response to pain during minor invasive procedure in term neonates¹⁰.

Mohammad J. Chisti, Mohammed A. Salam (2007) The study revealed that prospectively enrolled all infants (n=107) aged 0 to 6 months who were

admitted to the Special Care Ward (SCW) of the Dhaka Hospital of the International Centre for Diarrhoeal Disease Research Bangladesh (ICDDR,B) with diarrhea and pneumonia from September 2007 through December 2007. We compared the clinical features of pneumonia and hypoxemia of breast fed infants (n=34) with those who were non-breast fed (n=73). The median (inter-quartile range) duration of hypoxemia (hours) in non-breast-feds was longer than breast-fed infants [$p=0.021$]. Non-breast feeding or cessation of breast feeding during the neonatal period may substantially increase the incidence of severe malnutrition, incidence of cough, and both the incidence and duration of hypoxemia in young infants presenting with pneumonia and diarrhea. The findings emphasize the paramount importance of the continuation of breast feeding in the neonatal period and early infancy¹¹.

Louise Kuhn, Moses Sinkala, (2007) conducted by randomized trial of early weaning, 958 HIV-infected women and their infants were recruited and all were encouraged to breastfeed exclusively to 4 months. Single-dose nevirapine was provided to prevent transmission. Regular samples were collected from infants to 24 months of age and tested by PCR (Polymerase chain reaction). Detailed measurements of actual feeding behaviors were collected to examine, in an observational analysis, associations between feeding practices and postnatal HIV transmission. Uptake of EBF was high with 84% of women reporting only EBF cumulatively to 4 months. Post-natal HIV transmission before 4 months was significantly lower ($p=0.004$) among EBF than non-EBF infants. Non-EBF more than doubles the risk of early postnatal HIV transmission¹².

Sibel Kuçukoğlu, MSc and Ayda Çelebioğlu, MD et al, (2014) The study was conducted in a quasi-experimental way. The study group consisted of a total of 85 low-birth-weight infants and their mothers who had been treated in the neonatal clinics of two hospitals. The mothers included in the test group were given breast-feeding education for half an hour per day, during the first 5 days of

their hospitalization. Home visits were carried out at the homes of the participants from both the test and control groups, until the infants reached 6 months of age. It was determined that natural-feeding education given to the mothers increases their breast-feeding self-efficacy levels and success in breast-feeding ($P<0.05$). It was found that in the test group, the rate of feeding the infants exclusively with breast milk is higher in comparison with the control group ($P<0.001$)¹³.

2.1.3 Section -II literatures related to factors associated with breastfeeding

Kumar D, Agarwal N, Swami HM (2006) cross sectional study on socio demographic correlates of breast feeding in urban slums of Chandigarh among 270 mothers .The study revealed that out of all 270 159(58.9%) initiated breast feeding Only, 43 [15.9%] discarded colostrums and 108(40.01%) mothers gave pre-lacteal feed. Illiterate/just literate mothers who delivered at home were found at high risk of delay in initiation of breast feeding .The study was concluded that promotion of institutional delivers, health education to mothers for protecting and promotion of breast feeding practices¹⁴.

Lakhwinder kaur (2008) carried out an observational study on promotion of breastfeeding practices in Neonatal Surgical Intensive Care Unit (NSICU). Age of the neonates ranged from 0-26 days. Nearly 70% of the neonates were hospitalized for less than five days (68%) and the rest (32%) for 6 to 10 days. Regarding their gestational age, 57 % were less than 37 weeks and 43% had completed more than 37 weeks. Most of the neonate had undergone surgery within 24-48 hours of admission hence there was cessation of breastfeeding during the first week of life. Provision of physical facilities for the mothers and teaching them with the techniques of breastfeeding is quite useful for the mothers to promote breastfeeding practices¹⁵.

Ping Liu, BSc, MMed, Lijuan Qiao, (BSc 2007-2010) A prospective cohort study was undertaken to obtain details of child feeding practices using structured questionnaires. Before discharge from hospitals, 681 mothers were randomly recruited and interviewed in maternity units for breastfeeding. After discharge, the mothers were contacted by telephone at monthly intervals within the first 6 months and then at 2-month intervals until discontinuation of breastfeeding. The breastfeeding initiation rate was 95.9%. The breastfeeding rates then declined to 69.6% at 6 months, 29.7% at 12 months, and 2.3% at 24 months. The median duration of “any breastfeeding” was 9 months. The exclusive breastfeeding rate was low because of the high rate of pre-lacteal and early complementary feeding. Cox regression analyses revealed that mothers who had preterm babies believed that breast milk could not meet infants’ needs and intended to breastfeed for less than 6 months. Younger maternal age, employment, gestational age, suffering from illness and delayed onset of lactogenesis were also associated with a shorter duration of breastfeeding¹⁶.

Jessica R. Jones, Michael D. et al (2011) was conducted the study to estimate the proportions of US infants who were breastfed exclusively for 6 months, according to characteristics of the mother, child, and household environment, and to compare associations between those characteristics and breastfeeding initiation. Data were obtained from the 2007 National Survey of Children's Health, a nationally representative, cross-sectional survey. Multivariate logistic regression was used. All analyses were limited to children aged 6 months through 5 years for whom breastfeeding data were available ($N = 25\ 197$). Of the nearly 75% of children in the study who had ever been breastfed, 16.8% had been breastfed exclusively for 6 months. However, no significant differences in the odds of exclusive breastfeeding according to race were observed. Children with birth weights of <1500 g were most likely to have ever been breastfed and least likely to have been breastfed exclusively. Maternal age was significantly

associated with exclusive breastfeeding; however, maternal age was not associated with breastfeeding initiation. Factors associated with breastfeeding exclusively for 6 months differ from those associated with breastfeeding initiation¹⁷.

Emily Leclair, MD, Nicole Robert, MA, conducted a retrospective population-based cohort study in Ontario (2006–2012) using the Better Outcomes Registry & Network (BORN) database. Breastfeeding outcomes of adolescent women (younger than 20 years) with a singleton live-born infant at term gestation (37 weeks or greater) were analyzed. This study included 22,023 adolescent women with complete breastfeeding information. Almost half (48.8%, n = 10,749) exclusively breastfed their infant at time of hospital discharge. Breastfeeding was significantly more likely in the older adolescents (odds ratio 1.10); other factors significantly associated with breastfeeding included intention to breastfeed, prenatal classes attendance, living in a higher-income neighbourhood, having a spontaneous vaginal delivery, being a non-smoker, not using substances during pregnancy, and not having any pre-existing health problems or obstetrical complications ($P < .0001$). A significant interaction between smoking and intention to breastfeed was identified. This large-cohort study confirms that high-risk factors are associated with lower breastfeeding in Canadian adolescent term singleton births. Breastfeeding intention is a very important driver of breastfeeding. These findings highlight the importance of early multidisciplinary adolescent pregnancy care targeting these risks factors and education in order to improve breastfeeding rates in this population¹⁸.

The study was conducted by **Tsai TI, Huang SH (2015)**. This prospective study investigated the change in, and correlates of, breastfeeding practices after delivery at a hospital and at 1, 3, and 6 months postpartum among first-time mothers. The samples are 300 primi parous mothers of Taiwan who gave birth at two hospitals during 2010-2011. Logistic and Cox regression analyses were

performed to determine factors that were correlated with breastfeeding practices. In the study sample, the rate of exclusive breastfeeding during the hospital stay was 66%; it declined to 37.5% at 1 month and 30.2% at 3 months postpartum. Only 17.1% of women reported continuing breastfeeding at 6 months. Early initiation of breastfeeding, rooming-in practice, and self-efficacy were significantly related to exclusive breastfeeding during the hospital stay. After discharge, health literacy, knowledge, intention, and self-efficacy were positively and significantly associated with breastfeeding exclusivity. Results showed that factors related to breastfeeding varied over time after delivery¹⁹.

Pamela D. Hill & Sharron S. Humenick (1999) was conducted the study of psychometric properties of the H & H Lactation Scale, based on the Insufficient Milk Supply (IMS), the two convenience samples consisted of 110 mothers of low-birth-weight (LBW) infants and 120 mothers of healthy term infants. Both groups planned to breastfeed and were actively breastfeeding or pumping to maintain a milk supply. Subscales identified by factor analysis measured three concepts: maternal confidence/commitment to breastfeeding, perceived infant breastfeeding satiety, and maternal-infant breastfeeding satisfaction. All subscales showed moderate to high internal consistency (alphas .75 to .98) as well as concurrent and predictive validity. The total scale and the three subscales were prospectively significantly related to level of breastfeeding 8 weeks after delivery with both groups of mothers²⁰.

2.1.4 Section-IV Literature related to lactation failure.

Kathleen E. Huggins, RN, MS, CLC, and Olga Mireles, RNC, CLC (2000) San Luis Obispo, USA, who is reported that, in a prospective study, the relationship between breast appearance and milk production was investigated. Thirty-four women with characteristics suggestive of breast hypoplasia were evaluated. Volume of infant milk intake and breast pumpings immediately after

feedings, and milk production during the first week and first month of lactation was estimated. The majority of the women with some degree of hypoplasia and an intramammary distance of 1.5 inches or more produced 50% or less of the milk necessary to sustain normal infant growth in the first week postpartum. Many of these women also reported experiencing no breast growth during pregnancy. Sixty-one percent of the women followed were unable to produce a full milk supply within the first month. Women at high risk for primary lactation insufficiency can be identified prenatally or in the immediate postpartum period. They need close monitoring to ensure that the infant receives adequate nutrition and to encourage optimal milk production.

Sithara Suresh, Kamlesh K Sharma et al (2014) The study aimed to determine the breastfeeding problems in the 1st postnatal week, their predictors and impact on EBF rate at 6 months. Under a prospective cohort design in New Delhi 400 mother-newborn dyads were assessed for breastfeeding problems before discharge. Nearly 89% of the mother-newborn dyads had one or more BF problems before discharge. Major concern was difficulty in positioning and attaching the infant to the breast (88.5%), followed by breast and nipple problems (30.3%). BF problems continued to persist even after discharge in a significant proportion of the mothers (72.5%). The only independent predictor of BF problems in the 1st week was the caesarean section . There was a marked improvement ($P < 0.05$). in the EBF status (69.5%) at 6 months, and BF problems did not predict EBF failure at 6 months.

Bárbara Figueiredoa, Cláudia (2014) Portugal, In this study the association between breastfeeding and postpartum depression. Breastfeeding can promote hormonal processes that protect mothers against postpartum depression by attenuating cortisol response to stress. It can also reduce the risk of postpartum depression, by helping the regulation of sleep and wake patterns for mother and

child, improving mother's self efficacy and her emotional involvement with the child, reducing the child's temperamental difficulties, and promoting a better interaction between mother and child. Studies demonstrate that breastfeeding can protect mothers from postpartum depression, and are starting to clarify which biological and psychological processes may explain this protection. However, there are still equivocal results in the literature that may be explained by the methodological limitations presented by some studies.²¹

2.1.5 Section -V Literatures related to the effectiveness of fenugreek consumption on lactation among postnatal mothers.

A study was conducted by **Swafford. S and Berens. P (2000)**, This observational study used each patient as her own control in comparing breast milk production with fenugreek seed capsule were taken three times a day one group and without the fenugreek to other group after analyzing the baseline of milk production for 1wk. Average daily pump volumes for week 1 and week 2 were compared. These values were statistically analyzed using the Wilcoxon signed rank test. The average daily milk volume for week 1 was 207 ml compared to 464 for week 2. This was statistically significant ($P=0.004$). the use of fenugreek significantly increased volume of breast milk produced to women with insufficiency milk supply.³

A study was conducted by **Tieraona Low Dog, MD and Adriane Fugh-Berman, MD (2002)** Fenugreek has a substantial reputation for increasing breast-milk production in nursing mothers. A case report summarized the anecdotal use of fenugreek in at least 1200 women who reported an increase in milk supply within 24 to 72 hours. The usual dose for lactagogue effect is 1 to 2 g of the dried powdered seeds taken 3 times per day. Fenugreek can also be prepared as tea, steeping a quarter tea-spoon of seeds in 8 oz of water for 10 minutes.²¹

K. Huggins (2013) reported non blinded, anecdotal study of 1,200 women breastfeeding term infants found that nearly all of those who took fenugreek reported an increase in milk production within 24–72 hours after beginning the herbal along with using an electric breast pump. These mothers noted that fenugreek could be discontinued once milk production was stimulated to an appropriate level. No negative side effects in these mothers or infants were reported. Huggins has found fenugreek to be a potent stimulator of breast milk production that appears safe for the mother and baby.

Tin Fei Sim, H. Laetitia Hattingh et al., In this study, twenty in-depth semi-structured interviews were undertaken with breastfeeding women who used herbal galactagogues, to document use and explore their perceived effectiveness and safety of herbal galactagogues (Fenugreek, Garlic). Several indicators of breastfeeding adequacy were mentioned as participants described their experiences with the use of herbal galactagogues. Confidence and self-empowerment emerged as an over-arching theme linked to positive experiences with the use of herbal galactagogues. This study highlighted the importance of considering the potential psychological benefits of using herbal galactagogues, and how this translates into breastfeeding adequacy.²²

The study was conducted by **Abeer EI Sakka. Mostafa Salama et al., (2014)** In this study 75 puerperal women were randomly assigned for two weeks to one of three groups; herbal tea with fenugreek (n=25), palm dates (n=25) and no galactagogue (n=25). Maternal volume measured through manual pumping of breasts on the third postpartum day. Infants were weighed on (0, 3, 7. &14) using an infant scale. Breast milk volume On the seventh day, newborn's weight at 3rd days of postpartum and percentage weight change were ly.p<0.001, p<0.001 respectively²³.

2.2 Conceptual frame work

The study is based on the concept that fenugreek consumption promotes the level of perception on breast milk secretion among post natal mothers. The investigator adopted the Wiedenbach's Helping Art of Clinical Nursing Theory (1964) as a base for developing the conceptual framework.

This theory directs on action towards an explicit goal. It has 3 factors;

1. Central purpose
2. Prescription
3. Realities

1. Central Purpose

It refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives. In this study the main central purpose is to assess the effectiveness of fenugreek in promotion of level of perception on breast milk secretion among postnatal mothers.

2. Prescriptions

It refers to plan a care for a patient. It will specify the nature of action that will fulfill the nurses' central purpose. In this study, the investigator plans to provide fenugreek to postnatal mothers in the experimental group, and assess the postnatal mothers in the experimental group and control group on the 5th day for the perception on sufficient breast milk secretion.

3. Realities

It refers to the physical, physiological, emotional and spiritual factors that affect the nursing action. The five realities identified by Wiedenbach's theory are agent, recipient, goal, means and activities and framework.

The conceptualization of nursing practice according to this theory consists of three steps as follows:

- Identification of the patient's need for help.
- Ministration of the help needed.
- Validating the help.

Step 1: *Identification:*

It refers to the determination of client's need for help by the process of sample selection on the basis of the inclusion criteria, followed by assessing the promotion of level of perception on breast milk secretion by using perceived insufficient milk questionnaire items and responses among postnatal mothers are randomly assigned to control and experimental group.

Step 2: *Ministration:*

It refers to the provision of needed help to fulfill the identified need. It consist two components.

i) Prescription

In this study, the investigator provides fenugreek to postnatal mothers in the experimental group and control group on the day 1 and 5 in postnatal period.

ii) Realities:

In this study, the five realities identified by Wiedenbach's theory are

- Agent - investigator
- Recipient - postnatal mothers
- Goal - perception of sufficient breast milk secretion.

Means

Experimental group- The postnatal mother with the perception of insufficient breast milk secretion were assessed with the tool on the 1st day followed by

administration of fenugreek for 5 consecutive days, and immediately assessed the level of perception on 5th day.

Control group- The postnatal mother with the perception of insufficient breast milk secretion were assessed with the tool on the 1st day and post test were assessed on the 5th day with routine care.

Step-3: validating the Help

The nurse validates the ministered help. It is accomplished by means of post assessment of the level of perception on breast milk secretion on the 5th day after rendering the selected nursing intervention that is, providing fenugreek to postnatal mothers. Then the effectiveness of the intervention is compared between the experimental and control group.

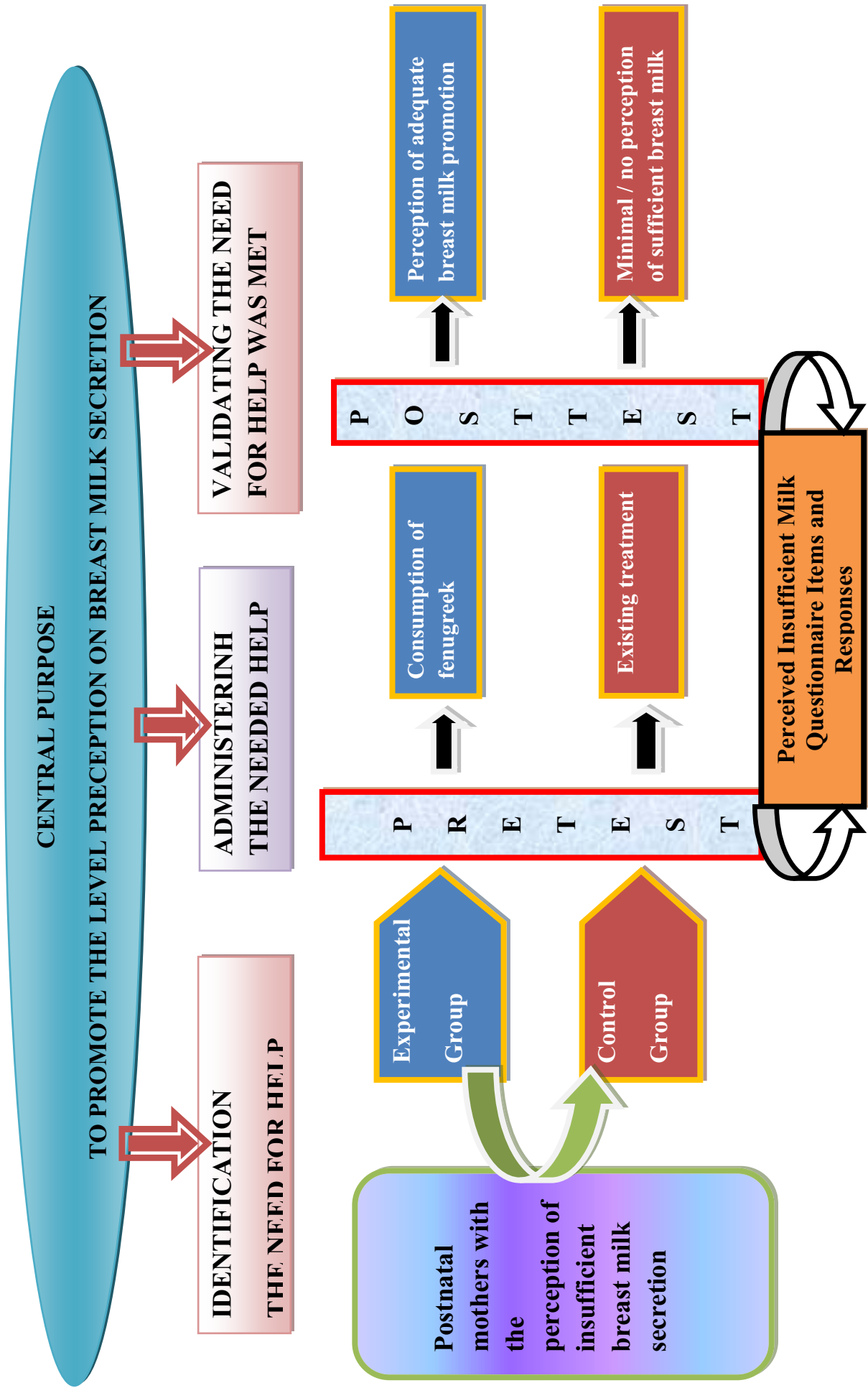


Fig2.2.1 Conceptual framework - Modified Wiedenbach's (1964) Helping Art of nursing theory

REVIEW OF
LITERATURE

CHAPTER II

REVIEW OF LITERATURE

The purpose of Review of Literature is the identification, selection, critical analysis and reporting of existing information on the problem chosen for the study.

Review of literature helps to know what is already known and helps in developing a broad conceptual content in to which the research problem will fit in. Main goal is to develop a sound study that will contribute to further knowledge in development of nursing theory, education, practice and research

2.1. Literature review related to the study

2.1.1 Section -I Literatures related to health benefits of fenugreek.

2.1.2. Section - II Literatures related to importance of breastfeeding.

2.1.3 Section -III literatures related to factors determining the effect of breastfeeding .

2.1.4. Section -IV Literature related to lactation failure.

2.1.5 Section -V Literatures related to the effectiveness of fenugreek consumption on lactation among postnatal mothers.

2.1.1. Section -I Literatures related to health benefits of fenugreek.

Umesh C. S. Yadav et al., (2013) In this Cochrane study summarizes that the health benefits, pharmaceutical effects and medicinal properties of *Trigonella* such as carminative, gastric stimulant, anti-diabetic and *galactagogue (lactation-inducer)* effects, newer research has identified hypocholesterolemic, anti-lipidemia, antioxidant, hepato protective, anti-inflammatory, antibacterial, antifungal, antiulcer, anti-lithigenic, anti-carcinogenic and other miscellaneous medicinal effects of fenugreek. Although most of these studies have used whole seed powder or different forms of

extracts, some have identified active constituents from seeds and attributed them medicinal values for different indications. The research on *Trigonella* exhibits its health benefits and potential medicinal properties in various indications and has little or no side effects, suggesting its pharmaceutical, therapeutic and nutritional potential⁴.

A study was conducted by **Rajeev Gupta, S Verma (2014)** the sample are drawn from the patients attending the medicine OPD of Muzaffarnagar Medical College & Hospital from June 2012 – August 2014, 100 patients of Type II Diabetes Mellitus were selected randomly, including both male and female of age group 40-75 years. They were then divided into 2 groups, study group and control group. One group consisting of fifty patients was given only Anti-Diabetic treatment (control group) and another group consisting of fifty patients was given 50gm of powdered fenugreek seeds in two divided doses in their diet along with their Anti-Diabetic treatment (study group). All the hundred patients included in the study were on lifestyle modification also. Their serum fasting lipid profile levels were repeated every two months for a study period of six months and then the data from study and control group was evaluated and compared. There was significant reduction in total cholesterol, low density lipoprotein, very low density lipoprotein, and triglyceride and significant rise in the high density lipoprotein levels⁵.

Sancheti v.p,Shinde puja (2014) study deals with the pharmacognostic, preliminary phytochemical studies and anticancer properties of seeds of *Trigonella foenum-graecum*. Fenugreek (*Trigonella foenum-graecum* Linnaeus) is an important herb and spice; its dried seeds have wide application in food and beverages as a flavoring additive as well as in medicines. Pharmacological properties attributed to fenugreek have been reported to be associated with its unique phytochemicals. It is a rich source of calcium, iron, carotene and other vitamins⁶.

Nithya Neelakantan & Madanagopal Narayanan, (SCOPUS, the Cochrane Trials Registry, Web of Science, and BIOSIS -2014) were searched up to 29 Nov 2013 for trials of at least 1 week duration comparing intake of fenugreek seeds with a control intervention. Data on change in fasting blood glucose, 2 hour post load glucose, and HbA1c were pooled using random-effects models. A total of 10 trials were identified. Fenugreek significantly changed fasting blood glucose by -0.96 mmol/l (95% CI: -1.52, 1.0 trials), 2 hour post load glucose by -2.19 mmol/l (95% CI: -3.19; 7 trials) and HbA1c by -0.85% (95% CI: -1.49%, -0.22%; 3 trials) as compared with control interventions. The considerable heterogeneity in study results was partly explained by diabetes status and dose: significant effects on fasting and 2 hr glucose were only found for studies that administered medium or high doses of fenugreek in persons with diabetes⁷.

Sima Younesy, Sedigheh Amiraliakbari (2014), In this study, sample drawn from Unmarried Students were randomly assigned to two groups who received fenugreek (n = 51) or placebo (n = 50). For the first 3 days of menstruation, 2–3 capsules containing fenugreek seed powder (900 mg) were given to the subjects three times daily for two consecutive menstrual cycles. Pain severity was evaluated using a visual analog scale and systemic symptoms were assessed using a multidimensional verbal scale. Pain severity was significantly reduced in both groups after the intervention; however, the fenugreek group experienced significantly larger pain reduction ($p < 0.001$). Systemic symptoms of dysmenorrhea (fatigue, headache, nausea, vomiting, lack of energy, syncope) decreased in the fenugreek seed group ($p < 0.05$). No side effects were reported in the fenugreek group⁸.

2.1.3 Section–III Literatures related to importance of breastfeeding.

The study was conducted by **W H Oddy P G Holt, (1999) (Australia)**, through prospective cohort study to investigate the association between the duration of exclusive breast feeding and the development of asthma related outcomes in children at age 6 years. Samples are 2187 children ascertained

through antenatal clinics at the major tertiary obstetric hospital in Perth and followed to age 6 years. The introduction of milk other than breast milk before 4 months of age was a significant risk factor for all asthma and atopy related outcomes in children aged 6 years: asthma diagnosed by a doctor, (95% confidence interval 1.02 to 1.52); wheeze three or more times since 1 year of age (1.14 to 1.76); sleep disturbance due to wheeze within the past year (1.42, 1.07 to 1.89); and positive skin prick test reaction to at least one common aeroallergen (1.30, 1.04 to 1.61). A significant reduction in the risk of childhood asthma at age 6 years occurs if exclusive breast feeding is continued for at least the 4 months after birth⁹.

Ricardo Carbajal, Soocramanien Veerapen et al., (2003), in this study, to investigate whether breast feeding is effective for pain relief during venepuncture in term neonates and compare any effect with that of oral glucose combined with a pacifier through the randomized controlled trial. During venepuncture infants were either breast fed (group 1), held in their mother's arms without breast feeding (group 2), given 1 ml of sterile water as placebo (group 3), or given 1 ml of 30% glucose followed by pacifier (group 4). Video recordings of the procedure were assessed by two observers blinded to the purpose of the study. There were significant reductions in both scores for the breast feeding and glucose plus pacifier groups compared with the other two groups ($P < 0.0001$) Breast feeding effectively reduces response to pain during minor invasive procedure in term neonates¹⁰.

Mohammad J. Chisti, Mohammed A. Salam (2007) The study revealed that prospectively enrolled all infants ($n=107$) aged 0 to 6 months who were admitted to the Special Care Ward (SCW) of the Dhaka Hospital of the International Centre for Diarrhoeal Disease Research Bangladesh (ICDDR,B) with diarrhea and pneumonia from September 2007 through December 2007. We compared the clinical features of pneumonia and hypoxemia of breast fed infants ($n=34$) with those who were non-breast fed ($n=73$). The median (inter-quartile range) duration of hypoxemia (hours) in

non-breast-feds was longer than breast-fed infants [p=0.021]. Non-breast feeding or cessation of breast feeding during the neonatal period may substantially increase the incidence of severe malnutrition, incidence of cough, and both the incidence and duration of hypoxemia in young infants presenting with pneumonia and diarrhea. The findings emphasize the paramount importance of the continuation of breast feeding in the neonatal period and early infancy¹¹.

Louise Kuhn, Moses Sinkala, (2007) conducted by randomized trial of early weaning, 958 HIV-infected women and their infants were recruited and all were encouraged to breastfeed exclusively to 4 months. Single-dose nevirapine was provided to prevent transmission. Regular samples were collected from infants to 24 months of age and tested by PCR (Polymerase chain reaction). Detailed measurements of actual feeding behaviors were collected to examine, in an observational analysis, associations between feeding practices and postnatal HIV transmission. Uptake of EBF was high with 84% of women reporting only EBF cumulatively to 4 months. Post-natal HIV transmission before 4 months was significantly lower (p=0.004) among EBF than non-EBF infants. Non-EBF more than doubles the risk of early postnatal HIV transmission¹².

Sibel Kuçukoğlu, MSc and Ayda Çelebioğlu, MD et al, (2014) The study was conducted in a quasi-experimental way. The study group consisted of a total of 85 low-birth-weight infants and their mothers who had been treated in the neonatal clinics of two hospitals. The mothers included in the test group were given breast-feeding education for half an hour per day, during the first 5 days of their hospitalization. Home visits were carried out at the homes of the participants from both the test and control groups, until the infants reached 6 months of age. It was determined that natural-feeding education given to the mothers increases their breast-feeding self-efficacy levels and success in breast-feeding ($P<0.05$). It was found that in the test group, the rate of feeding

the infants exclusively with breast milk is higher in comparison with the control group ($P < 0.001$)¹³.

2.1.3 Section -II literatures related to factors associated with breastfeeding

Kumar D, Agarwal N, Swami HM (2006) cross sectional study on socio demographic correlates of breast feeding in urban slums of Chandigarh among 270 mothers .The study revealed that out of all 270 159(58.9%) initiated breast feeding Only, 43 [15.9%] discarded colostrums and 108(40.01%) mothers gave pre-lacteal feed. Illiterate/just literate mothers who delivered at home were found at high risk of delay in initiation of breast feeding .The study was concluded that promotion of institutional delivers, health education to mothers for protecting and promotion of breast feeding practices¹⁴.

Lakhwinder kaur (2008) carried out an observational study on promotion of breastfeeding practices in Neonatal Surgical Intensive Care Unit (NSICU). Age of the neonates ranged from 0-26 days. Nearly 70% of the neonates were hospitalized for less than five days (68%) and the rest (32%) for 6 to 10 days. Regarding their gestational age, 57 % were less than 37 weeks and 43% had completed more than 37 weeks. Most of the neonate had undergone surgery within 24-48 hours of admission hence there was cessation of breastfeeding during the first week of life. Provision of physical facilities for the mothers and teaching them with the techniques of breastfeeding is quite useful for the mothers to promote breastfeeding practices¹⁵.

Ping Liu, BSc, MMed,Lijuan Qiao, (BSc 2007-2010) A prospective cohort study was undertaken to obtain details of child feeding practices using structured questionnaires. Before discharge from hospitals, 681 mothers were randomly recruited and interviewed in maternity units for breastfeeding. After discharge, the mothers were contacted by telephone at monthly intervals within the first 6 months and then at 2-month intervals until discontinuation of

breastfeeding. The breastfeeding initiation rate was 95.9%. The breastfeeding rates then declined to 69.6% at 6 months, 29.7% at 12 months, and 2.3% at 24 months. The median duration of “any breastfeeding” was 9 months. The exclusive breastfeeding rate was low because of the high rate of pre-lacteal and early complementary feeding. Cox regression analyses revealed that mothers who had preterm babies believed that breast milk could not meet infants’ needs and intended to breastfeed for less than 6 months. Younger maternal age, employment, gestational age, suffering from illness and delayed onset of lactogenesis were also associated with a shorter duration of breastfeeding¹⁶.

Jessica R. Jones, Michael D. et al (2011) was conducted the study to estimate the proportions of US infants who were breastfed exclusively for 6 months, according to characteristics of the mother, child, and household environment, and to compare associations between those characteristics and breastfeeding initiation. Data were obtained from the 2007 National Survey of Children's Health, a nationally representative, cross-sectional survey. Multivariate logistic regression was used. All analyses were limited to children aged 6 months through 5 years for whom breastfeeding data were available ($N = 25\ 197$). Of the nearly 75% of children in the study who had ever been breastfed, 16.8% had been breastfed exclusively for 6 months. However, no significant differences in the odds of exclusive breastfeeding according to race were observed. Children with birth weights of <1500 g were most likely to have ever been breastfed and least likely to have been breastfed exclusively. Maternal age was significantly associated with exclusive breastfeeding; however, maternal age was not associated with breastfeeding initiation. Factors associated with breastfeeding exclusively for 6 months differ from those associated with breastfeeding initiation¹⁷.

Emily Leclair, MD, Nicole Robert, MA, conducted a retrospective population-based cohort study in Ontario (**2006–2012**) using the Better Outcomes Registry & Network (BORN) database. Breastfeeding outcomes of adolescent women (younger than 20 years) with a singleton live-born infant at

term gestation (37 weeks or greater) were analyzed. This study included 22,023 adolescent women with complete breastfeeding information. Almost half (48.8%, n = 10,749) exclusively breastfed their infant at time of hospital discharge. Breastfeeding was significantly more likely in the older adolescents (odds ratio 1.10); other factors significantly associated with breastfeeding included intention to breastfeed, prenatal classes attendance, living in a higher-income neighbourhood, having a spontaneous vaginal delivery, being a non-smoker, not using substances during pregnancy, and not having any pre-existing health problems or obstetrical complications ($P < .0001$). A significant interaction between smoking and intention to breastfeed was identified. This large-cohort study confirms that high-risk factors are associated with lower breastfeeding in Canadian adolescent term singleton births. Breastfeeding intention is a very important driver of breastfeeding. These findings highlight the importance of early multidisciplinary adolescent pregnancy care targeting these risks factors and education in order to improve breastfeeding rates in this population¹⁸.

The study was conducted by **Tsai TI, Huang SH (2015)**. This prospective study investigated the change in, and correlates of, breastfeeding practices after delivery at a hospital and at 1, 3, and 6 months postpartum among first-time mothers. The samples are 300 primi parous mothers of Taiwan who gave birth at two hospitals during 2010-2011. Logistic and Cox regression analyses were performed to determine factors that were correlated with breastfeeding practices. In the study sample, the rate of exclusive breastfeeding during the hospital stay was 66%; it declined to 37.5% at 1 month and 30.2% at 3 months postpartum. Only 17.1% of women reported continuing breastfeeding at 6 months. Early initiation of breastfeeding, rooming-in practice, and self-efficacy were significantly related to exclusive breastfeeding during the hospital stay. After discharge, health literacy, knowledge, intention, and self-efficacy were positively and significantly

associated with breastfeeding exclusivity. Results showed that factors related to breastfeeding varied over time after delivery¹⁹.

Pamela D. Hill & Sharron S. Humenick (1999) was conducted the study of psychometric properties of the H & H Lactation Scale, based on the Insufficient Milk Supply (IMS), the two convenience samples consisted of 110 mothers of low-birth-weight (LBW) infants and 120 mothers of healthy term infants. Both groups planned to breastfeed and were actively breastfeeding or pumping to maintain a milk supply. Subscales identified by factor analysis measured three concepts: maternal confidence/commitment to breastfeeding, perceived infant breastfeeding satiety, and maternal-infant breastfeeding satisfaction. All subscales showed moderate to high internal consistency (alphas .75 to .98) as well as concurrent and predictive validity. The total scale and the three subscales were prospectively significantly related to level of breastfeeding 8 weeks after delivery with both groups of mothers²⁰.

2.1.4 Section-IV Literature related to lactation failure.

Kathleen E. Huggins, RN, MS, CLC, and Olga Mireles, RNC, CLC (2000) San Luis Obispo, USA, who is reported that, in a prospective study, the relationship between breast appearance and milk production was investigated. Thirty-four women with characteristics suggestive of breast hypoplasia were evaluated. Volume of infant milk intake and breast pumpings immediately after feedings, and milk production during the first week and first month of lactation was estimated. The majority of the women with some degree of hypoplasia and an intramammary distance of 1.5 inches or more produced 50% or less of the milk necessary to sustain normal infant growth in the first week postpartum. Many of these women also reported experiencing no breast growth during pregnancy. Sixty-one percent of the women followed were unable to produce a full milk supply within the first month. Women at high risk for primary lactation insufficiency can be identified prenatally or in the immediate

postpartum period. They need close monitoring to ensure that the infant receives adequate nutrition and to encourage optimal milk production.

Sithara Suresh, Kamlesh K Sharma et al (2014) The study aimed to determine the breastfeeding problems in the 1st postnatal week, their predictors and impact on EBF rate at 6 months. Under a prospective cohort design in New Delhi 400 mother-newborn dyads were assessed for breastfeeding problems before discharge. Nearly 89% of the mother-newborn dyads had one or more BF problems before discharge. Major concern was difficulty in positioning and attaching the infant to the breast (88.5%), followed by breast and nipple problems (30.3%). BF problems continued to persist even after discharge in a significant proportion of the mothers (72.5%). The only independent predictor of BF problems in the 1st week was the caesarean section. There was a marked improvement ($P < 0.05$) in the EBF status (69.5%) at 6 months, and BF problems did not predict EBF failure at 6 months.

Bárbara Figueiredo, Cláudia (2014) Portugal, In this study the association between breastfeeding and postpartum depression. Breastfeeding can promote hormonal processes that protect mothers against postpartum depression by attenuating cortisol response to stress. It can also reduce the risk of postpartum depression, by helping the regulation of sleep and wake patterns for mother and child, improving mother's self efficacy and her emotional involvement with the child, reducing the child's temperamental difficulties, and promoting a better interaction between mother and child. Studies demonstrate that breastfeeding can protect mothers from postpartum depression, and are starting to clarify which biological and psychological processes may explain this protection. However, there are still equivocal results in the literature that may be explained by the methodological limitations presented by some studies.²¹

2.1.5 Section -V Literatures related to the effectiveness of fenugreek consumption on lactation among postnatal mothers.

A study was conducted by **Swafford. S and Berens. P (2000)**, This observational study used each patient as her own control in comparing breast milk production with fenugreek seed capsule were taken three times a day one group and without the fenugreek to other group after analyzing the baseline of milk production for 1wk. Average daily pump volumes for week 1 and week 2 were compared. These values were statistically analyzed using the Wilcoxon signed rank test. The average daily milk volume for week 1 was 207 ml compared to 464 for week 2. This was statistically significant ($P=0.004$). the use of fenugreek significantly increased volume of breast milk produced to women with insufficiency milk supply.³

A study was conducted by **Tieraona Low Dog, MD and Adriane Fugh-Berman, MD (2002)** Fenugreek has a substantial reputation for increasing breast-milk production in nursing mothers. A case report summarized the anecdotal use of fenugreek in at least 1200 women who reported an increase in milk supply within 24 to 72 hours. The usual dose for lactagogue effect is 1 to 2 g of the dried powdered seeds taken 3 times per day. Fenugreek can also be prepared as tea, steeping a quarter tea-spoon of seeds in 8 oz of water for 10 minutes.²¹

K. Huggins (2013) reported non blinded, anecdotal study of 1,200 women breastfeeding term infants found that nearly all o those who took fenugreek reported an increase in milk production within 24–72 hours after beginning the herbal along with using an electric breast pump. These mothers noted that fenugreek could be discontinued once milk production was stimulated to an appropriate level. No negative side effects in these mothers or infants were reported. Huggins has found fenugreek to be a potent stimulator of breast milk production that appears safe for the mother and baby.

Tin Fei Sim, H. Laetitia Hattingh et all., In this study, twenty in-depth semi-structured interviews were undertaken with breastfeeding women who used herbal galactagogues, to document use and explore their perceived

effectiveness and safety of herbal galactagogues (Fenugreek, Garlic). Several indicators of breastfeeding adequacy were mentioned as participants described their experiences with the use of herbal galactagogues. Confidence and self-empowerment emerged as an over-arching theme linked to positive experiences with the use of herbal galactagogues. This study highlighted the importance of considering the potential psychological benefits of using herbal galactagogues, and how this translates into breastfeeding adequacy.²²

The study was conducted by **Abeer EI Sakka. Mostafa Salama et al., (2014)** In this study 75 puerperal women were randomly assigned for two weeks to one of three groups; herbal tea with fenugreek (n=25), palm dates (n=25) and no galactagogue (n=25). Maternal volume measured through manual pumping of breasts on the third postpartum day. Infants were weighed on (0, 3, 7. &14) using an infant scale. Breast milk volume On the seventh day, newborn's weight at 3rd days of postpartum and percentage weight change were ly. $p < 0.001$, $p < 0.001$ respectively²³.

2.2 Conceptual frame work

The study is based on the concept that fenugreek consumption promotes the level of perception on breast milk secretion among post natal mothers. The investigator adopted the Wiedenbach's Helping Art of Clinical Nursing Theory (1964) as a base for developing the conceptual framework.

This theory directs on action towards an explicit goal. It has 3 factors;

1. Central purpose
2. Prescription
3. Realities

1. Central Purpose

It refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives. In this study the main central purpose is to

assess the effectiveness of fenugreek in promotion of level of perception on breast milk secretion among postnatal mothers.

2. Prescriptions

It refers to plan a care for a patient. It will specify the nature of action that will fulfill the nurses' central purpose. In this study, the investigator plans to provide fenugreek to postnatal mothers in the experimental group, and assess the postnatal mothers in the experimental group and control group on the 5th day for the perception on sufficient breast milk secretion.

3. Realities

It refers to the physical, physiological, emotional and spiritual factors that affect the nursing action. The five realities identified by Wiedenbach's theory are agent, recipient, goal, means and activities and framework.

The conceptualization of nursing practice according to this theory consists of three steps as follows:

- Identification of the patient's need for help.
- Ministration of the help needed.
- Validating the help.

Step 1: Identification:

It refers to the determination of client's need for help by the process of sample selection on the basis of the inclusion criteria, followed by assessing the promotion of level of perception on breast milk secretion by using perceived insufficient milk questionnaire items and responses among postnatal mothers are randomly assigned to control and experimental group.

Step 2: Ministration:

It refers to the provision of needed help to fulfill the identified need. It consist two components.

i) Prescription

In this study, the investigator provides fenugreek to postnatal mothers in the experimental group and control group on the day 1 and 5 in postnatal period.

ii) Realities:

In this study, the five realities identified by Wiedenbach's theory are

- Agent - investigator
- Recipient - postnatal mothers
- Goal - perception of sufficient breast milk secretion.

Means

Experimental group- The postnatal mother with the perception of insufficient breast milk secretion were assessed with the tool on the 1st day followed by administration of fenugreek for 5 consecutive days, and immediately assessed the level of perception on 5th day.

Control group- The postnatal mother with the perception of insufficient breast milk secretion were assessed with the tool on the 1st day and post test were assessed on the 5th day with routine care.

Step-3: validating the Help

The nurse validates the ministered help. It is accomplished by means of post assessment of the level of perception on breast milk secretion on the 5th day after rendering the selected nursing intervention that is, providing fenugreek to postnatal mothers. Then the effectiveness of the intervention is compared between the experimental and control group.

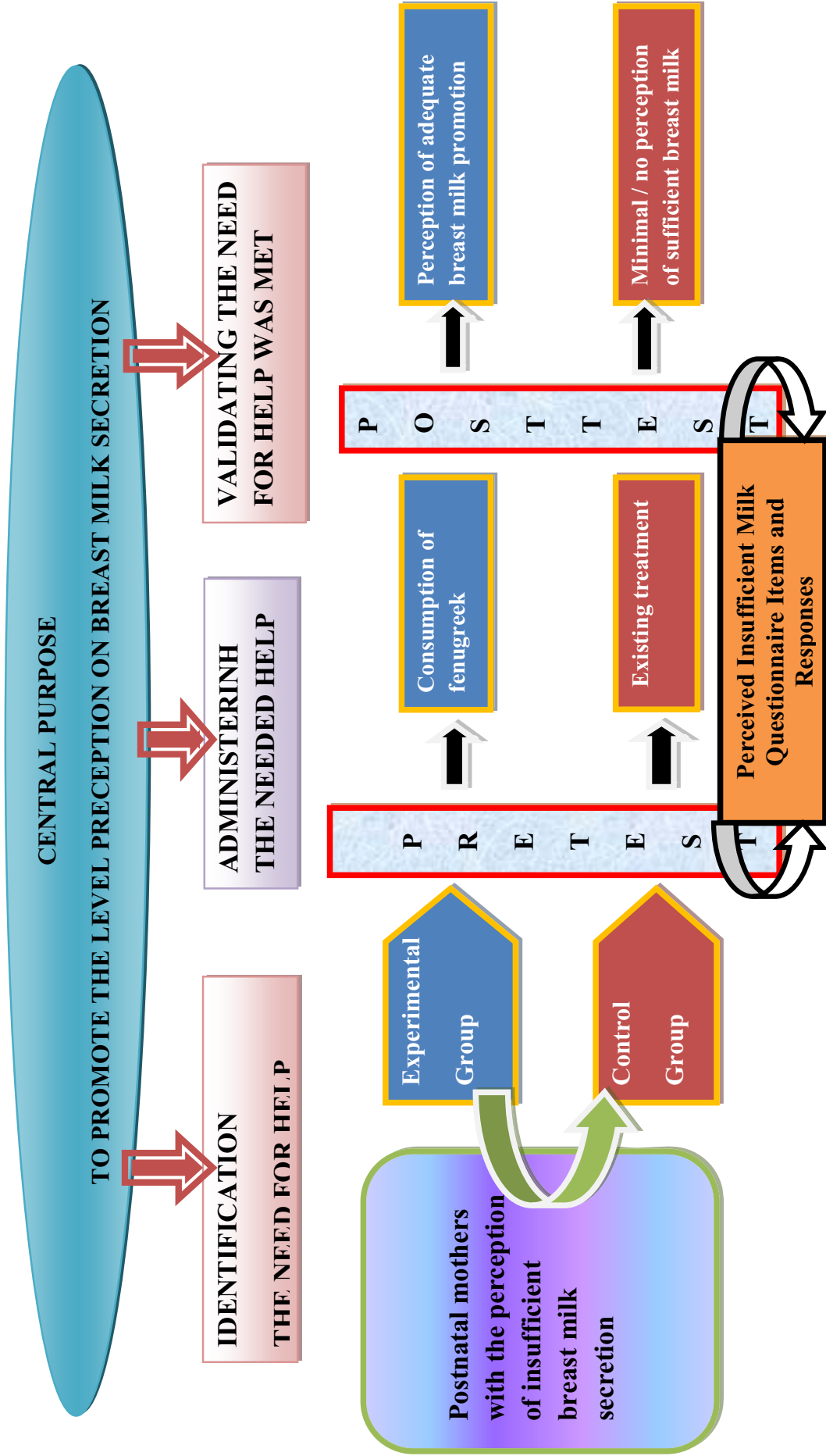


Fig2.2.1 Conceptual framework - Modified Wiedenbach's (1964) Helping Art of nursing theory

**RESEARCH
METHODOLOGY**

CHAPTER-III

RESEARCH METHODOLOGY

This chapter deals with the methodology to assess the effectiveness of fenugreek consumption in postnatal at the Institute of Obstetrics & Gynaecology, Chennai.

3.1 Research approach

A Quantitative evaluative research approach using pre-assessment and post assessment was adopted for this study in order to accomplish the objectives.

3.2 Duration of the study

The study was conducted for the period of four weeks from 16.7.15 to 15.8.15

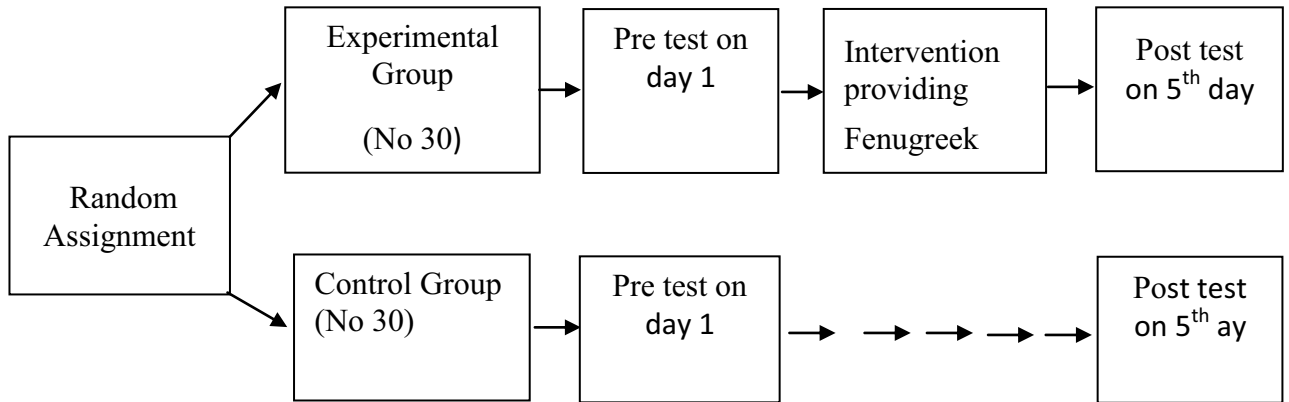
3.3 Study setting

The study was conducted in postnatal ward at IOG, Chennai. The institute was unveiled on 26th July 1844 for public service. It is a 1075 bedded maternity hospital, tertiary care centre and referral centre. The hospital is renowned for its excellence in medical experts, nursing care and quality diagnostic services. All facilities are provided for conducting normal, high risk and instrumental deliveries. IOG has departments like neonatal intensive care unit, family planning services, oncology department, endocrinology, human milk bank and genetic department which are rendering comprehensive care for entire Tamilnadu and for neighboring state like Andhrapradesh also.

3.4 Study design

In the study the investigator ensure random selection or random allocation. To be precise the research design selected in this study is true experimental design. In this design, subjects are selected by simple randomized sampling technique to the experimental and control group.

True experimental study Design:



Experimental Group – *The postnatal mothers were receiving the fenugreek powder 2.5gm twice daily for five consecutive days.*

Control Group – *The postnatal mothers who were not receiving the administration of fenugreek powder.*

3.5 Study population

It includes all the postnatal mothers who met the inclusion criteria in postnatal ward at IOG, Chennai.

3.6 Sample size

The sample size for the study was 60. Out of which 30 samples who receive fenugreek belong to the experimental group and 30 samples who do not receive fenugreek belong to the control group.

3.7 Sampling criterion

3.7.1 Inclusion criteria:

1. Primi and multi Para mothers who had normal delivery or caesarean section with the perception of insufficient breast milk secretion.
2. Postnatal mothers with cleft palate / cleft lip.
3. Postnatal mothers who can understand and speak Tamil
4. Postnatal mothers who are willing to participate in the study

3.7.2 Exclusion Criteria:

1. Primi and multi Para mothers who had normal delivery or caesarean section not having the perception of insufficient breast milk secretion.
2. Postnatal mothers who are psychologically ill
3. Mothers who are having postnatal period are more than 6 weeks from the day of delivery.
4. Postnatal mothers with systemic illness.

3.8 Sampling technique

The samples were selected by simple randomized sampling technique by lottery method based on the inclusive criteria.

3.9 Research variables

Independent variable

- Fenugreek powder administration

Dependent variable

- Perception of breast milk secretion by postnatal mother

3.10 Development and description of tool

3.10.1 Development of the tool

The tool has been developed by the researcher on the basis of objectives of the study. After extensive review of literature and discussion with experts in department of obstetrics and gynecology, the personal experience and the statistician to develop the guidelines for administration of fenugreek and its duration.

3.10.2 Description of the Tool

Section-A: Comprises of 9 demographic variables which includes age, educational qualification, occupational status, monthly income, religion, residence, marital status, type of family, and dietary pattern

Section B: Comprises of 7 obstetric related variables which includes mode of delivery, number of children, initiation of breast feeding, newborn feeding pattern, condition of the nipple, frequency of breast feeding to baby per day, knowledge about the alternative therapy to promote the perception of breast milk secretion, consumption of any one of the following helps to increase the breast milk secretion and health benefits of fenugreek.

Section C: Tool of perceived insufficient milk (PIM) questionnaire items and responses

Global question:

Do you believe you are producing enough milk to satisfy your baby?

- Yes – Satisfactory
- No - Unsatisfactory

Open – ended question:

- My breast milk looks like it is nutritious enough to nourish my baby.
- My baby generally appears satisfied after feedings.
- My baby seems to like to breastfeed.
- My breast milk is all the nutrition my baby needs to thrive.
- My breasts seems to have enough milk.

Key notes:

- Score 0 – 25: In Sufficient
- Score 26 – 50: Sufficient

3.10.3 Intervention protocol

	Experimental group	Control group
Place	Postnatal ward at IOG	Postnatal ward at IOG
Dose	Fenugreek powder 2.5gm mixed with 100ml of water	Routine diet
Duration	Five days	Five days
Frequency	Twice daily	-
Time	9am and 4pm	-
Administrator	Investigator	Self
Recipient	Postnatal mother with the perception of insufficient breast milk secretion	Postnatal mother with the perception of insufficient breast milk secretion

3.10.4 Content validity

Validity of the tool was assessed using content validity. Content validity was determined by experts from Nursing and Medical. Hill & Humenick (1989) suggested Perceived Insufficient Milk (PIM) Questionnaire Items and Responses. This tool can be used for assessing the effectiveness of fenugreek in promotion of level of perception on breast milk secretion, among the postnatal mothers at IOG, Chennai.

3.11 Ethical consideration

Permission was obtained from the Director of Institute of Obstetrics & Gynaecology and Hospital for Women and Children. All respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Ensured confidentiality of the study result. The freedom was given to the client to leave the study at her will without assigning any reason. No routine care was altered or withheld. Thus the investigator followed the ethical guidelines which were issued by the institutional ethics committee. Written consent was obtained from all participants.

3.12 Pilot study

A pilot study is a small scale version or trial run, done in preparation for the major study. The principle focus of a pilot study is assessment of the adequacy of the data collection plan.

The investigator was conducted the pilot study in IOG, Chennai.. The sample size for the pilot study was 5 in the experimental group and 5 in the control group. The purpose of the study was explained to the subjects and an informed written consent was taken prior to data collection. Data was collected using the prepared tools.

During the pilot study the investigator was found that the postnatal mothers had the difficulty to swallow the fenugreek seeds. On the basis of pilot study, the investigator felt the need to modify the form of fenugreek seeds to powder which was mixed with water. The data were analyzed to find out whether the objectives of the study were achieved.

3.13 Reliability

After pilot study reliability of the tool was assessed by using split half method and its correlation coefficient r – value is 0.81 (level of perception on breast milk secretion). This correlation coefficient is very high and it is good tool for assessing the effectiveness of fenugreek in the promotion of perception on breast milk secretion, among the postnatal mothers in IOG, Chennai.

3.14 Data collection procedure

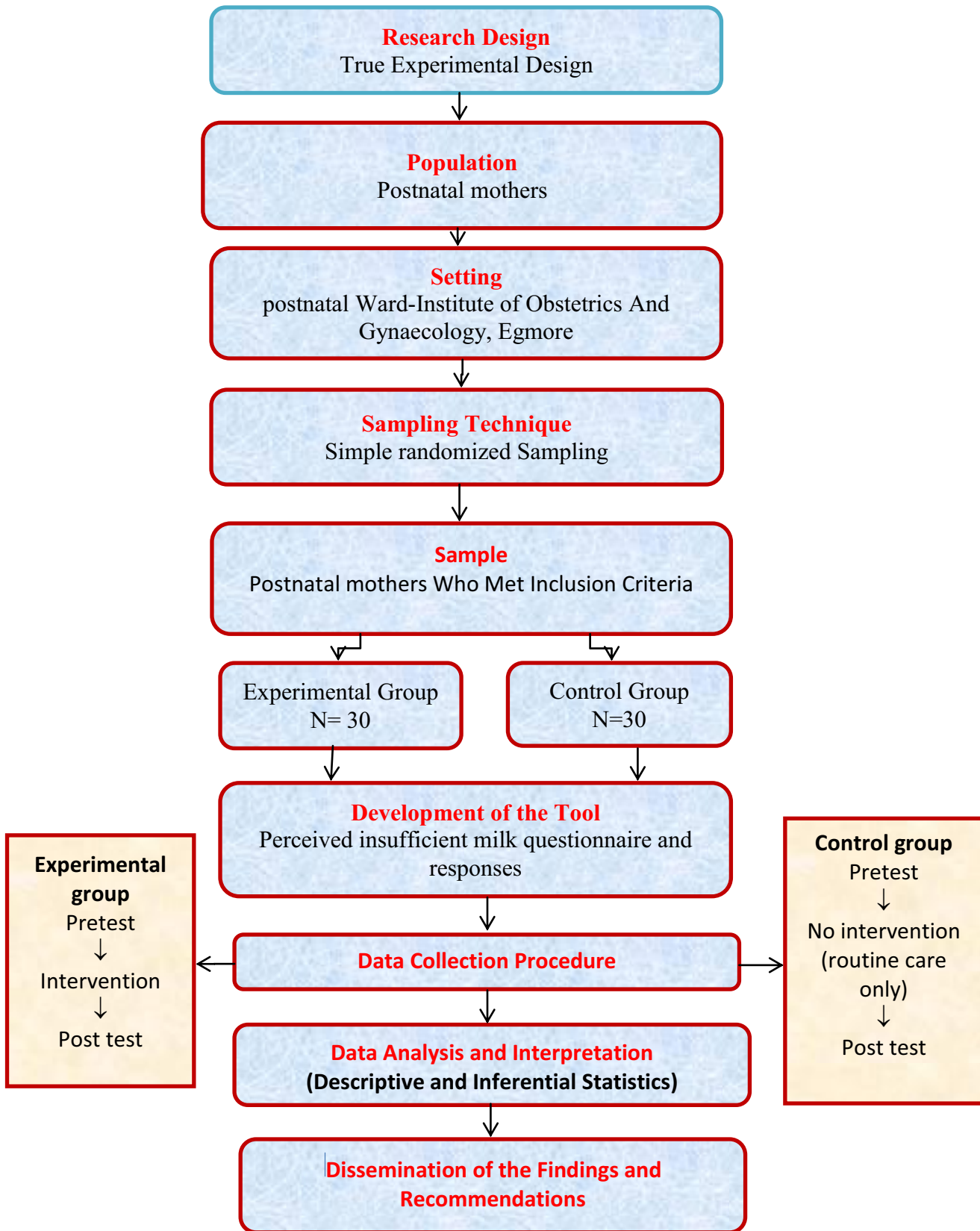
Formal permission was obtained from the director and head of the department of IOG, Chennai. The investigator selected the samples from the postnatal ward. The postnatal mothers were assured that the collected will be kept confidential. The data collection was done from 16.7.15 to 15.8.15. Pilot study samples were excluded from the main samples. After establishing a good rapport with postnatal mothers, an informed and written consent was obtained. And tools were filled by them. Approximately two to three samples were selected every day and fenugreek was given in a powder form of 2.5g mixed with the 100^{ml} of water

twice a day (morning 9am and evening 4pm) for consecutive five days. I spent half an hour for every postnatal mother for the intervention; meanwhile I clarified her doubt regarding breast feeding, postnatal diet, breast feeding techniques and their usual doubts. The data collection was done from 16.7.15 to 15.8.15 (4 weeks).

3.15 Data entry and analysis

The data were analyzed using *descriptive statistic* such as Mean, Standard deviation, Frequency and percentage and *inferential statistics* like chi - square test paired-T test and unpaired- T test.

FIGURE 3.1 SCHEMATIC REPRESENTATION OF THE STUDY



DATA ANALYSIS & INTERPRETATION

CHAPTER-IV30

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collection from 60 patients “To assess the effectiveness of fenugreek on lactation among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Hospital for Women and Children, Chennai”.

The study aimed to assess the effectiveness of fenugreek on lactation among postnatal mothers. The data was collected from 60 samples (30 experimental and 30 control). The findings were tabulated and interpreted in this chapter. The data were analyzed by using descriptive and inferential statistics. The data were analyzed based on the objectives formulated by the researcher. The analyzed data were tabulated under tables and figures under the sections given below.

Organization of the data

Section-I

- A) Description of demographic profile of postnatal mother in experimental and control group.
- B) Description of obstetric variables of postnatal mother in experimental and control group.
- C) Description of practice and knowledge based information about breast feeding and galactogogues of postnatal mother in experimental and control group.

Section-II:

- A) Data on pre assessment of level of perception of breast milk secretion among postnatal mothers in experimental and control group.
- B) Data on post assessment of level of perception of breast milk secretion among postnatal mothers in experimental and control group.

Section-III

Data on comparison of the pre assessment and post assessment level of perception on breast milk secretion among postnatal mothers between the experimental and control group.

Section-IV

Effectiveness of fenugreek on level of perception of breast milk secretion among postnatal mothers between the control and experimental group.

Section-IV

Data on association of the effectiveness of fenugreek with the selected demographical and obstetric variables.

Statistical analysis

1. Demographic variables in categorical/dichotomous were given in frequencies with their percentages.
2. Obstetric variables in categorical/dichotomous were given in frequencies with their percentages.
3. Level of perception on breast milk secretion was given frequencies with their percentages in control and experimental group.
4. Effectiveness of fenugreek on perception on breast milk secretion. It was assessed using Mean and SD with 95%Confidence Interval and $P < 0.05$ was considered statistically significant.

5. Comparison between control and experimental by using paired t-test.
6. Association between level of perception on breast milk secretion score between demographic and obstetric variables were analyzed using Pearson chi square test.

SECTION-I: A) This section describes the description of demographic variables of postnatal mother in experimental and control group.

Table-4.1: Distribution of the Demographic variables of postnatal mother

Demographic variables		Control		Experimental	
		frequency	in %	frequency	in %
Age	21 – 25yrs	2	6.7	4	13.3
	26 – 30yrs	18	60	16	53.3
	31 – 35yrs	4	13.3	9	30
	Above 35yrs	6	20	1	3.3
Education	No formal education	1	3.3	0	0
	Primary education	9	30	7	23.3
	Secondary education	9	30	11	36.7
Occupation	Home maker	27	90	26	86.7
	Employed	2	6.7	4	13.3
	Self employed	1	3.3	0	0
Family monthly income	Below Rs6000/-	5	16.7	1	3.3
	Rs6001/- to Rs 7000/-	10	33.3	9	30
	Rs7001/-to Rs 10,000/-	14	46.7	15	50
	More than Rs10,000/-	1	3.3	5	16.7
Religion	Hindu	27	90	26	86.7
	Christian	1	3.3	3	10
	Muslim	2	6.7	0	0

	Others	0	0	1	3.3
Residency	Urban	26	86.7	21	70
	Rural	4	13.3	9	30
Marital Status	Married	30	100	30	100
Type of Family	Nuclear	14	46.7	16	53.3
	Joint	16	53.3	14	46.7
Food habits	Vegetarian	8	26.7	8	26.7
	Non-vegetarian	0	0.0	2	6.7
	Mixed	22	73.3	20	66.7

Table 4.1 shows that, with regard to age, majority of the postnatal mothers (55%) in experimental group and in the control group (60%) were in the age group between 26 – 30 yrs.

Regarding **educational status**, majority of the postnatal mothers (40%) in the experimental group and in the control group (36.7%) were graduates.

In an **occupation**, majority of the postnatal mothers (86.7%) in the experimental group and in the control group (90%) were home maker.

About **family monthly income**, in the experimental group majority of the postnatal mothers (50%) were receiving the monthly income within Rs7000/- to Rs 10,000/- and in the control group, majority of the postnatal mothers (46.7%) were receiving the monthly income within Rs7000/- to Rs 10,000/-.

With regard to **religion**, majority of the postnatal mothers (86.7%) in the experimental group and in the control group (90%) were Hindu.

About **residence**, majority of the postnatal mothers (70%) in the experimental group and in the control group (86.7%) were lived in an urban.

Regarding **marital status**, in both experimental and control group all the postnatal mothers (100%) were married.

With regard to **type of family**, in the experimental group majority of the postnatal mothers (53.3%) were in nuclear family and in the control group, majority of the postnatal mothers (53.3%) were living in joint family.

In terms **food habit**, majority of the postnatal mothers (66.7%) in the experimental group and in the control group (73.3%) were having mixed diet pattern.

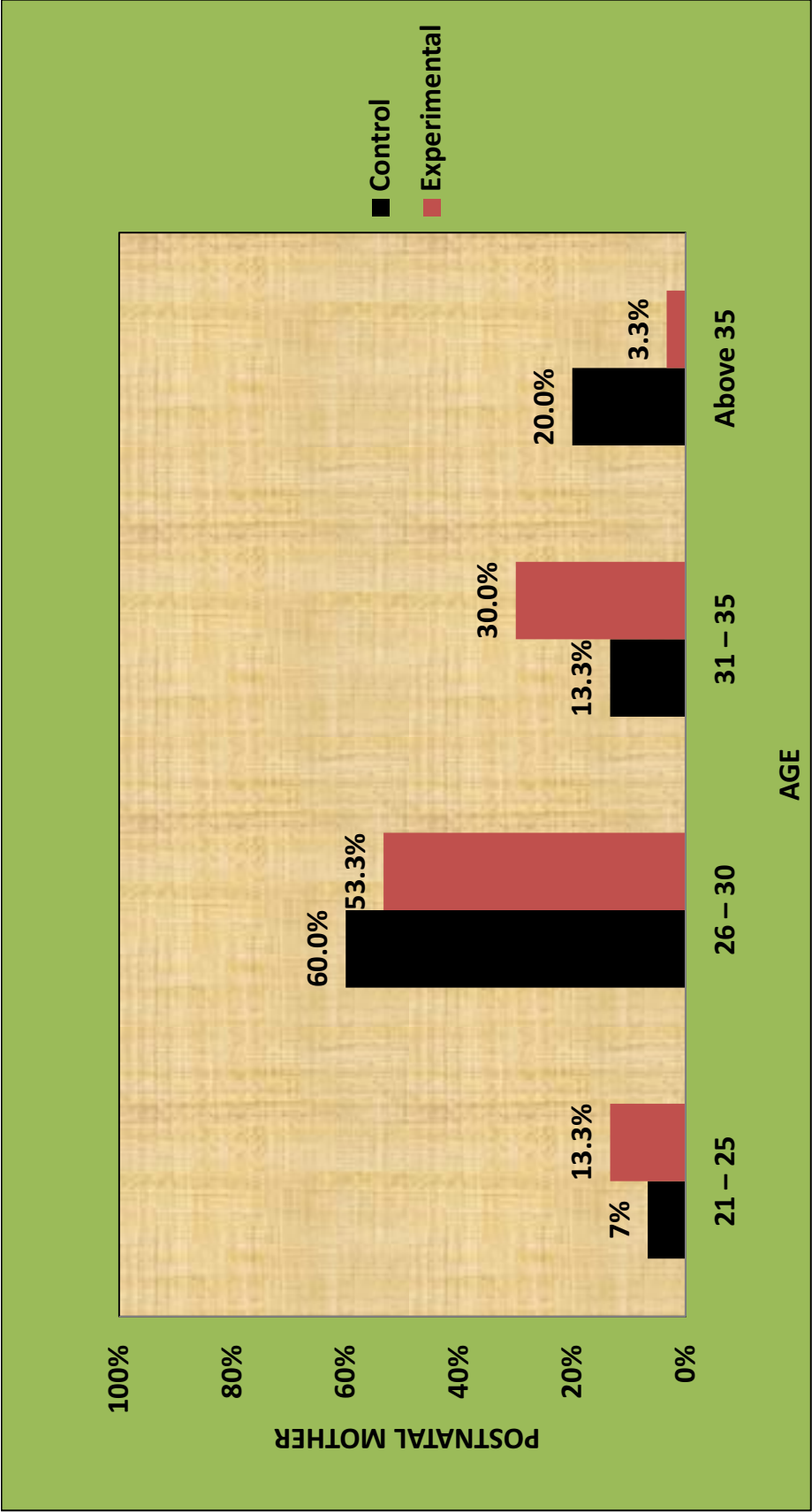


Fig 4.1: Age wise distributions of postnatal mothers

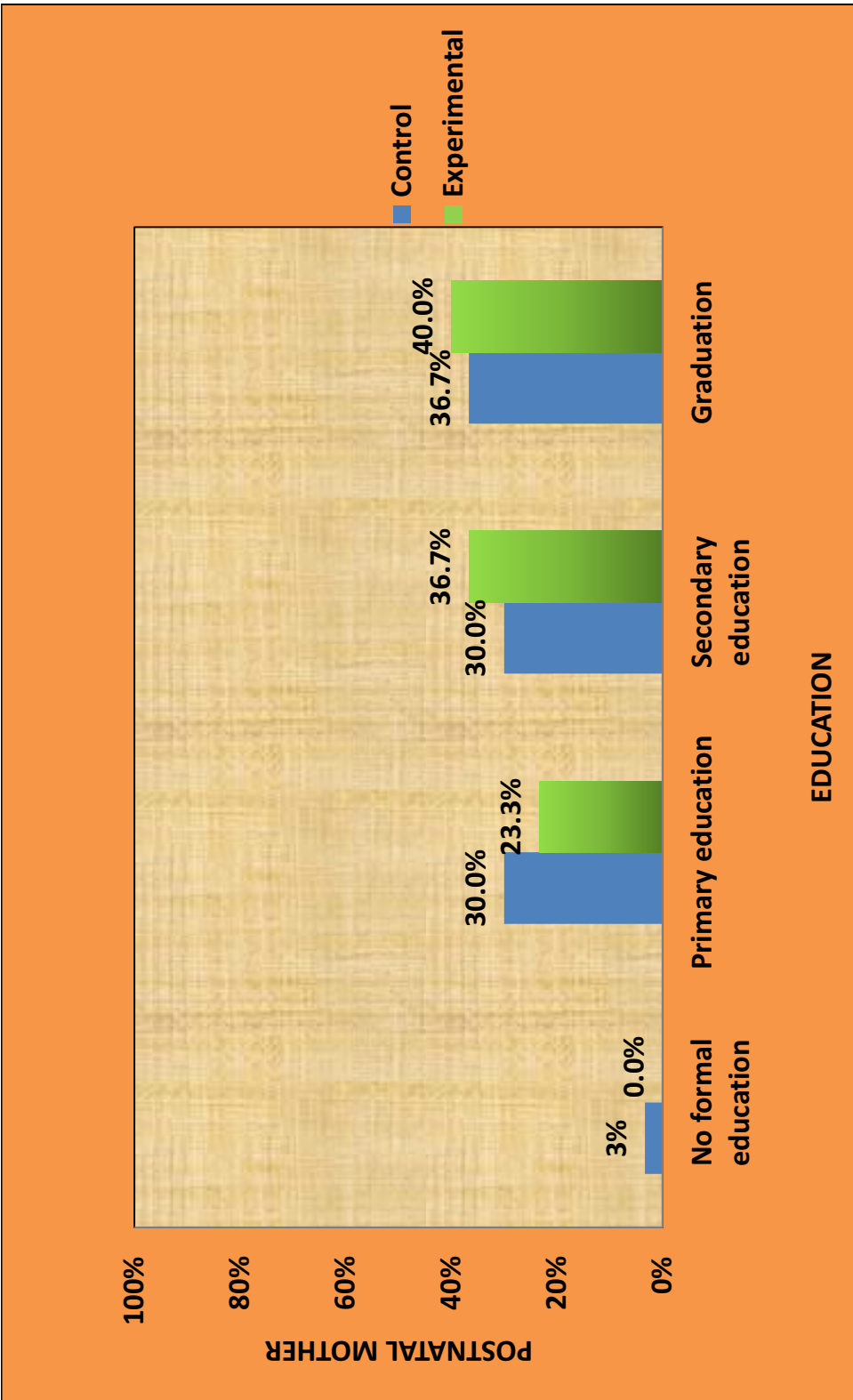


Fig 4.2: Education wise distribution of postnatal mothers

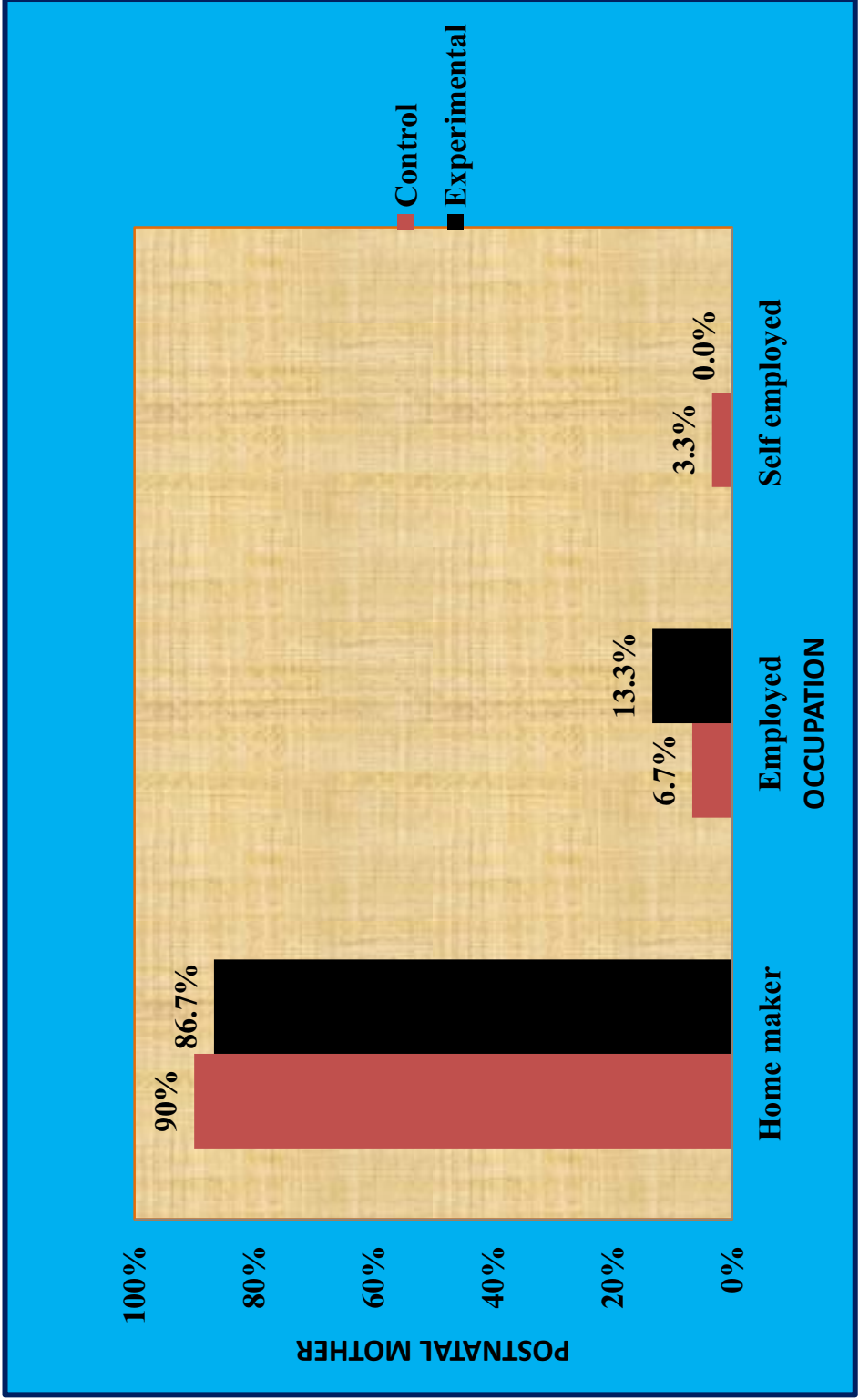


Fig 4.4: family monthly income wise distribution of postnatal mothers

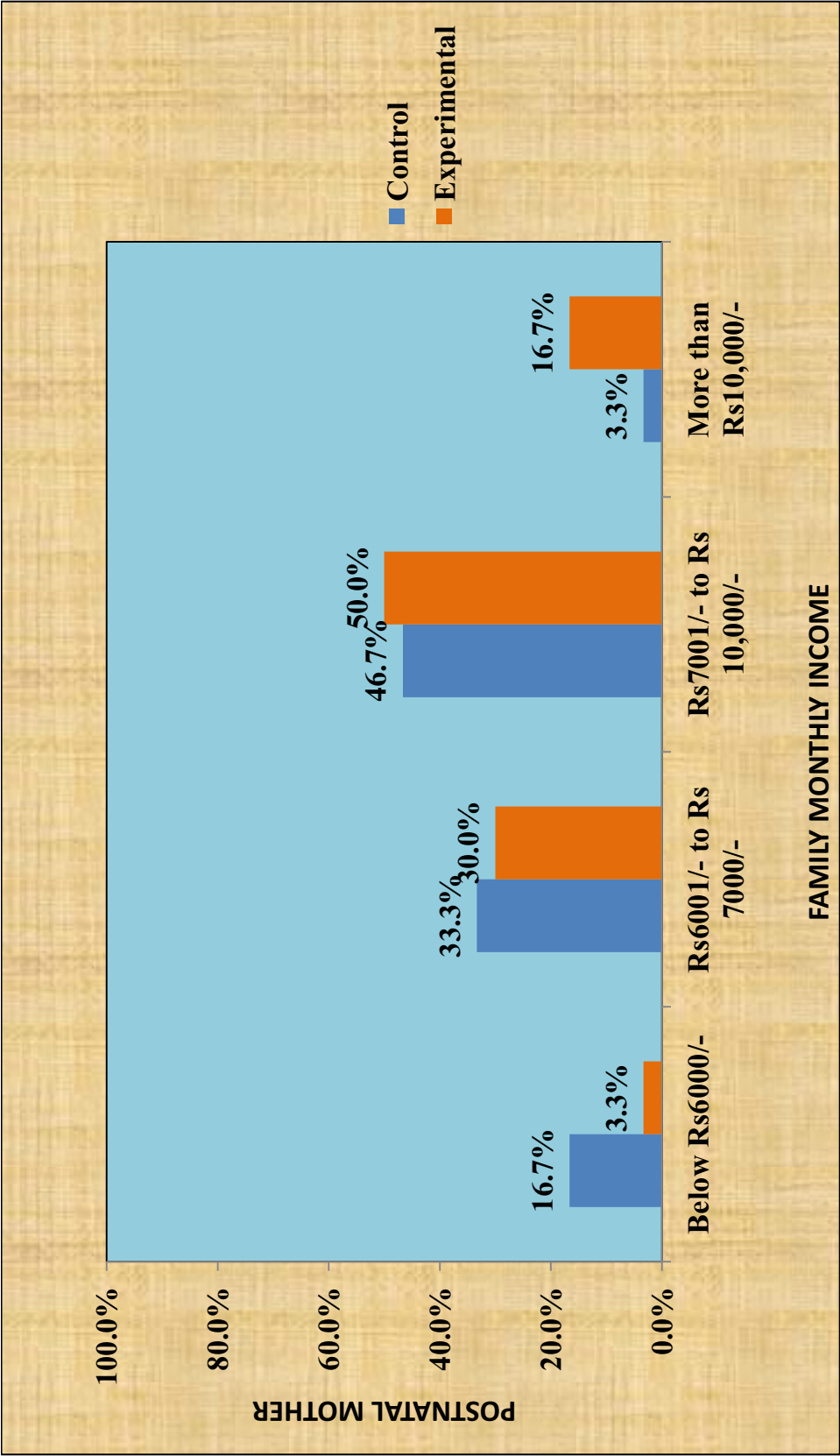


Fig 4.4: Family monthly income wise distribution of postnatal mothers

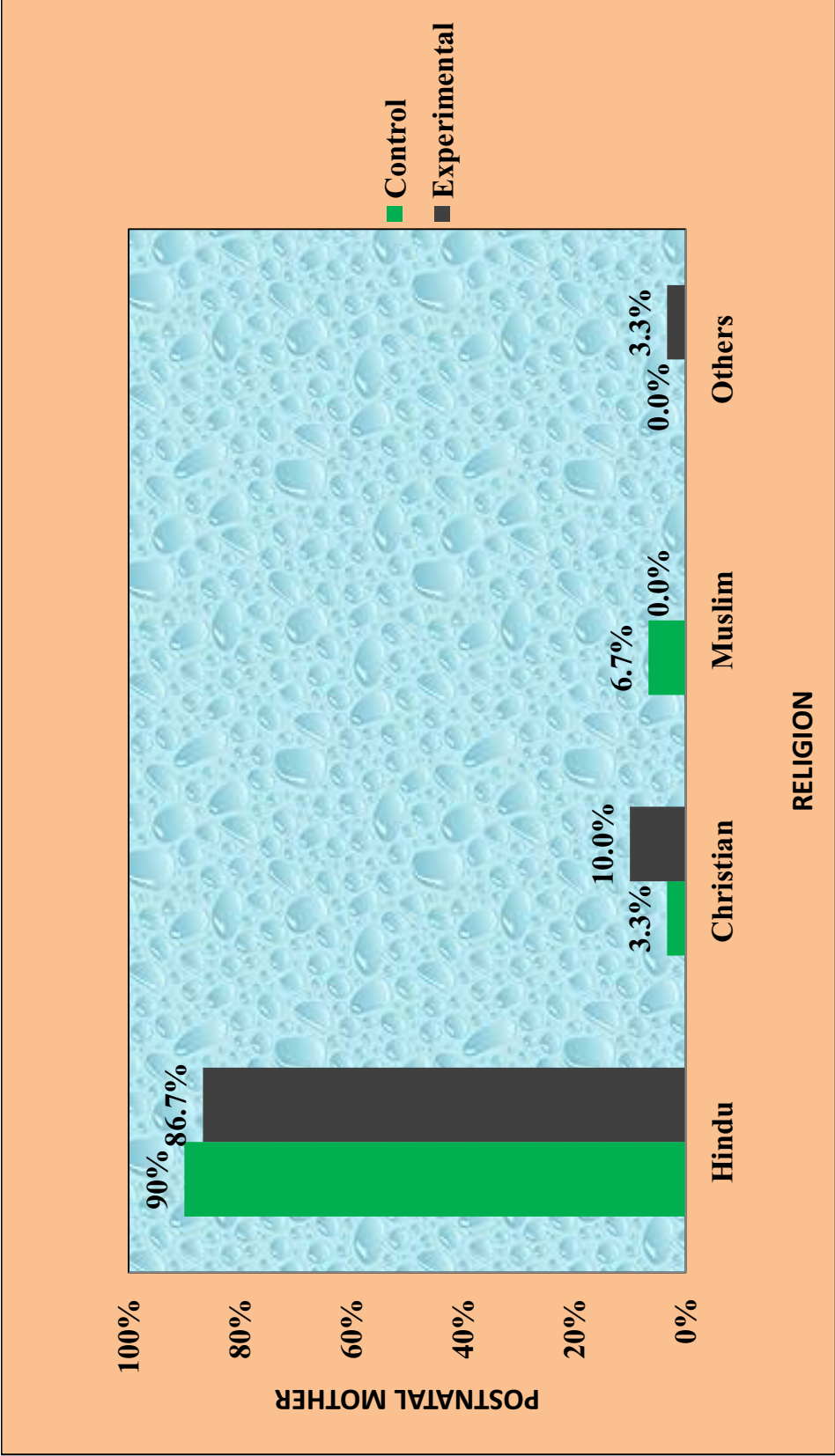


Fig4.5: Religion wise distribution of postnatal mothers



Fig 4.6: Residence wise distribution of postnatal mothers



Fig 4.7: Family type wise distribution of postnatal mothers

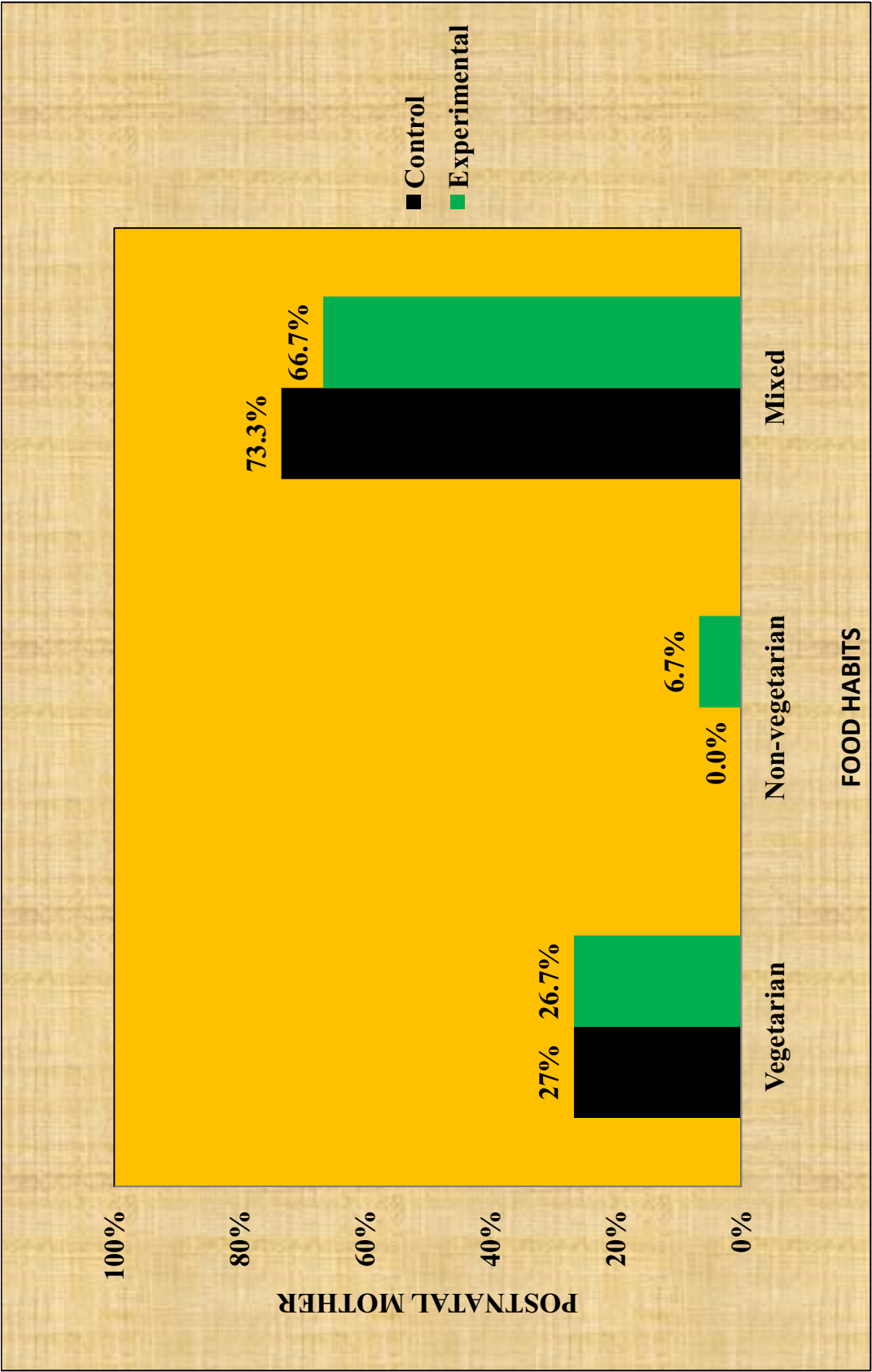


Fig 4.8: Distributions of patients according to their food habits

SECTION-I: B) This section describes the description of obstetric variables of postnatal mother in experimental and control group.

Table-4.2: Distribution of the obstetric variables of postnatal mother

Obstetric variables		Group			
		Control		Experimental	
		frequency	in%	frequency	in%
Mode of delivery	Normal vaginal delivery	9	30	18	60
	Lower segment caesarean section	20	66.7	10	33.3
	Forceps delivery	0	0	2	6.7
	Ventouse delivery	1	3.3	0	0
No. of children	One	22	75.9	20	66.7
	Two	7	24.1	9	30
	Three	0	0	1	3.3
Initiation of breast Feed	within half an hr	0	0	2	6.7
	within one hr	5	16.7	8	26.7
	1hr – 2hrs	8	26.7	9	30
	After 2 hrs	17	56.7	11	36.7
Condition of nipple	Inverted nipple	1	3.3	3	10
	Flat nipple	1	3.3	0	0
	Crack nipple	1	3.3	5	16.7
	Normal nipple	27	90	22	73.3
	None	12	40	16	53.3

Table 4.2 shows that according **mode of delivery**, in experimental group majority of the postnatal mother (60%) were met with normal vaginal delivery and in the control group, majority of the postnatal mother (66.7%) were met with lower segment caesarean section.

Regarding **number of children**, majority of the postnatal mothers (66.7%) in experimental group and in the control group (75.9%) were having one child only.

In view of **initiation of breast feeding**, majority of the postnatal mothers (36.7%) in experimental group and in the control group (56.7%) were gave breastfeeding to their baby after 2hours of delivery.

In terms of **condition of nipple**, majority of the postnatal mothers (73.3%) in experimental group and in the control group (90%) were having normal condition of nipple.

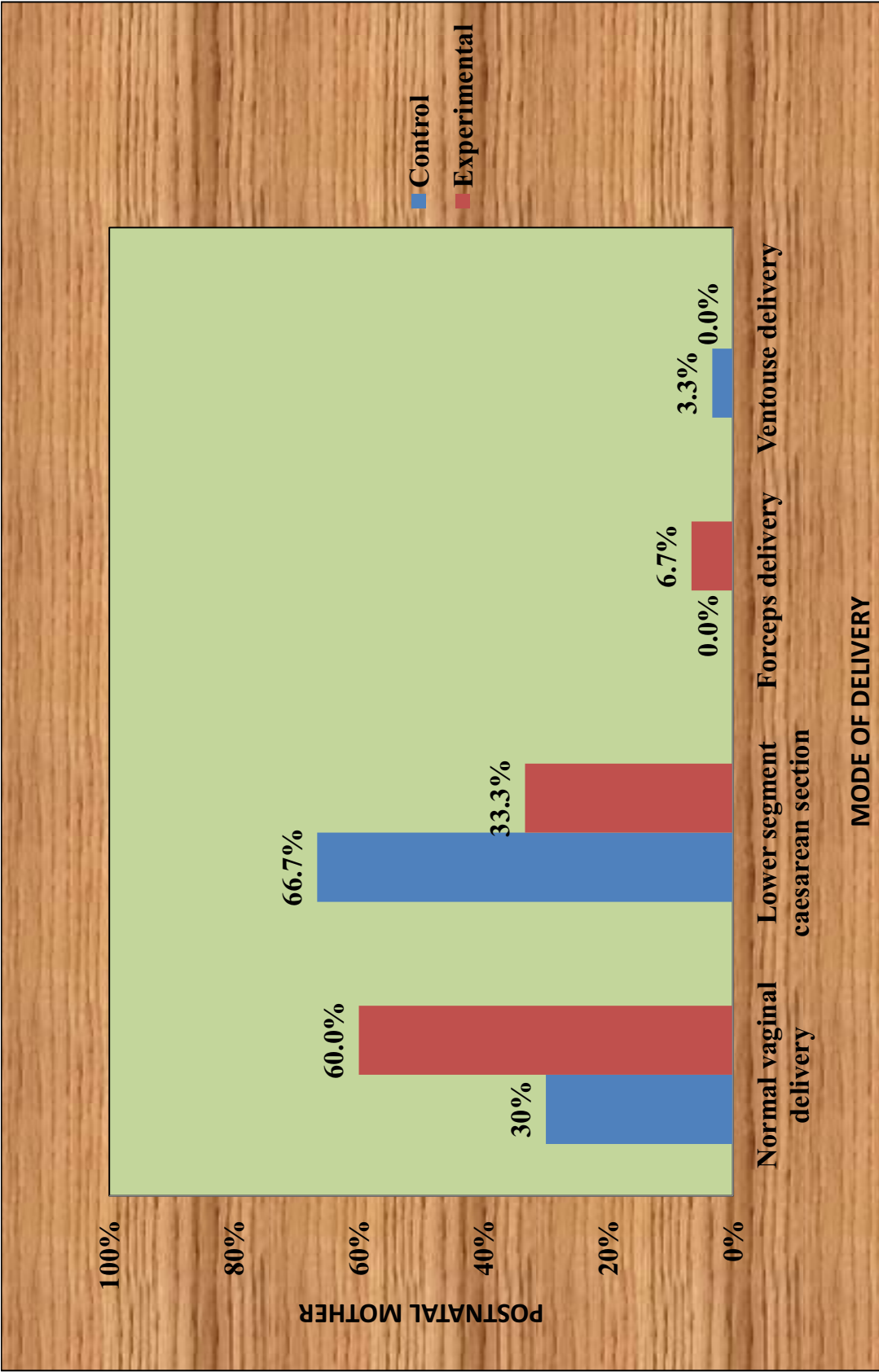


Fig 4.9: Mode of delivery wise distribution of postnatal mothers

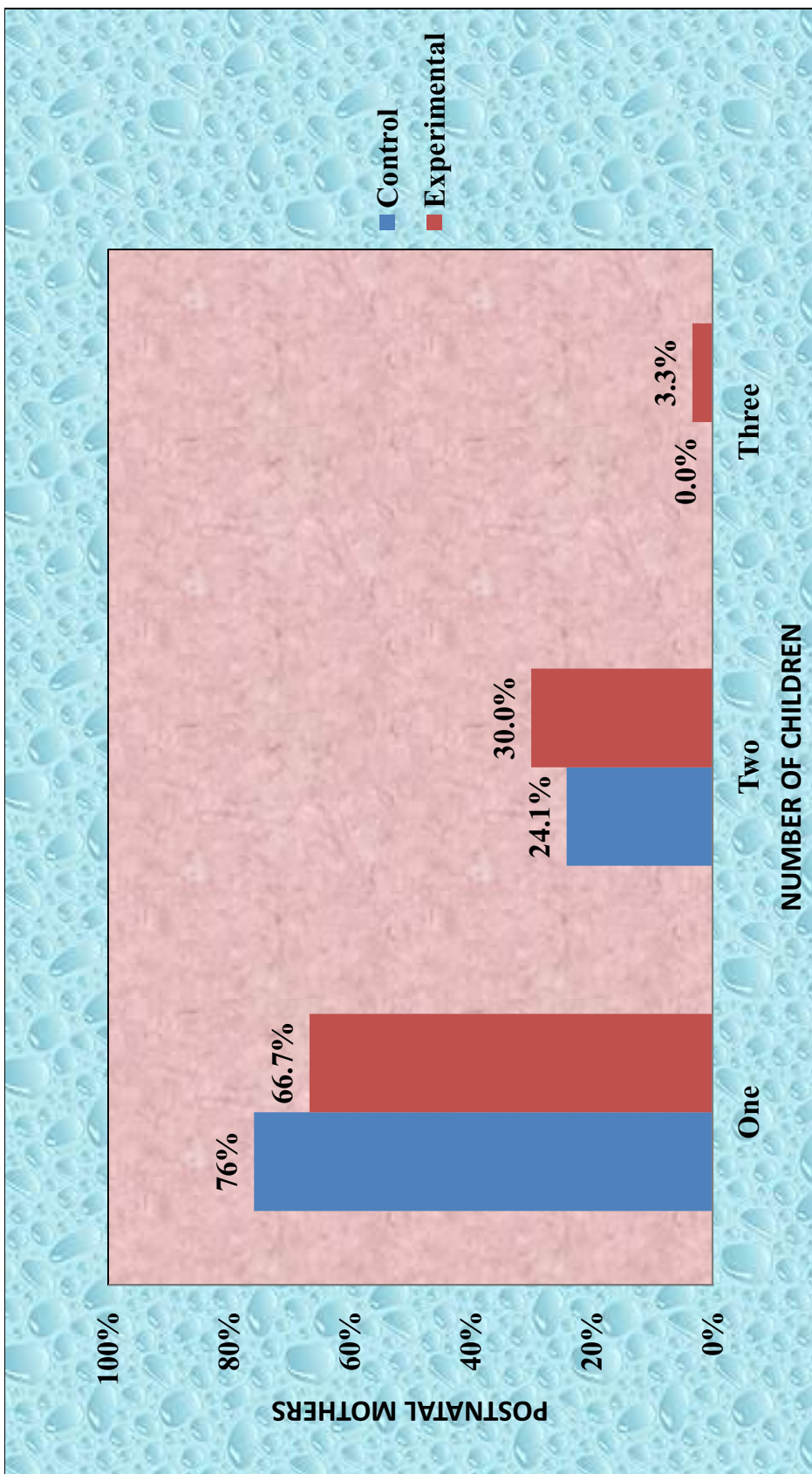


Fig 4.10: Number of children wise distribution of postnatal mothers

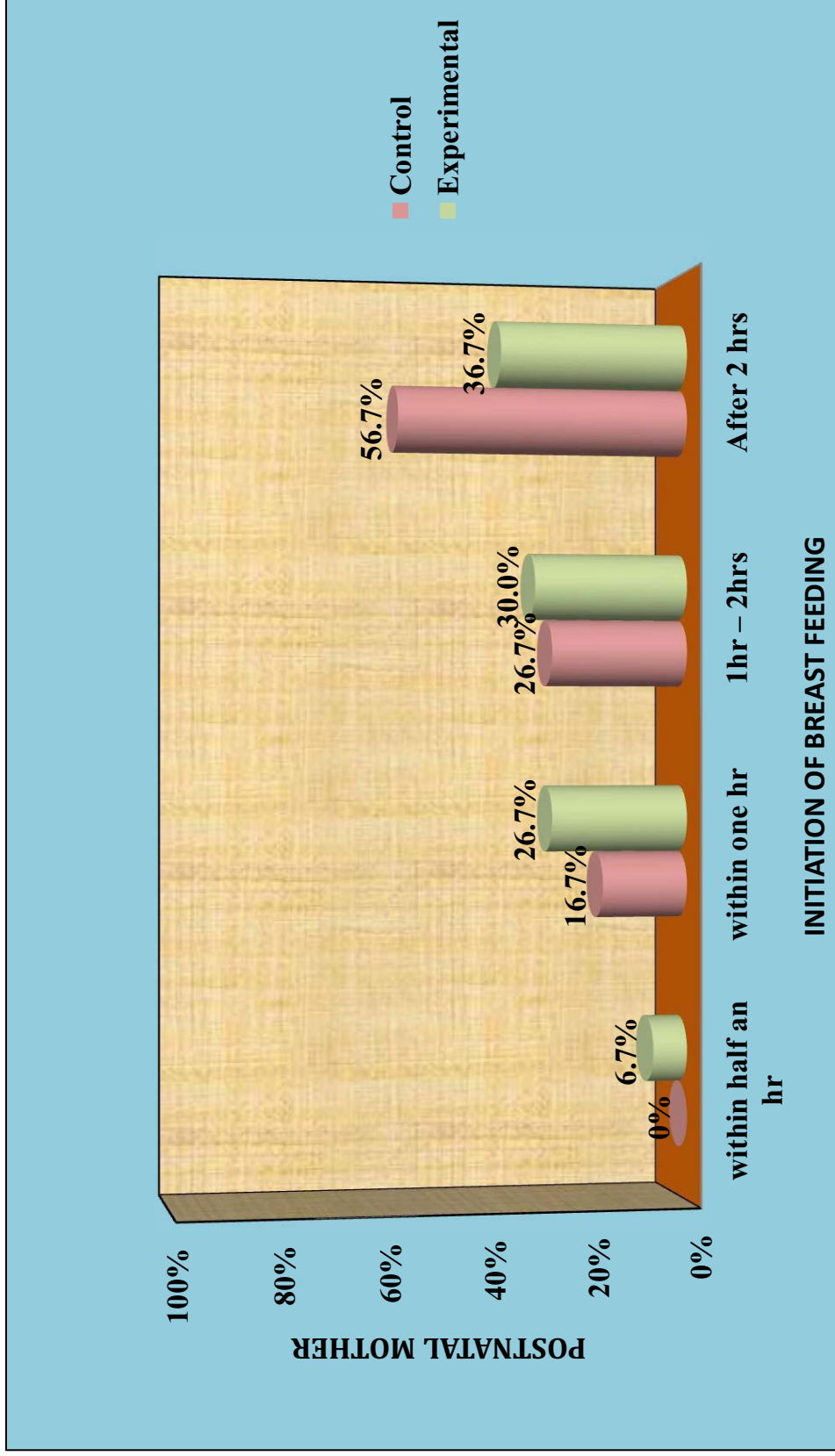


Fig 4.11: Initiation of breast feeding wise distribution of postnatal mothers

Fig4.12: Condition of nipple among postnatal mothers

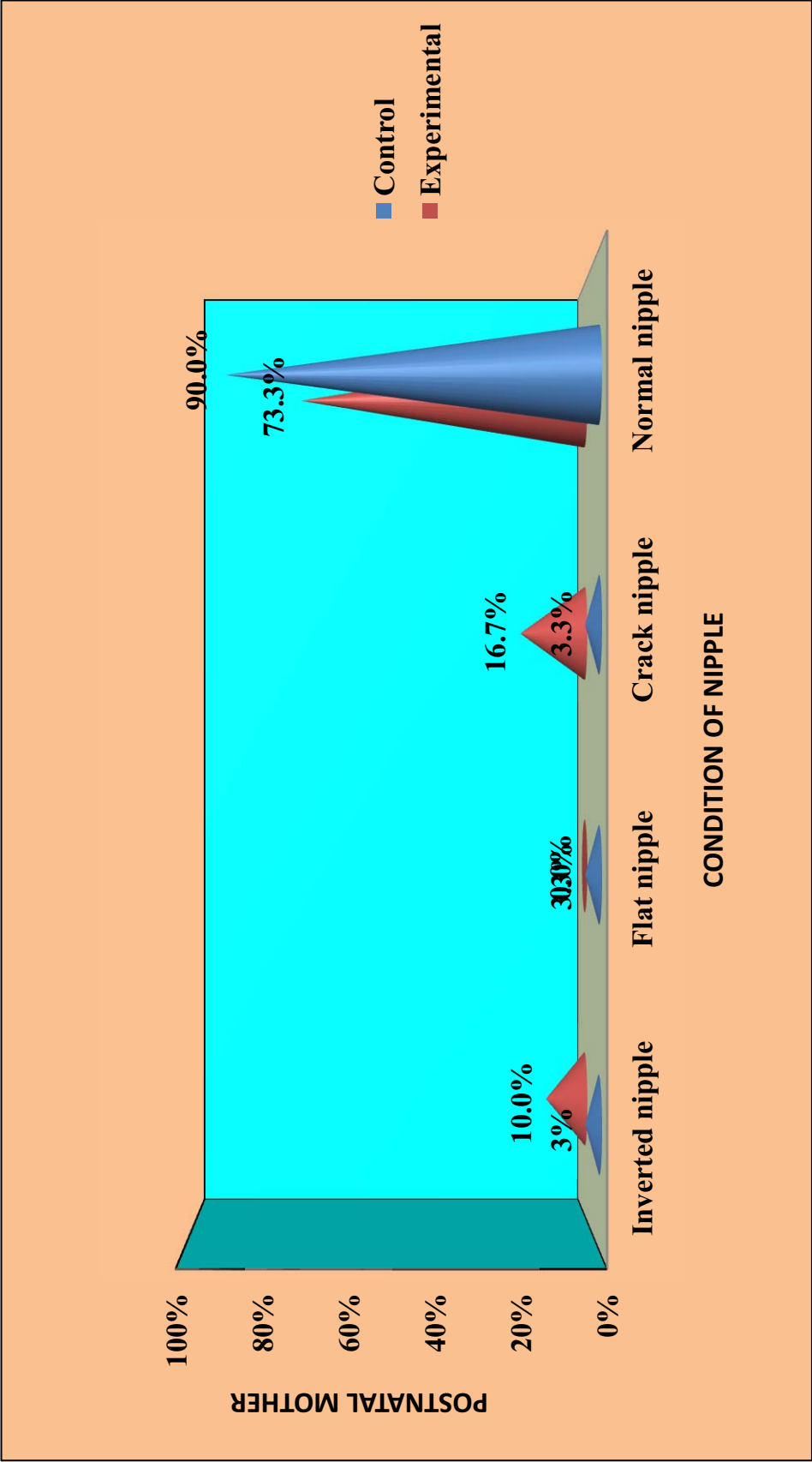


Fig4.12: Condition of nipple among postnatal mothers

SECTION-I: C) This section describes the description of practice and knowledge based information of herbal galactogogue among postnatal mother in experimental and control group.

Table-4.3: Distribution of the practice and knowledge based information of postnatal mother

Practice & Knowledge based information of herbal galactogogue		Group			
		Control		Experimental	
		frequency	in %	Frequency	in%
Newborn Feeding pattern	Breast milk	28	93.3	26	86.7
	Both A & B	2	6.7	4	13.3
Breast feed Per day	2 – 3 times	2	6.7	0	0
	3 – 5 times	6	20	6	20
	5 – 7 times	18	60	12	40
	>7 times	4	13.3	12	40
Knowledge of complementary therapy on breast Milk secretion	Yes	4	13.3	4	13.3
	No	26	86.7	26	86.7
Mentioned things to promotion of breast	None	27	90	26	86.7
	Garlic	1	3.3	1	3.3
	Injections	0	0	1	3.3
	Milk	0	0	1	3.3
	Non-veg diet	2	6.7	1	3.3
Source of information	None	27	90	26	86.7
	Aunty	2	6.7	3	10
	Grandmother	0	0	1	3.3
	Mother	1	3.3	0	0
Galactogogues to increase breast milk production	Fenugreek	1	3.3	0	0
	Ginger	3	10	0	0
	Garlic	11	36.7	14	46.7
	Cumin	3	10	0	0
Health benefits of fenugreek	Relieve abdominal pain	18	60	17	56.7
	Stimulator of breast milk production	0	0	1	3.3
	Reduces the body heat	12	40	12	40

Table 4.3 shows that, In **feeding pattern**, majority of the postnatal mothers (86.7%) in experimental group and in the control group (93.3%) were fed the baby with breast milk only.

About **frequency of breastfeeding** per day, in experimental group majority of the postnatal mothers (40%) were providing breast feeding 5- 7times and more than 7 times a day and in the control group majority of the postnatal mothers(60%) were providing breastfeeding 5 -7 times a day.

Regarding **knowledge of complementary alternative therapy** on secretion of breast milk, in both experimental and group majority of the postnatal mothers (86.7%) were not having the knowledge regarding alternative therapies to breast milk secretion.

According to mentioned the **things** by postnatal mothers to promotion of secretion of breast milk secretion, majority of the postnatal mothers in experimental group (86.7%) and in the control group (90%) were not mentioned any things to promote the breast milk secretion.

Regarding **source of information**, majority of the postnatal mothers in experimental group (86.7%) and the control group (90%) were having no source of information regarding alternative therapy to breast milk secretion.

With regard to **galactogogues** to increase breast milk promotion, majority of the postnatal mothers in experimental group (46.7%) and the control group (46.7%) were mentioned garlic which is helps to promote breast milk secretion.

In views of **health benefits of fenugreek**, majority of the postnatal mothers in experimental group (56.7%) and the control group (60%) were giving suggestion that fenugreek relieves the abdominal pain.

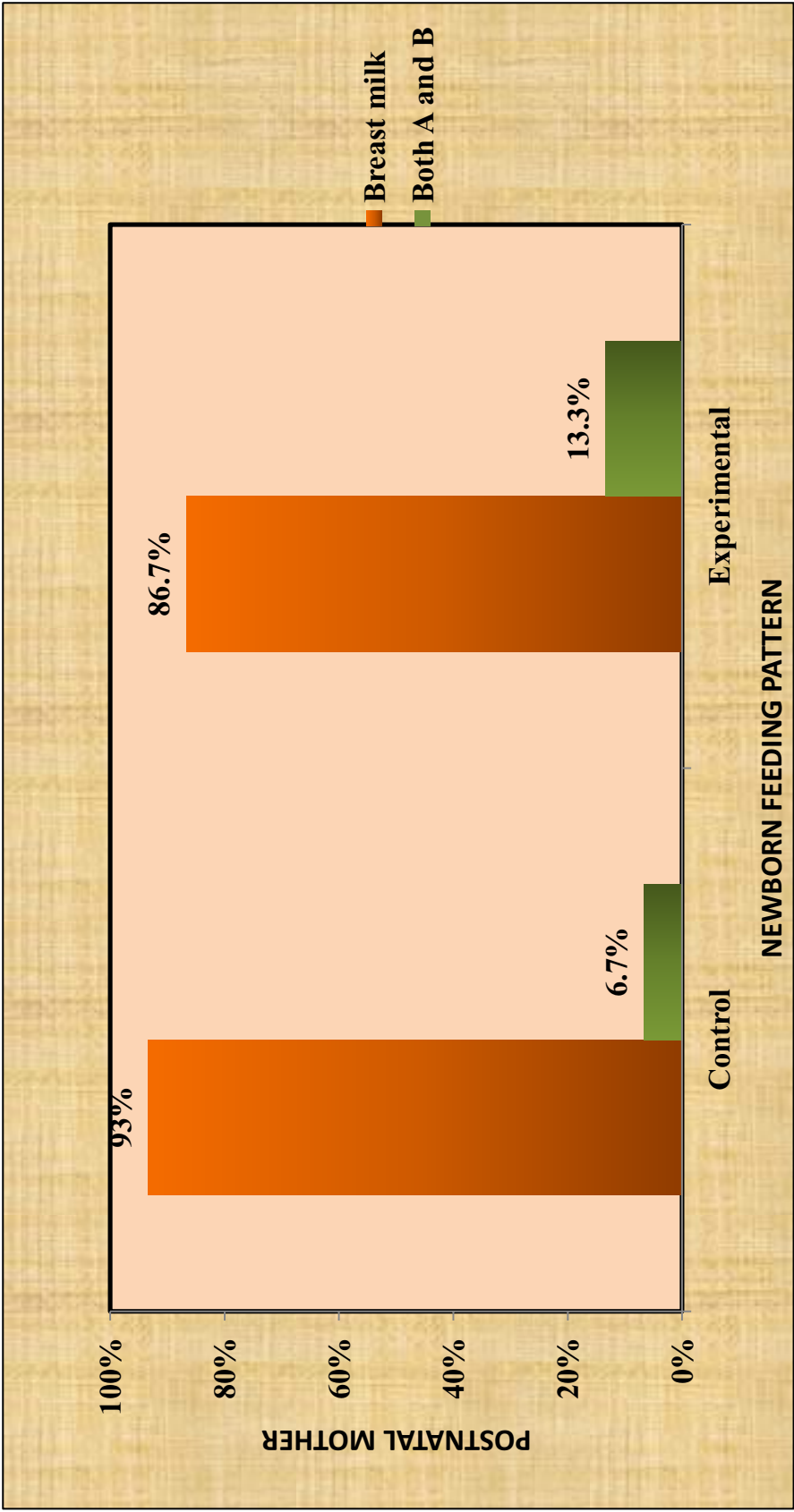


Fig 4:13 Distribution of newborn breast feeding

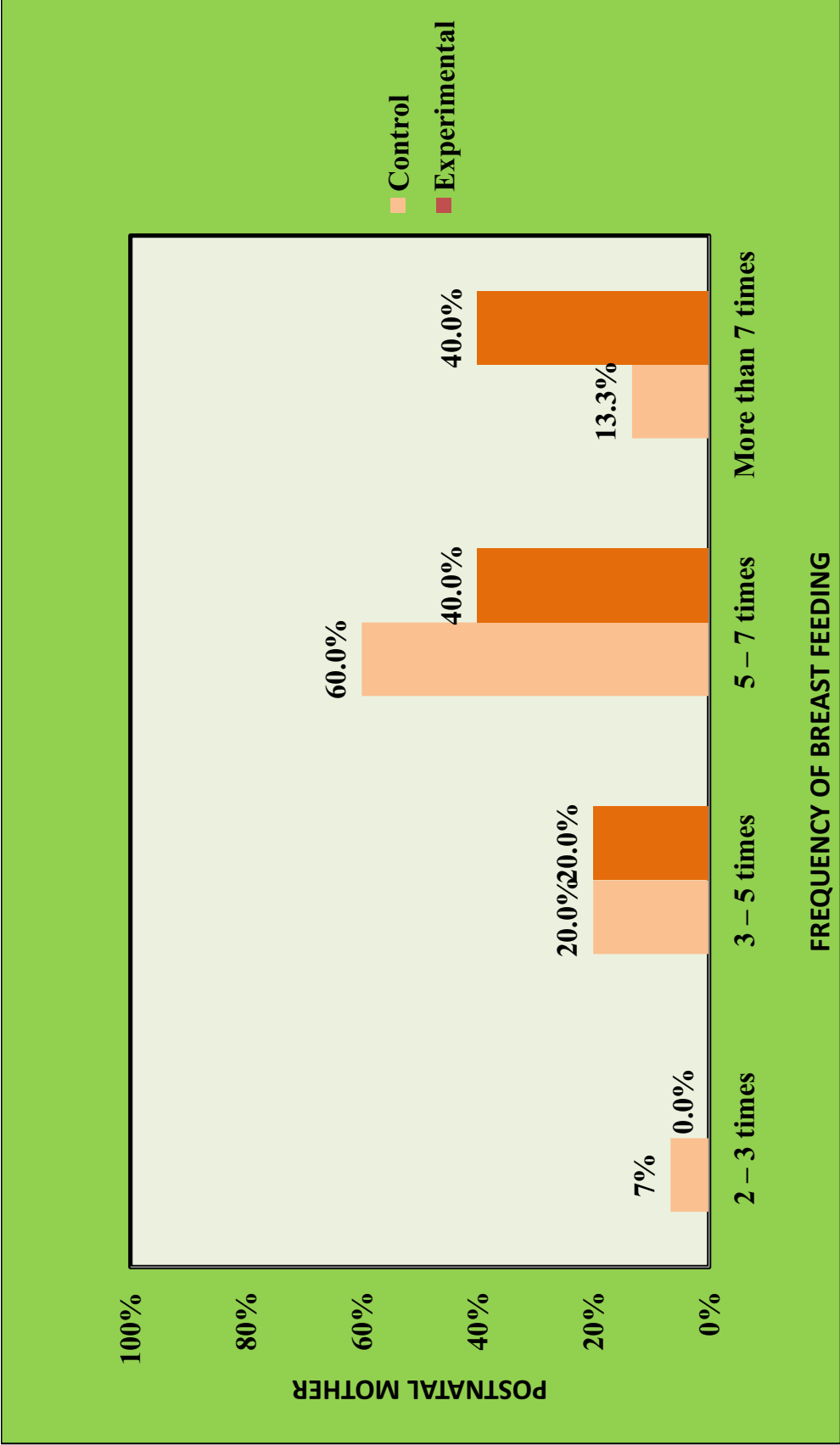


Fig 4.14: Frequency of breastfeeding among postnatal mothers

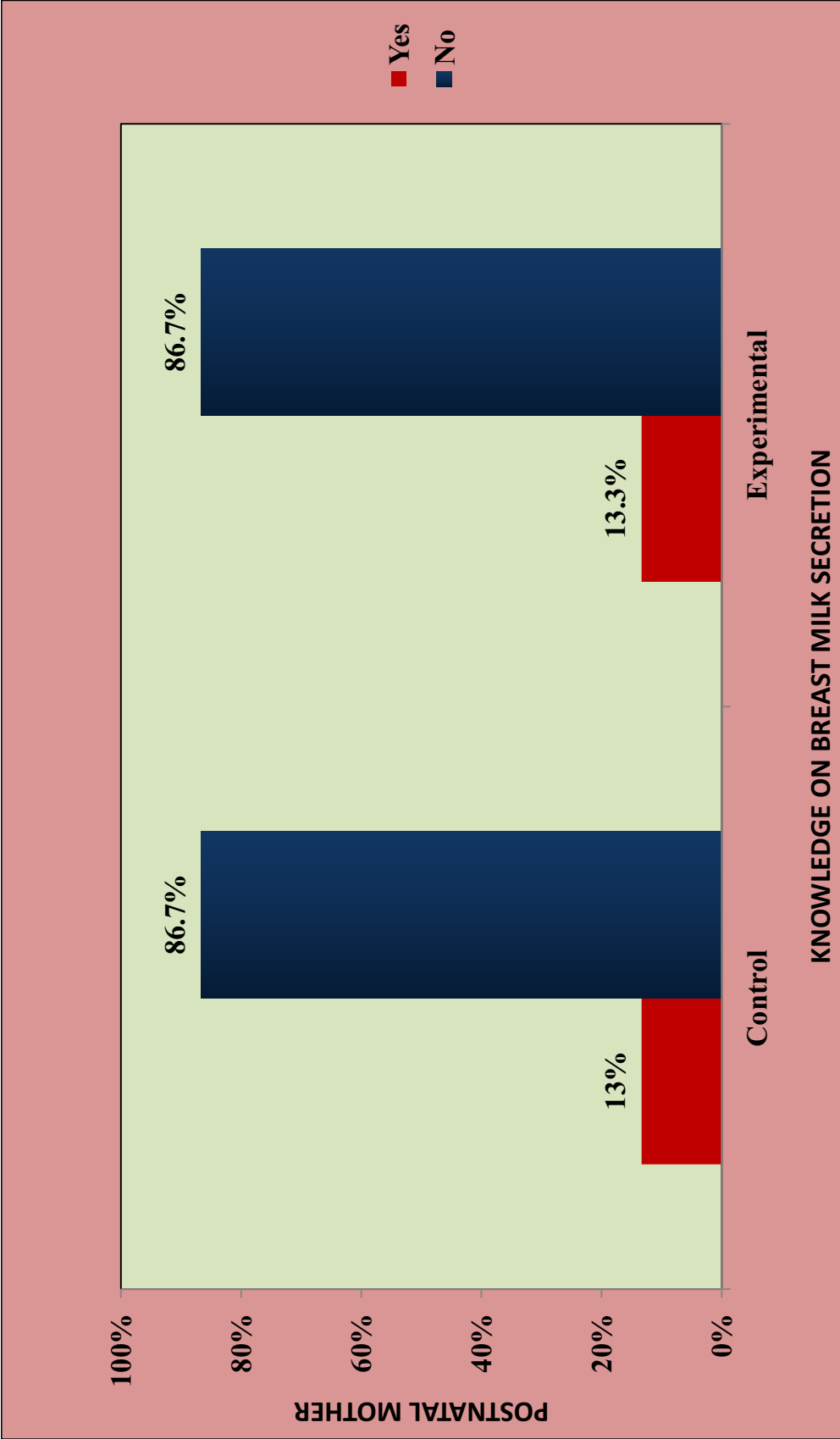


Fig 4.15: Distribution of knowledge regarding alternative therapy in breast feeding among postnatal mothers

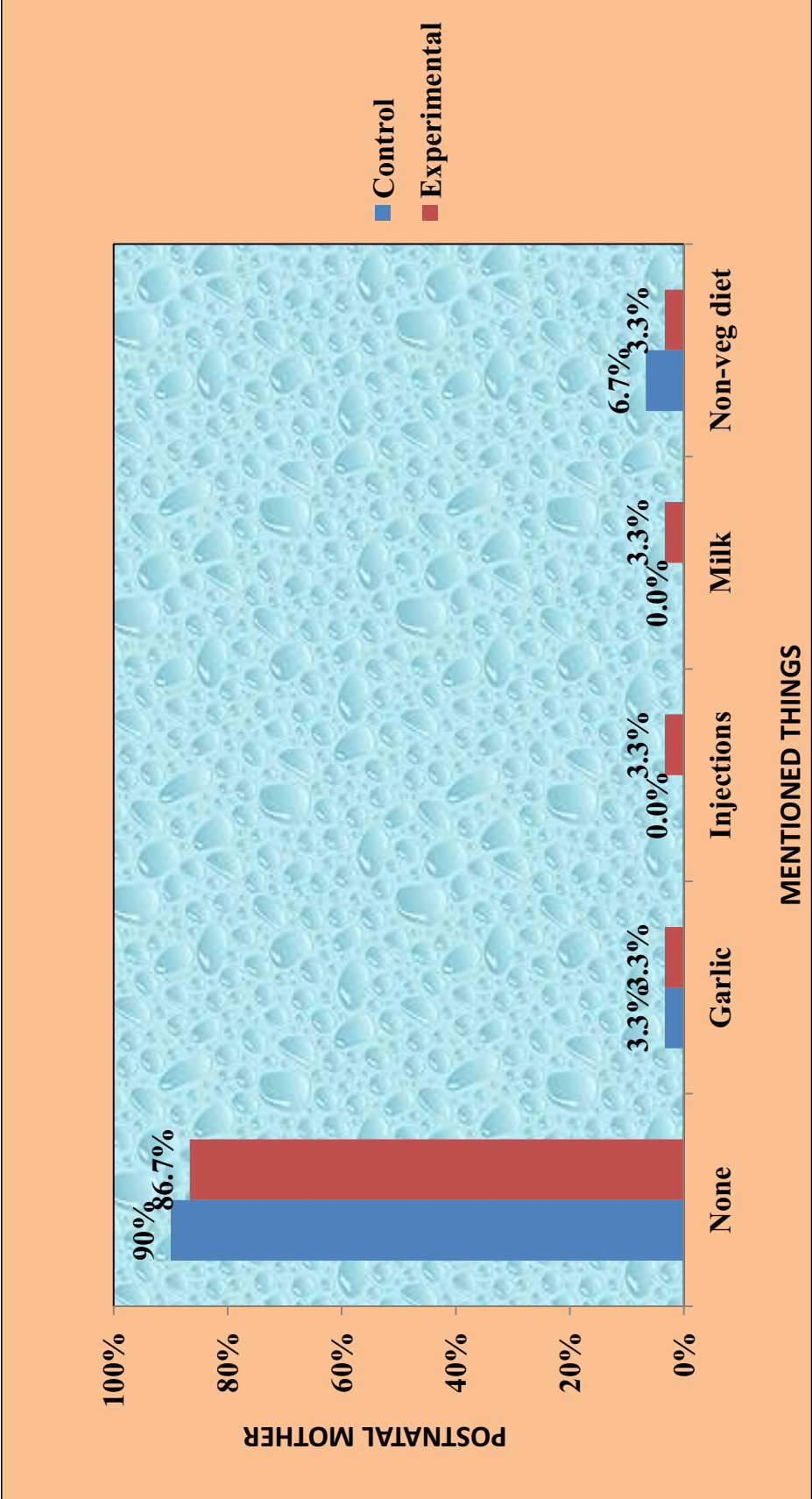


Fig 4.16: Distribution of mentioned things by postnatal mother to promotion of breastfeeding

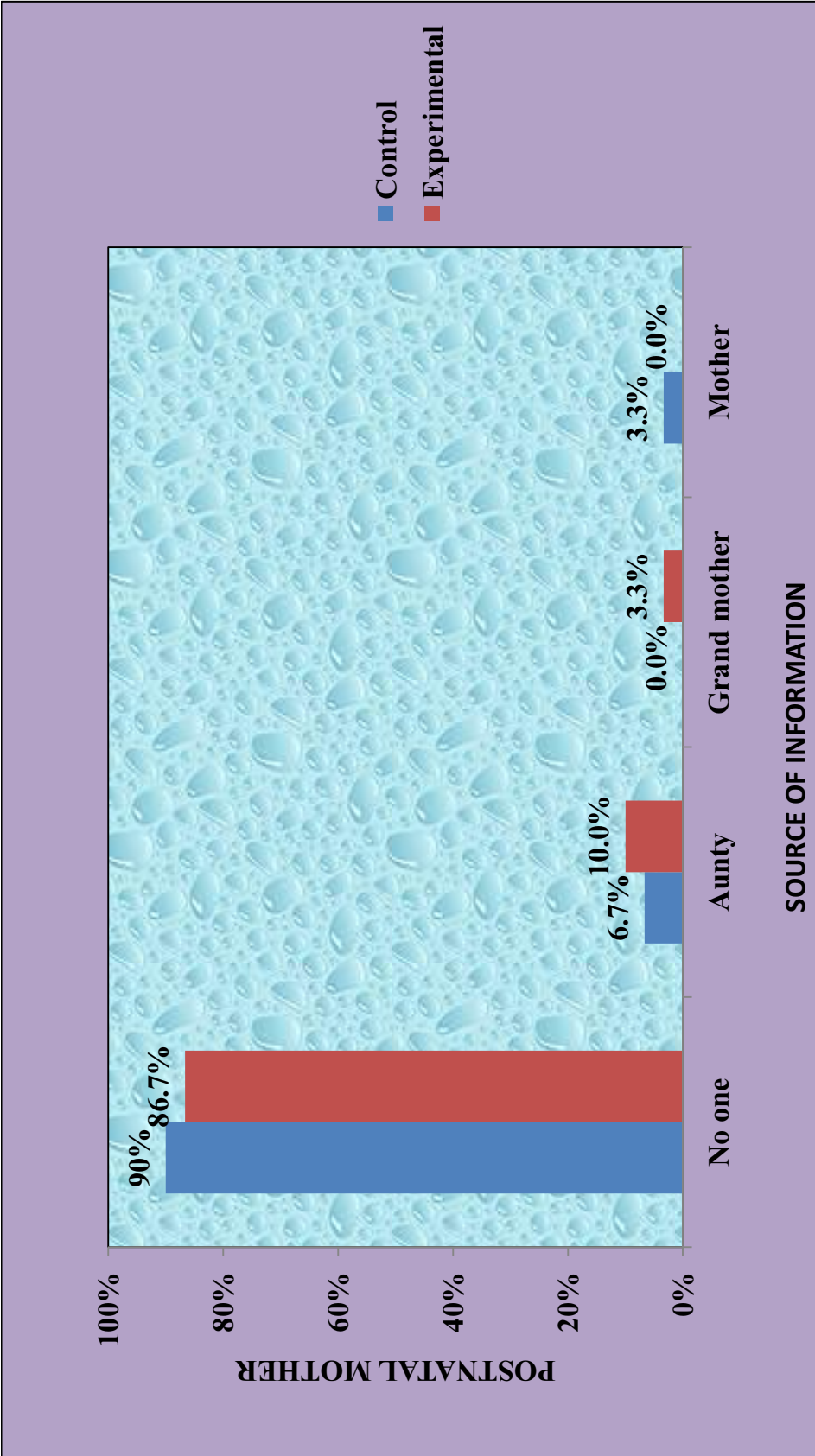


Fig 4.17: Source of information regarding breast feeding among postnatal mother

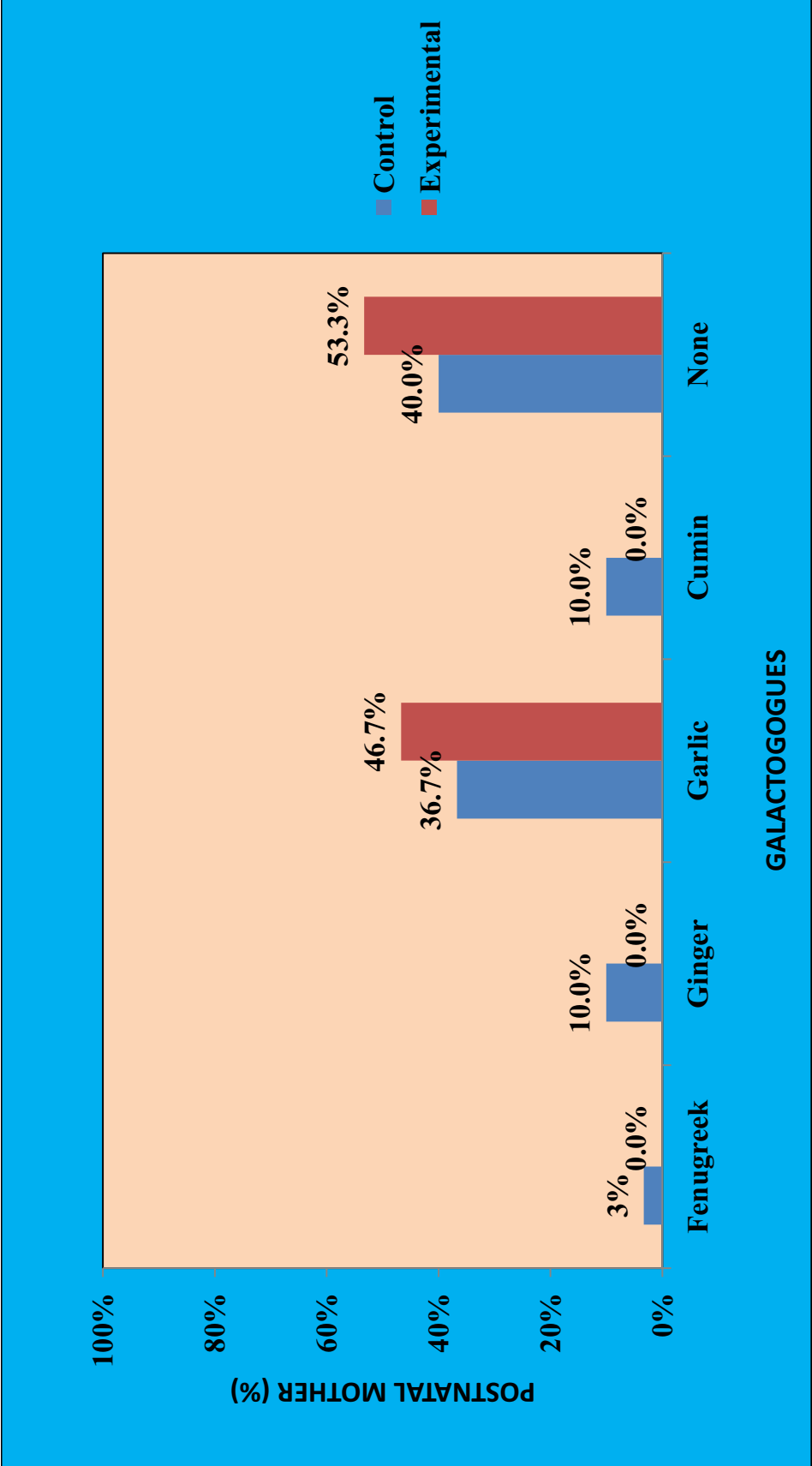


Fig 4.18: Distribution of galactogogues to promotion of breastfeeding

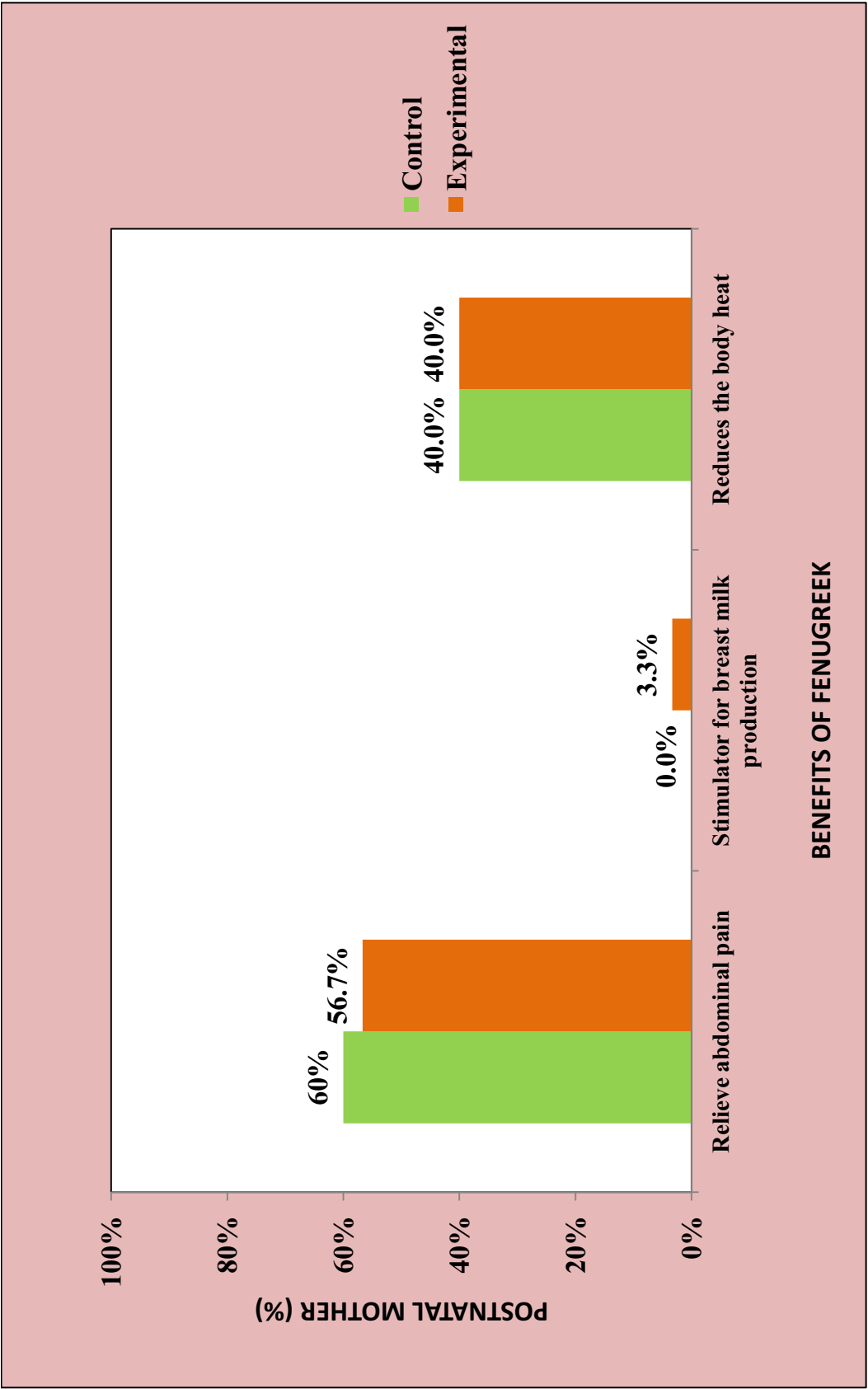


Fig 4.19: Distribution of health benefits of fenugreek

SECTION-II: A) Data on pre assessment of perception of breast milk secretion among postnatal mothers in experimental and control group.

Table-4.4: Pre test level of perception on breast milk secretion among postnatal mothers

Pre – test		Group			
		Control		Experimental	
		frequency	in %	frequency	in %
Satisfactory level	Satisfactory	12	40	0	0
	Unsatisfactory	18	60	30	100
	Total	30	100	30	100
Sufficiency level	Insufficient	30	100	30	100
	Total	30	100	30	100

Table 4.4 shows that in pre - test, considering the level of perception on breast milk secretion among postnatal mothers, in the control group, 12(40%) of them were satisfied and 18(60%) of them were unsatisfied where as in the experimental group, all 30 (100%) of them were unsatisfied. However, in both the group, 30 (100%) of them were perceived insufficiency on breast milk secretion.

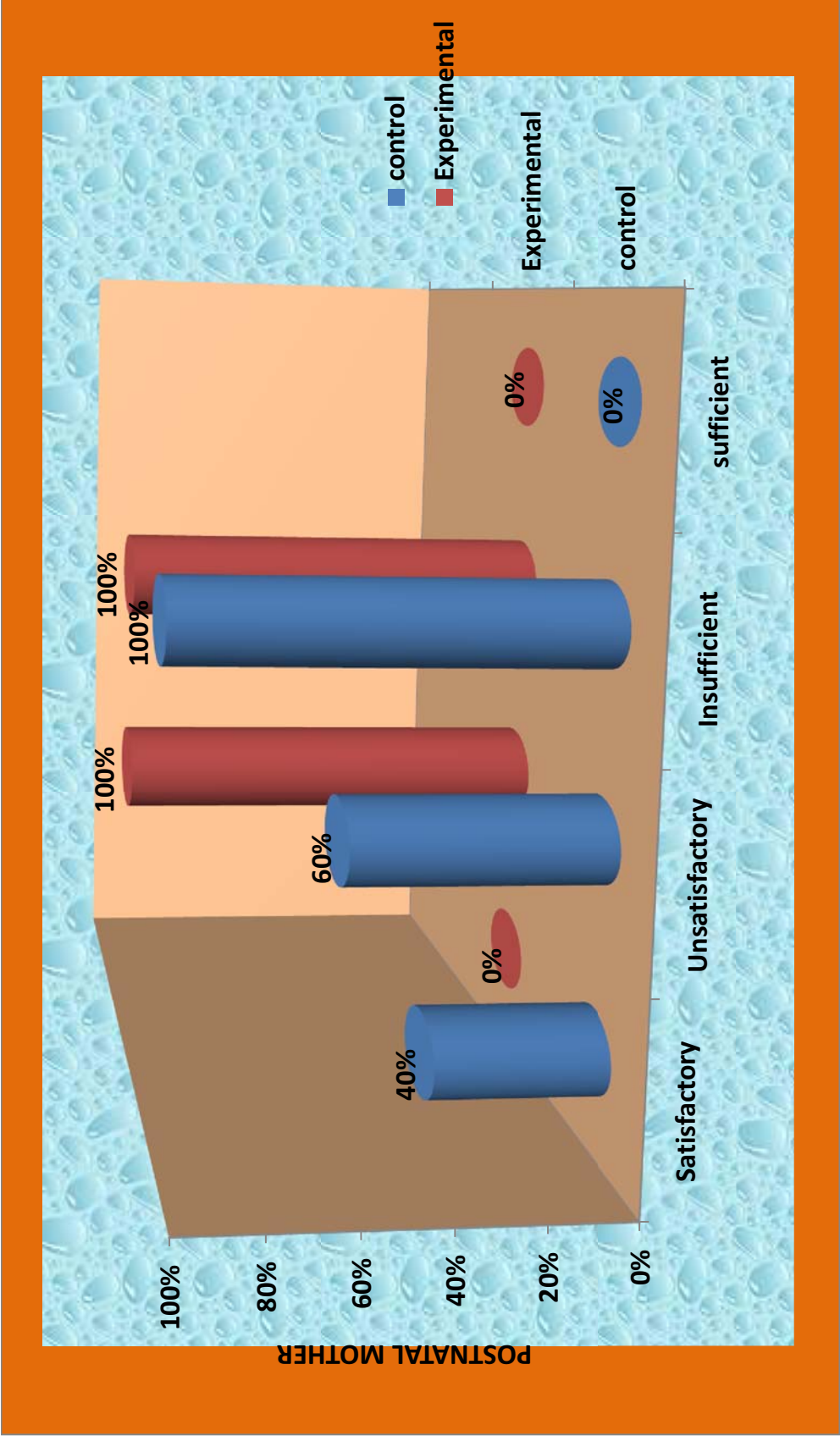


Fig 4.20: Distribution of pre-assessment level of perception on breast milk secretion between control and experimental group

SECTION-II: b) Data on post assessment of level of perception on breast milk secretion in experimental and control group.

Table-4.5: Post test Level of perception on breast milk secretion among postnatal mother

Post – test		Group			
		Control		Experimental	
		Frequency	in %	frequency	in %
Satisfactory level	Satisfactory	18	60	23	76.7
	Unsatisfactory	12	40	7	23.3
	Total	30	100	30	100
Sufficiency level	Insufficient	14	46.7	4	13.3
	Sufficient	16	53.3	26	86.7
	Total	30	100	30	100

Table 4.5 shows that in post - test, considering the level of perception on breast milk secretion among postnatal mothers, in the control group, 18(60%) of them were satisfied and 12(40%) of them were unsatisfied where as in the experimental group, 23 (76.7%) of them were satisfied and 7 (23.3%) of them were unsatisfied. However, in the control group 14 (46.7%) of them were had insufficient milk secretion and 16 (53.3%) of them had sufficient milk secretion where as in the experimental group, 4 (13.3%) of them were had insufficient milk secretion and 26 (86.7%) of them were had sufficient breast milk secretion.

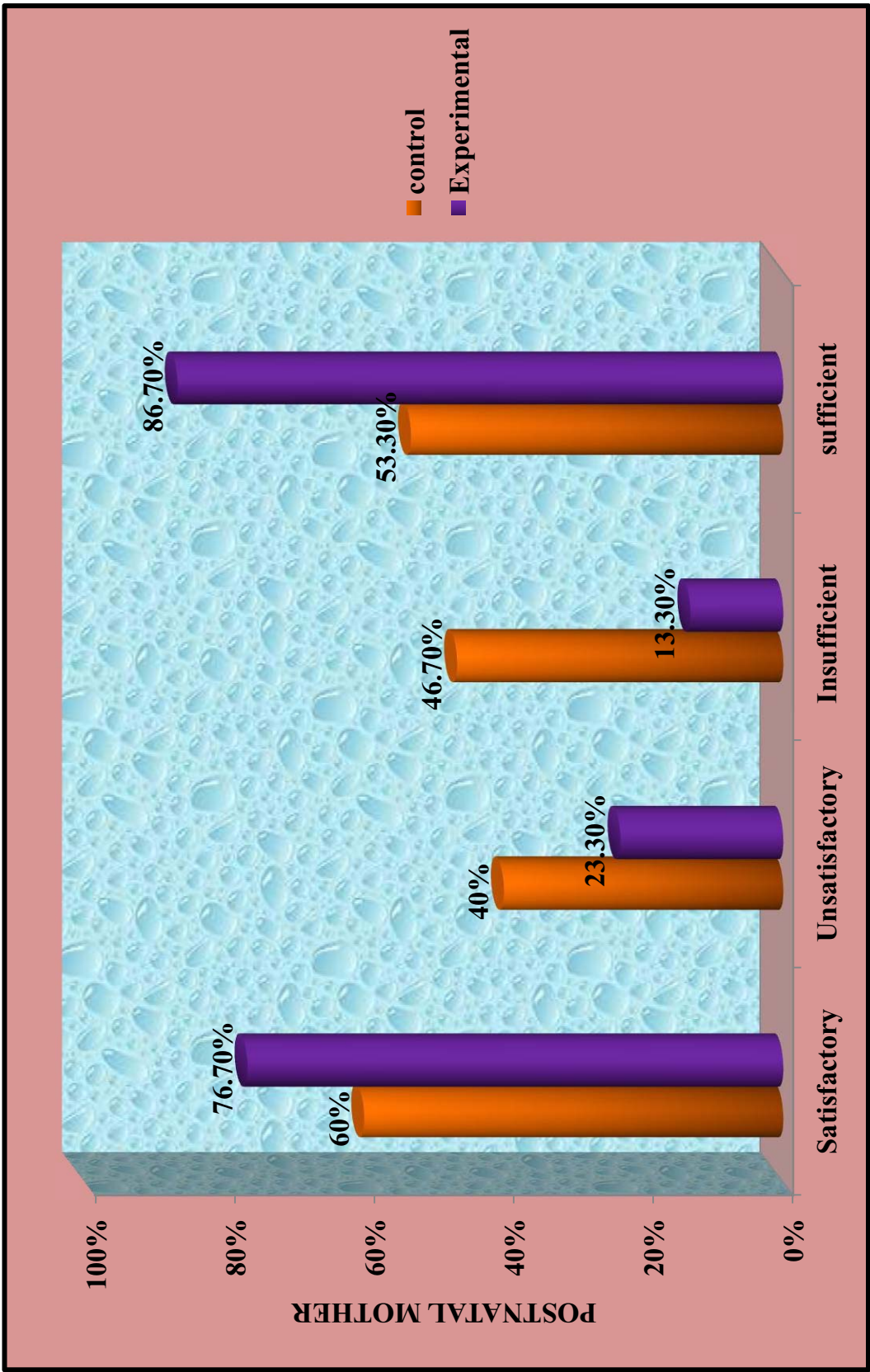


Fig 4.21: Distribution of post-assessment level of perception on breast milk secretion between control and Experimental & control group

SECTION-III: Data on comparison of pre assessment and post assessment level of perception on breast milk secretion among postnatal mothers between the experimental and control group.

Table4.6: Mean comparison between control and experimental group using paired t- test

Paired Samples Statistics						
Group		Mean	Std. Deviation	Std. Error Mean	t value	P value
Control	Post total	26.87	5.050	.922	10.384	0.011
	Pre_total	18.07	1.964	.359		
Experimental	Post total	31.23	4.576	.836	20.439	0.001***
	Pre_total	13.47	1.995	.364		

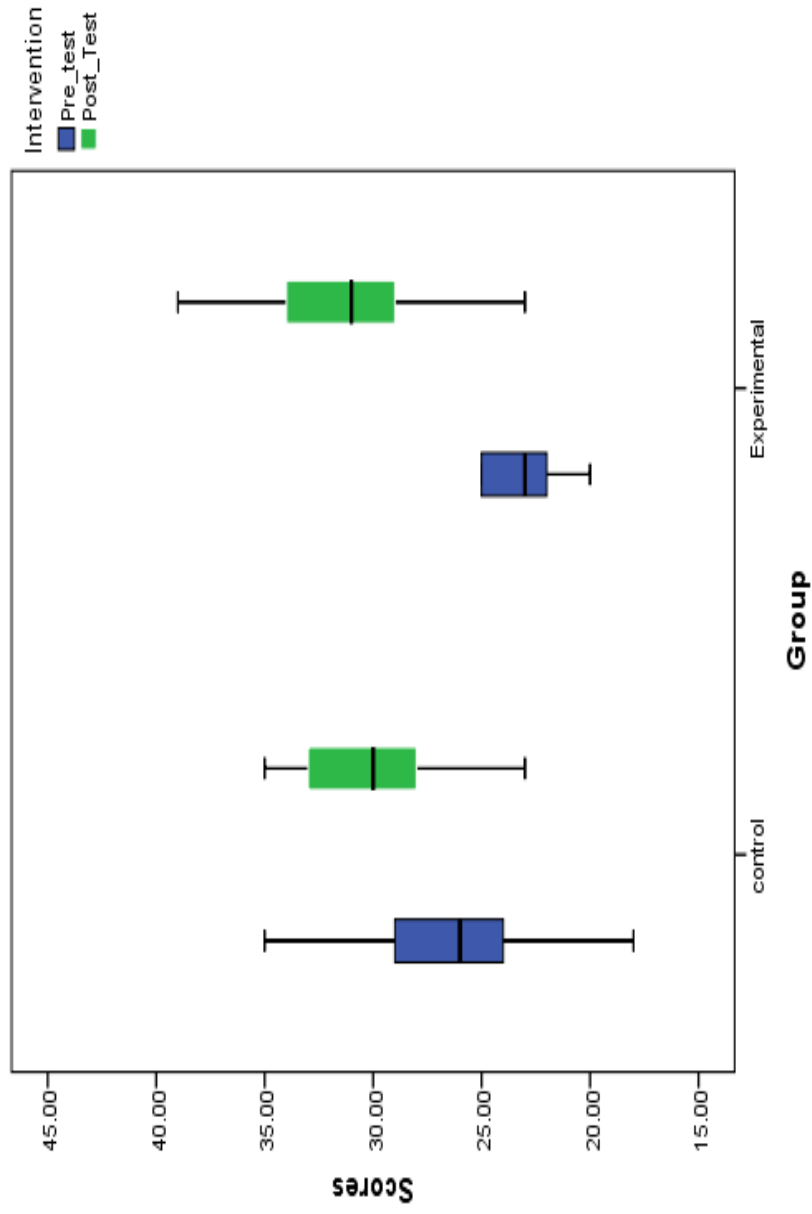
* Significant at $p \leq 0.05$

** Significant at $p \leq 0.01$

***Highly significant $P \leq 0.001$

Table 4.6 compare the pre test and the post test level of perception on breast milk secretion, considering in control group the mean value is 26.87 and in experiment group, the mean value is 31.23among postnatal mothers. Mean comparison was calculated by using student paired t-test.

Fig 4.22: Mean comparison between control and experimental group by using paired t- test



It shows that mean value is 26.87 in control group and 31.23 in experimental group.

SECTION-IV: Data on effectiveness of fenugreek on level of perception of breast milk secretion among postnatal mothers between the control and experimental group.

Table4.7: Effectiveness of fenugreek among postnatal mother

Group	Mean Difference	Std Deviation Difference	Std Error Difference	95%confidence Interval of the Difference		df	t-value	p-value
				Lower	Upper			
Control	8.800	4.642	.847	7.067	10.533	28	10.384	0.011
Experimental	17.767	4.761	.869	15.989	20.439	29	20.439	0.001***

* Significant at $p \leq 0.05$ ** Significant at $p \leq 0.01$ ***Highly significant $P \leq 0.001$

The above table 4.7 shows that the increased level of perception on breast milk secretion in both control and experimental group. Considering control group p- value is 0.011 and the experimental group p-value is 0.001. There is a statistically significant difference in increased level of perception on breast milk secretion among postnatal mothers. Statistical significance was calculated using paired ‘t’ test.

SECTION-V: A) Association of the effectiveness of fenugreek with the selected variables.

Table 4.8 Association between post assessments of effectiveness of fenugreek with the demographic variables (Experimental group).

Demographic variables		Post assessment of effectiveness of fenugreek				Total	Chi square test
		Insufficient		sufficient			
		frequency	in%	frequency	in%		
Age	21-25 yrs	1	25	3	11.5	4	$\chi^2=0.673$ p=0.880
	26-30yrs	2	50	14	53.8	16	
	31-35 yrs	1	25	8	30.8	9	
	Above 35yrs	0	0	1	3.8	1	
Education	Primary Education	2	50	5	19.2	7	$\chi^2=3.214$ p=0.200
	Secondary Education	0	0	11	42.3	11	
	Graduation	2	50	10	38.5	12	
Occupation	Home maker	3	75	23	88.5	26	$\chi^2=.544$ p=0.461
	Employed	1	25	3	11.5	4	
Religion	Hindu	3	75	23	88.5	26	$\chi^2=7.034$ p=0.030***
	Christian	0	0	3	11.5	3	
	Others	1	25	0	0	1	
Residence	Urban	1	25	20	76.9	26	$\chi^2=4.451$ p=0.035***
	Rural	3	75	6	23.1	9	
Type of family	Nuclear	4	100	12	46.2	16	$\chi^2=4.038$ p=0.044***
	Joint	0	0	14	53.8	14	
Food habit	Vegetarian	1	25	7	26.9	8	$\chi^2=0.361$ p=0.835
	Non – vegetarian	0	0	2	7.7	2	
	Mixed	3	75	17	65.4	20	

Table 4.8 shows the association between the post assessments level of perception on breast milk secretion among the postnatal mothers in the experimental group with their demographic variables like religion, residence and type of family system are significantly associated and none of the other variables are not significant.

SECTION-V: b) Association of the effectiveness of fenugreek with the selected obstetric variables.

Table 4.9 Association between post assessments of effectiveness of fenugreek with the selected obstetric variables (Experimental group).

Obstetric variables		Post assessment of effectiveness of fenugreek				Total	Chi square test
		Satisfactory		Adequate			
		frequency	in%	frequency	in%		
Mode of delivery	Normal vaginal delivery	2	50	16	61.5	18	$\chi^2=0.769$ $p=0.681$
	Lower segment caesarean section	2	50	8	30.8	10	
	Forceps delivery	0	0.0%	2	7.7	2	
No. of Children	One	2	50	18	69.2	20	$\chi^2=0.962$ $p=0.618$
	Two	2	50	7	26.9	9	
	Three	0	0	1	3.8	1	
Initiation of breast feeding	Within half an hour	0	0	2	7.7	2	$\chi^2=3.547$ $p=0.315$
	Within one hour	1	25	7	26.9	8	
	1hr – 2hr	0	0	9	34.6	9	
	After 2 hrs	3	75	8	30.8	11	
Condition of nipple	Inverted nipple	0	0	3	11.5	3	$\chi^2=1.678$ $p=0.432$
	Crack nipple	0	0	5	19.2	5	
	Normal nipple	4	100	18	69.2	22	

Table 4.9 shows the association between post assessment level of perception on breast milk secretion among the postnatal mothers in experimental group with their obstetric variables. There is no significant between the obstetric variable and the level of perception on breast milk secretion. Statistical significance was calculated using chi square test.

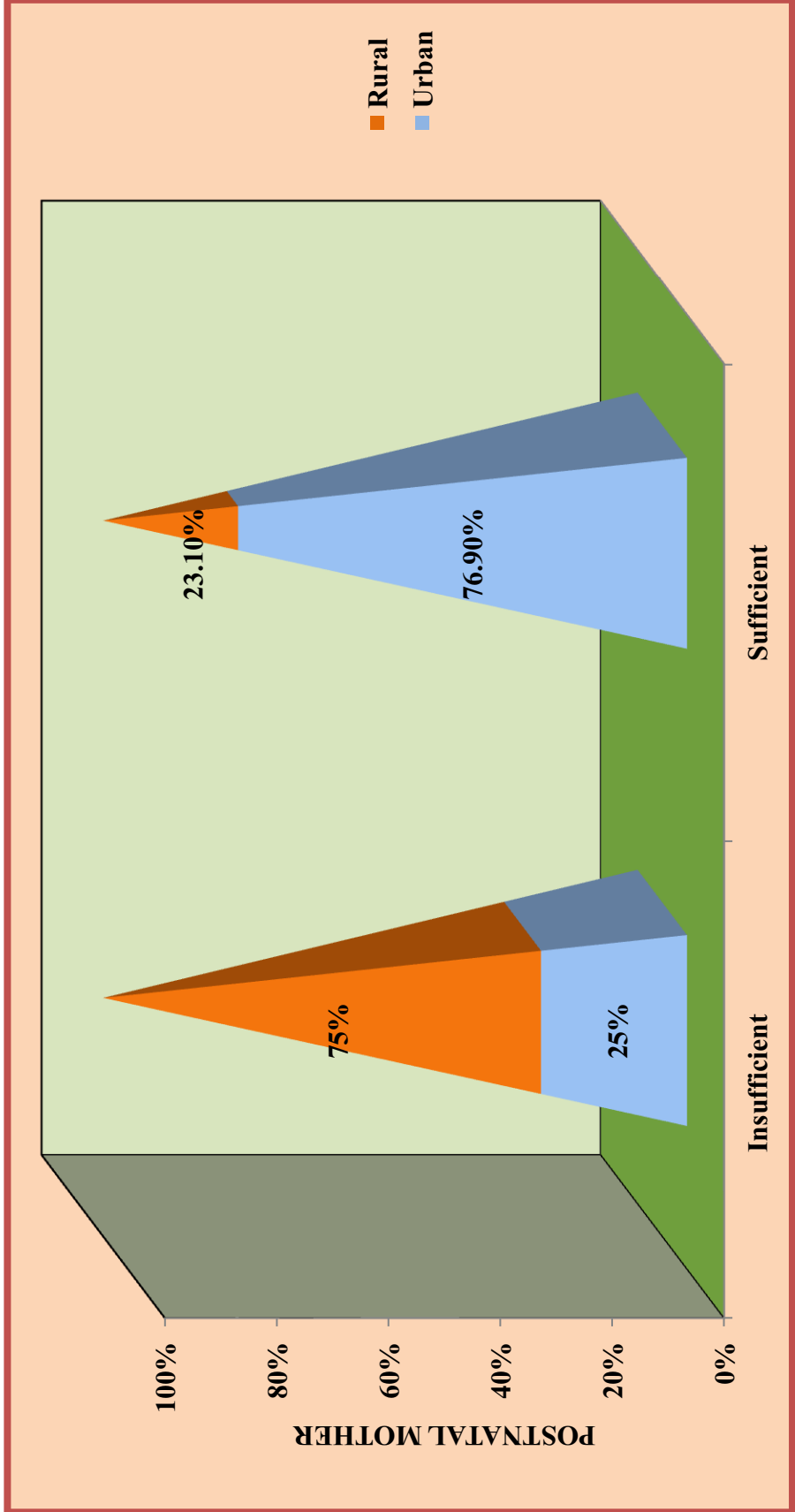


Fig 4.23 Association between residence and level of perception on breast milk secretion among postnatal mother

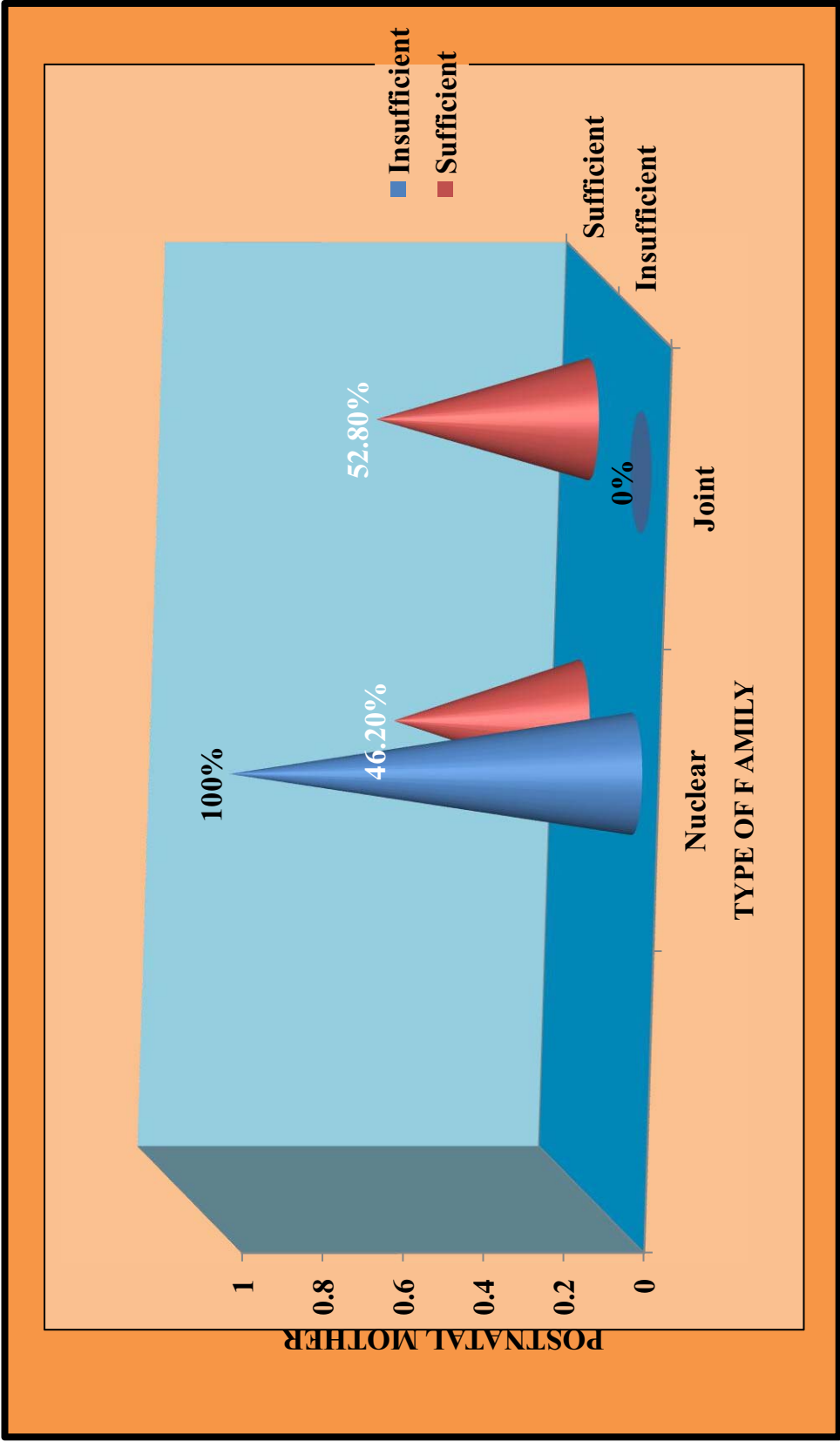


Fig 4.24 Association between type of family and level of perception on breast milk secretion among postnatal mother

SUMMARY OF RESULTS

CHAPTER V

SUMMARY OF RESULTS

The results of the study to assess the effectiveness of fenugreek on lactation means the level of perception on breast milk secretion among postnatal mothers were summarized in this chapter based on the demographic, obstetric and knowledge & practice based variables.

5.1 Based on demographic findings;

- In this study majority of the postnatal mothers (55%) in experimental group and in the control group (60%) were in the **age group** between 26 – 30 yrs.
- With regard to educational status, majority of the postnatal mothers (40%) in the experimental group and in the control group (36.7%) were graduates.
- According to occupation, majority of the postnatal mothers (86.7%) in the experimental group and in the control group (90%) were home maker.
- About family monthly income, in the experimental group majority of the postnatal mothers (50%) were receiving the monthly income within rs7000/- to rs 10,000/- and in the control group, majority of the postnatal mothers (46.7%) were receiving the monthly income within rs7000/- to Rs 10,000/-
- Regarding religion, majority of the postnatal mothers (86.7%) in the experimental group and in the control group (90%) were Hindu.
- With regard to residence, majority of the postnatal mothers (70%) in the experimental group and in the control group (86.7%) were lived in an urban.
- In marital status, in both experimental and control group all the postnatal mothers (100%) were married

- According to type of family, in the experimental group majority of the postnatal mothers (53.3%) were in nuclear family and in the control group, majority of the postnatal mothers (53.3%) were lived in joint family.
- About **initiation of breast feeding**, majority of the postnatal mothers (36.7%) in experimental group and in the control group (56.7%) were gave breastfeeding to their baby after 2hours of delivery.
- In view of **condition of nipple**, majority of the postnatal mothers (73.3%) in experimental group and in the control group (90%) were having normal condition of nipple.

5.3 Based on knowledge and practice based findings;

- Regarding **feeding pattern**, majority of the postnatal mothers (86.7%) in experimental group and in the control group (93.3%) were fed the baby with breast milk only.
- About **frequency of breastfeeding** per day, in experimental group majority of the postnatal mothers (40%) were providing breast feeding 5- 7times and more than 7 times a day and in the control group majority of the postnatal mothers(60%) were providing breastfeeding 5 -7 times a day.
- In **knowledge of complementary alternative therapy** on secretion of breast milk, in both experimental and group majority of the postnatal mothers (86.7%) were not having the knowledge regarding alternative therapies to breast milk secretion.
- With regard to mentioned the **things** by postnatal mothers to promotion of secretion of breast milk secretion, majority of the postnatal mothers in experimental group (86.7%) and in the control

group (90%) were not mentioned any things to promote the breast milk secretion.

- About **source of information**, majority of the postnatal mothers in experimental group (86.7%) and the control group (90%) were having no source of information regarding alternative therapy to breast milk secretion.
- With regard to **galactogogues** to increase breast milk promotion, majority of the postnatal mothers in experimental group (46.7%) and the control group (46.7%) were mentioned garlic which is helps to promote breast milk secretion.
- Regarding **health benefits of fenugreek**, majority of the postnatal mothers in experimental group (56.7%) and the control group (60%) were giving suggestion that fenugreek relieves the abdominal pain.

5.4 Findings of pre test level of perception on breast milk secretion among postnatal mothers:

In pre - test, considering the level of perception on breast milk secretion among postnatal mothers, in the control group, 12(40%) of them were satisfied and 18(60%) of them were unsatisfied where as in the experimental group, all 30 (100%) of them were unsatisfied. However, in both the group, 30 (100%) of them were perceived insufficiency on breast milk secretion.

5.5 Findings based on post test level of perception on breast milk secretion among postnatal mother:

In post - test, considering the level of perception on breast milk secretion among postnatal mothers, in the control group, 18(60%) of them were satisfied and 12(40%) of them were unsatisfied where as in the experimental group, 23 (76.7%) of them were satisfied and 7 (23.3%) of them were unsatisfied. However, in the

control group 14 (46.7%) of them were had insufficient milk secretion and 16 (53.3%) of them had sufficient milk secretion where as in the experimental group, 4 (13.3%) of them were had insufficient milk secretion and 26 (86.7%) of them were had sufficient breast milk secretion.

5.6 Findings of mean comparison between control and experimental group using paired t- test:

The study compared that the pre test and the post test level of perception on breast milk secretion, considering in control group the mean value is 26.87 and in experiment group, the mean value is 31.23 among postnatal mothers. Mean comparison was calculated by using student paired t-test.

5.7 Findings on effectiveness of fenugreek among postnatal mother:

This study revealed that the increased level of perception on breast milk secretion in both control and experimental group. Considering control group p-value is 0.011 and the experimental group p-value is 0.001. There is a statistically significant difference in increased level of perception on breast milk secretion among postnatal mothers in experimental group. Statistical significance was calculated using paired “t” test.

5.8 Findings based on association between post assessments of effectiveness of fenugreek with the selected variables:

Demographic variable:

The study showed that the association between the post assessments level of perception on breast milk secretion among the postnatal mothers in the experimental group with their demographic variables like religion, residence and type of family system are significantly associated except that none of the other variables are not significant. Statistical significance was calculated using chi - square test.

Obstetric variable:

The study revealed that the association between post-test Level of perception on breast milk secretion among the postnatal mothers in experimental group with their obstetric variables. There is no significant between the obstetric variable and the level of perception on breast milk secretion.

DISCUSSION

CHAPTER-VI

DISCUSSION

This chapter deals with the discussion of the results of the data analyzed based on the objectives of the study and the hypothesis. The purpose of the study is to assess the “*Effectiveness of fenugreek consumption on lactation among postnatal mothers admitted at the institute of obstetrics and gynecology, chennai*”.

Findings based on the objectives

Objective 1: *To assess the level of insufficient maternal perception on breast milk secretion among postnatal mothers in the control and experimental group.*

The study findings revealed that the level of perception on breast milk secretion among 60 postnatal mothers who met in the inclusion criteria in the experimental and control group. Postnatal mothers were observed with the tool of perceived insufficient milk questionnaire items and responses (PIM). In pre - test, considering the level of perception on breast milk secretion among postnatal mothers, in the control group, 12(40%) of them were satisfied and 18(60%) of them were unsatisfied where as in the experimental group, all 30 (100%) of them were unsatisfied. However, in both the group, 30 (100%) of them were perceived insufficiency on breast milk secretion.

Objective2: *To assess the level of maternal perception on breast milk secretion among postnatal mothers in the control and experimental group after administration of fenugreek.*

The study compared with the posttest level of perception on breast milk secretion among postnatal mothers in control group with routine care and experimental group with after consumption of fenugreek.

In post - test, considering the level of perception on breast milk secretion among postnatal mothers, in the control group, 18(60%) of them were satisfied and 12(40%) of them were unsatisfied where as in the experimental group, 23 (76.7%) of them were satisfied and 7 (23.3%) of them were unsatisfied. However, in the control group 14 (46.7%) of them were had insufficient milk secretion and 16 (53.3%) of them had sufficient milk secretion where as in the experimental group, 4 (13.3%) of them were had insufficient milk secretion and 26 (86.7%) of them were had sufficient breast milk secretion.

This result consistent nearly with the findings of the study by ***K. Huggins (2013)*** reported non blinded, anecdotal study of 1,200 women breastfeeding term infants found that nearly all o those who took fenugreek reported an increase in milk production within 24–72 hours after beginning the herbal along with using an electric breast pump. These mothers noted that fenugreek could be discontinued once milk production was stimulated to an appropriate level. No negative side effects in these mothers or infants were reported. Huggins has found fenugreek to be a potent stimulator of breast milk production that appears safe for the mother and baby.

Objective 3: To assess the effectiveness of fenugreek on maternal perception on breast milk among postnatal mothers by comparing the control and experimental group.

This study showed that the level of perception on breast milk secretion in both control and experimental group. Considering control group p- value is 0.011 and the experimental group p-value is 0.001. There is a statistically significant difference in increased level of perception on breast milk secretion among postnatal mothers. Statistical significance was calculated using paired “t” test.

This study consistent with the findings of the study conducted by **Swafford. S and Berens. P (2000)**, This observational study used each patient as her own control in comparing breast milk production with fenugreek seed capsule were taken three times a day one group and without the fenugreek to other group after analyzing the baseline of milk production for 1wk. Average daily pump volumes for week 1 and week 2 were compared. These values were statistically analyzed using the Wilcoxon signed rank test. The average daily milk volume for week 1 was 207 ml compared to 464 for week 2. This was statistically significant ($P=0.004$). the use of fenugreek significantly increased volume of breast milk produced to women with insufficiency milk supply.³

Thus the hypothesis H_1 which states that there is a significant difference in the level of perception on breast milk secretion among experimental group after consumption of fenugreek. Hence the hypothesis was accepted.

Objective 4: *To find out the association between the levels of maternal perception on breast milk among postnatal mothers with selected variable in the control and experimental group.*

The association between post assessments level of fatigue among the postnatal mothers in the experimental group with their demographic and obstetric variables were analyzed. There is a significant association between the duration of postnatal period with the level of fatigue ($\chi^2 = 5.172$, $p = .023$). Statistical significance was calculated using chi square test.

The association between the post-test level of perception on breast milk secretion among postnatal mothers in experimental group with their demographic and obstetric variables were analyzed. Statistical significance was calculated using chi square test.

Thus the hypothesis H_2 which states that there is a significant association between the effectiveness of fenugreek on lactation with the selected demographic variable such as residence and type of family among experimental group. Hence the H_2 hypothesis was accepted.

The researcher as well as the staff nurses in the postnatal ward, enquired about the herb of fenugreek, the patients verbalized that the perception on breast milk secretion level was increased after consuming the fenugreek. This paved a new opening for conducting research to assess the effectiveness of herbal galactagogue of fenugreek in the above aspects.

CONCLUSION

&

RECOMMENDATIONS

CHAPTER-VII

CONCLUSION AND RECOMMENDATIONS

The present study assessed the effectiveness of fenugreek on lactation among postnatal mothers. The study results revealed that fenugreek had a significant effect in increasing the perception on breast milk secretion. Majority of the postnatal mothers in the experimental group were perceived increased satisfactory level and sufficiency level than the control group.

This chapter deals with limitations, implications and recommendations of the study.

7.1 Implications of the study

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

Nursing practice

- Promotion of perception on breast milk secretion must have a more prominent place in the focus of care in child health.
- Providing fenugreek to postnatal mothers during hospitalization can be followed as an independent nursing intervention.
- Promotion of perception on breast milk secretion must have a more prominent place in the focus of care in child health.
- Nurse can be suggested to take fenugreek to postnatal mothers during hospitalization for who may have the perception of insufficient breast milk secretion. It can be considered as an independent nursing intervention
- This intervention is economical, cost-effective, safe and easy to practice.
- Fenugreek consumption is a (CAM) complementary alternative medicine which can used to practice as a nursing care during postnatal period to

postnatal mothers who were not having the perception of adequate breast milk secretion.

- Encourage and support the mother to take CAM instead of pharmacotherapy during postnatal period to promotion of breast milk secretion

Nursing administration

- The nurse administrator should encourage the nursing staffs to advice an alternative medicine like fenugreek in nursing care in the promotion of perception on breast milk secretion during postnatal period.
- The nurse administrator can organize conferences and in-service education programme on various non pharmacological measures in the promotion of perception on breast milk secretion.
- The nurse administrator should supervise the nurses intervention to postnatal mothers who were not having an adequate perception on breast milk secretion and also monitor the standards of practice.

Nursing education

- The nurse educator should teach the nursing students about the dose of administration of fenugreek and the benefits of an alternative therapy during postnatal period.
- The nurse educator can motivate the students to do mini-project on other non-pharmacological measures to promote the perception on breast milk secretion during postnatal period.
- The nurse educator should conduct workshop, seminars and conferences on other complimentary therapies that helps to update their knowledge to provide effective care
- The nurse educator should encourage the students to learn about the perceived insufficient milk questionnaire items and responses and the remedial measures to promote the perception on breast milk secretion.

- The nursing education curriculum must provide adequate clinical exposure of students in postnatal department especially on lactation.

Nursing research

The finding can be a baseline for further studies to improve the body of knowledge in nursing.

- The nurse researcher should motivate the clinical nurse to do further research studies on the comparative study to assess the effectiveness of herbal galactagogue of fenugreek versus pharmacotherapy.
- The nurse researcher should encourage community health nurse to apply the research findings in their daily nursing care activities during their regular visit and can bring out the other complementary therapy to promote the perception on breast milk secretion during postnatal period.
- The nurse researcher should conduct periodic review of research findings and disseminate the finding through conferences, seminars and publications in professional, national and international journals and also in the World Wide Web.

7.2 Limitations:

- The study can be conducted in multi centered hospital with large samples for better generalization.
- The duration of the study can also be extending for the better result.

7.3 Recommendations for further studies:

The study recommends the following for further research;

- An experimental study to assess the effectiveness of fenugreek in quantity basis not a quality basis.
- An experimental study to assess the effectiveness of fenugreek in reducing the blood sugar level to postnatal mother who is having diabetes mellitus and taking with regular treatment.

- A comparative study can be conducted to assess the effectiveness of fenugreek individually and in combination with other complimentary therapies.
- A comparative study can be conducted to assess the effectiveness of fenugreek individually and in combination with pharmacotherapy.
- A comparative study can be conducted to assess the effectiveness of fenugreek versus almond in the promotion of perception on breast milk secretion during postnatal period.

The present study assessed the effectiveness of fenugreek consumption among postnatal mother's level of perception on breast milk secretion. The results revealed that fenugreek consumption had a significant effect in promotion of breast milk secretion. In the experimental group especially in post assessment the postnatal mothers were promoted to perceive the adequate level of breast milk secretion than the pre assessment. Throughout world history women have used certain herbs to promote their health. One of the most common indications for galactogogues like fenugreek is to augment a declining milk supply in mothers of preterm or ill infants in the neonatal intensive care unit.

REFERENCES

REFERENCE

1. Who. "*who recommendations on postnatal care of the mother and newborn*". who. retrieved 22 december 2014.
2. Fleiss p.*Herbal remedies for the breastfeeding mother*. molhering. 1988;summer : 68-71
3. Berens P, Swafford S. *Effect of fenugreek on breast milk volume*. ABM News 2006, Presented at the 5th International Meeting of the Academy of Breastfeeding Medicine. Sep 11, 2000
4. Holfmann D. *Therapeutic Herbalism: A correspondence course in phytothrepy* 1992.
5. Rajeev gupta, s verma *International journal of biomedical and advance researc vol. 6 no.1 (2015)*
6. International journal of *phytotherapy research*issn 2278–5701volume 4 issue4, 201439.
7. Pool sup n, suksomboorn et all., *Meta a analysis of the breastfeeding of self-monitoring of blood glucose on glycemic control in type 2 diabetes*, dibates techno,ther. 2009dec; 11(12)775 – 84 2009dec; 11(12)775 – 84
8. Sima Younesy *Journal of reproduction and fertility* 2014 Jan-Mar; 15(1): 41–48.
9. Nursing Research,*Development of H & H Scale*(Impact Factor: 1.5). 01/1996; 45(3):136-40.
10. BMJ Journal. 1999 Sep 25; 319(7213): 815–819
11. Ricardo Carbajal, BMJ journal, 2003 Jan 4; 326(7379): 13.

12. Olivier Baud, r Plos/one Journal 2011; 6(10): e25817. Published online 2011 Oct 3.
13. Iraniah journal of paediatrics 2014 feb; 24(1): 49–56.
14. Kuhn L, Sinkala M, Kankasa C, Semrau K, Kasonde P, et al. (2007) *High uptake of exclusive breastfeeding and reduced early postnatal HIV transmission*. PLoS ONE 2(12): e1363
15. Kumar D, Agarwal N, Swami H.M, study on *Socio Demographic Correlates of Breast feeding*, 2006 Nov 60[1]; 461-6
16. Nursing and Midwifery Research Journal, Vol-2, No. 4, October 2006.
17. Journal of pediatric, Vol -4, issued 6, 2010 6845,
18. Jessica R. Jones, Michael D *Journal of pediatric and adolescent gynecology* vol 28 issue6, December 2015, pages 516- 521.
19. Pediatrics journal December 2011 volume 128/ issue 6
20. Journal of Breastfeed Med. 2015 Jul-Aug;10(6):334-40. doi: 10.1089/bfm.2015.0005. Epub 2015 Jun 25.
21. *H&H Lactation Scale* in Thai Mothers Nursing Research September/October 2005 Vol 54, No 5
22. Forinash AB, Yancey AM, Barnes KN, Myles TD et all (2012): “ *The use of galactogogues in the breastfeeding mother*” Ann Pharmacother
23. Abeer EI, Mostafa salame, JournLpaediatrics science (2014)
24. Gupta.C.B. (1991): “*An introduction of statistical methods*”, Fourth edition, New Delhi, Vikas Publishing Company.
25. Kothari LR, (2001): “*Research Methodology*”, Second edition, New Delhi, Jaypee brothers Publications.
26. Lawrence RA, & Lawrence RM, (1999): “*Breastfeeding: A Guide for the Medical Profession*”, 5th edition, publishing St. Louis, Mosby

27. Kothari LR, (2001): “*Research Methodology*”, Second edition, New Delhi, Jaypee brothers Publications.
28. Lawrence RA, & Lawrence RM, (1999): “*Breastfeeding: A Guide for the Medical Profession*”, 5th edition, publishing St. Louis, Mosby.
29. Mahajan B.K, (1999): “*Methods in Biostatistics*”, Seventh edition, New Delhi, Jaypee brothers Publishers.
30. Mrs. Nima Bhaskar (2012) : “*Midwifery and Obstetrical Nursing*” First Edition, Published by Emmess medical publishers.
31. Mortel M, & Mehta SD(2013): “ *Systematic review of the efficacy of herbal galactogogues*” J Hum Lact publication.
32. Rosengarten F & Wynnewood, (1969): “*The Book of Spices*” Livingston Publishing Co.,
33. Sharma KS, (2012): “*Nursing Research and Statistics*”, second edition, Haryana (INDIA), Elsevier Publication.
34. Susan L. Ward and Shelton M. Hisley (2010); “*Maternal- Child Nursing Care*” 1st Edition, published by Jaypee brothers medical publishers (P) ltd.
35. American Academy of Pediatrics. (2005). *Breastfeeding and the use of human milk. Pediatrics, 115*, 496–506.
36. Altuntas, E., Ozgoz, E., & Taser, F. (2005). *Some physical properties of fenugreek seeds. Journal of Food Engineering, 71*, 37–43.
37. Basch, E., Ulbricht, C., Kuo, G., Szapary, P., & Smith, M. (2003). *Therapeutic applications of fenugreek. Alternative Medicine Review, 8*, 20–27.
38. Cregan, M., Mitoulas, L., & Harmann, P. (2002). *Milk prolactin, feed volume and duration between feeds in women breastfeeding their full-term infants over a 24-hour period. Experimental Physiology, 87*, 207–214.
39. Humenick, S. S., Hill, P. D., & Wilhelm, S. (1997). *Postnatal factors encouraging sustained breastfeeding among primiparas and multiparas. The Journal of Perinatal Education, 6(3)*, 33–45.

40. Jones, E. (1987). *Translation of quantitative measures for use incross-cultural research*. Nursing Research, 36, 324Y327.
41. Labbok, M., & Krasovec, K. (1990). *Toward consistency in breastfeeding definitions*. Studies in Family Planning, 21(4),226Y230.

WEBPAGE

1. www.google.com
2. [www.wikepedia.com](http://www.wikipedia.com)
3. <http://www.medline.com>
4. www.proquest.com
5. <http://theepicentre.com/spice/fenugreek>
6. <http://www.fhea.com>
7. Fenugreek from WebMD
8. Fenugreek from MotherNature.com
9. www.cspsCanada.org
10. <http://breastfeeding.about.com/od/resourcessupport/>
11. <http://jn.nutrition.org/content/124/2/202>
12. <http://jognn.awhonn.org>
13. www.sonic.net/~mollyf/igt/
14. <http://www.ncbi.nlm.nih.gov/pubmed>
15. <http://www.internationalbreastfeedingjournal.com/>
16. <http://ije.oxfordjournals.org/content/21/1/53.abstract>

APPENDICES

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI-3

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

CERTIFICATE OF APPROVAL

To
Mrs.A.BHUVANESWARI
M.Sc., (Nursing)
College of Nursing
Madras Medical College,
Chennai – 600 003.

Dear Mrs.A.BHUVANESWARI,

The Institutional Ethics Committee has considered your request and approved your study titled, **“A STUDY TO ASSESS THE EFFECTIVENESS OF FENUGREEK CONSUMPTION ON LACTATION AMONG POSTNATAL MOTHERS ADMITTED AT GOVERNMENT INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND HOSPITAL FOR WOMEN AND CHILDREN EGMORE”**. No.02102014.

The following members of Ethics Committee were present in the meeting held on 21.10.2014 conducted at Madras Medical College, Chennai-3.

- | | |
|--|----------------------|
| 1. Dr.C.Rajendran, M.D., | : Chairperson |
| 2. Dr.R.Vimala, M.D., Dean, MMC, Ch-3 | : Deputy Chairperson |
| 3. Prof.B.Kalaiselvi, M.D., Vice-Principal, MMC, Ch-3 | : Member Secretary |
| 4. Prof.R.Nandhini, M.D., Inst.of Pharmacology, MMC | : Member |
| 5. Prof.K.Ramadevi, Director i/c, Inst.of Biochemistry, MMC | : Member |
| 6. Prof.Saraswathy, M.D., Director, Pathology, MMC, Ch-3 | : Member |
| 7. Prof.S.G.Sivachidambaram, M.D., Director i/c,
Inst.of Internal Medicine, MMC | : Member |
| 8. Dr.Balakrishnan, M.S., Director, Inst.of Surgery, MMC | : Member |
| 9. Thiru S.Rameshkumar, Administrative Officer | : Lay Person |
| 10. Thiru S.Govindasamy, B.A., B.L., | : Lawyer |
| 11. Tmt.Arnold Saulina, M.A., MSW., | : Social Scientist |

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

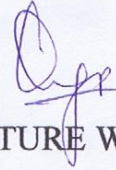
The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary, Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COM
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **A.Bhuvanewari**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title **“A STUDY TO ASSESS THE EFFECTIVENESS OF FENUGREEK CONSUMPTION ON LACTATION AMONG POSTNATAL MOTHERS ADMITTED AT INSTITUTE OF OBSTETRICS AND GYNECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI-8”** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.




SIGNATURE WITH SEAL

Name : *KANAGAVALLI P*
Designation : *Reader*
College : *Madha College of Nursing*
Date : *16/7/15*
Place : *Chennai.*



CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Ms. **A.Bhuvanewari**, Msc Nursing II year, College of Nursing, Madras Medical College, which is used in her study title "**A STUDY TO ASSESS THE EFFECTIVENESS OF FENUGREEK CONSUMPTION ON LACTATION AMONG POSTNATAL MOTHERS ADMITTED AT INSTITUTE OF OBSTETRICS AND GYNECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI-8**" has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.


SIGNATURE WITH SEAL
Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore, Chennai-8

Name : *Dr. M. GEETHA M.D., D.O.*
Designation : *Assistant Professor.*
College :
Date : *21.7.15*
Place : *Chennai-08.*

Ref.No.4673/P&D/2015

IOG and Government Hospital for
Women and Children, Egmore,
Chennai 8, Dated 1.7.2015

Sub : Training - M.Sc., (N) II year., Obstetrics and Gynaecological Nursing –
Clinical Practice, Dissertation, practical examination and Lecture training
in the IOG and Government Hospital for Women and Children, Egmore,
Chennai 8 for the period from 6.7.2015 to 5.8.2015-Permission - orders
issued

Ref : Letter dated 24.6.2015 of the Head of Department, O&G Nursing, College
of Nursing, Madras Medical College, Chennai 3.

+++++

As per the letter reference cited, the following M.Sc (N) II years students of
Madras Medical College, Chennai 3 are permitted to undergo the clinical experience,
lecture classes, University practical examination and also to carryout dissertation work
in IOG and Government Hospital for Women and Children, Egmore, Chennai 8 for the
period from 6.7.2015 to 5.8.2015 under the guidance of the Assistant Professor of
O&G mentioned against their names.


Sl.No	Name of the Students	Name of the Assistant Professor of O&G of this Hospital
1	Mrs. A.Bhuvaneswari	Dr. M.Geetha
2.	Mrs.A.Josephine Carmel Rani	Dr.Nalina
3.	Mrs. Kalavathy Padmanaban	Dr.P.Priyadarshini
4.	Mrs.Kaliyaperumal Ananthi	Dr.K.priyadarshini,
5.	Mrs.Naidu Merita Mohanraj	Dr.M. Thangamani
6..	Mrs. Palaniammal	Dr.Sumathy
7.	Mrs. Princy Fernando	Dr.K. Abiramavalli
8.	Mrs..S.Jayashree	Dr.D. Shanthi Sivakumar

To

The Individuals concerned

Copy to

Dr.M Geetha, Assistant Professor of O&G , IOG and Government
Hospital for Women and Children, Egmore, Chennai 8


Director and Superintendent
Gynaecology and Govt. Hospital
for Women and Children,
EGMORE MADRAS-8

Dr.Nalina, Assistant Professor of O&G o, IOG and Government
Hospital for Women and Children, Egmore, Chennai 8

Dr.P.Priyadarshini ,

Dr.K.priyadarshini, “
Dr.M. Thangamani “
Dr.Sumathy “
Dr.K. Abiramavalli “
Dr.D. Shanthi Sivakumar “

Copy to :

The Principal, College of Nursing, Madras Medical College, Chennai 3.

The Head of Department, O&G Nursing, College of Nursing, Madras Medical
College, Chennai 3.

The Resident Medical Officer, IOG and Government
Hospital for Women and Children, Egmore, Chennai 8

The Nursing Superintendent of this Hospital

SECTION – A

Demographic data

1. Sample No _____
2. Age in years
 - (a) 21 – 25 years ()
 - (b) 26 – 30 years ()
 - (c) 31 – 35 years ()
 - (d) Above 35 years ()
3. Educational status
 - (a) No formal education ()
 - (a) Primary education ()
 - (b) Secondary education ()
 - (c) Graduation ()
4. Occupational status
 - (a) Home maker ()
 - (b) Employed ()
 - (c) Self employed ()
5. Monthly income
 - (a) Below Rs6000/- ()
 - (b) Rs6001/- to Rs 7000/- ()
 - (c) Rs7001/- to Rs 10,000/- ()
 - (d) More than Rs10,000/- ()
6. Religion
 - (a) Hindu ()
 - (b) Christian ()
 - (c) Muslim ()
 - (d) Others ()

7. Residence ()
 (a) Urban ()
 (b) Rural ()
 (c) Semi-urban ()
8. Marital Status ()
 (a) Married ()
 (b) Separated ()
 (c) Divorced ()
9. Type of family ()
 (a) Nuclear family ()
 (b) Joint family ()
 (c) Extended family ()
10. Type of diet ()
 (a) Vegetarian ()
 (b) Non-vegetarian ()
 (c) Mixed ()

SECTION-B

Obstetrics variables

11. Mode of delivery ()
 (a) Normal vaginal delivery ()
 (b) Lower segment caesarean section ()
 (c) Forceps delivery ()
 (d) Ventouse delivery ()
12. Number of children ()
 (a) One ()
 (b) Two ()
 (c) Three ()
 (d) More than three ()

13. Initiation of breast feeding

- (a) within half an hour ()
- (b) within one hour ()
- (c) 1 hour – 2 hours ()
- (d) After 2 hours ()

14. Condition of the nipple

- (a) Inverted nipple ()
- (b) Flat nipple ()
- (c) Crack nipple ()
- (d) Normal nipple ()

SECTION-C

Knowledge and practice based information

15. Newborn feeding pattern

- (a) Breast milk ()
- (b) Formula feeding ()
- (c) Both A and B ()

16. Frequency of breastfeeding to baby per day

- (a) 2 – 3 times a day ()
- (b) 3 – 5 times a day ()
- (c) 5 – 7 times a day ()
- (d) More than 7 times a day ()

17. Knowledge about complementary alternative therapies to promote breast milk secretion

- (a) Yes ()
- (b) No ()

17 (i) If yes, mention _____

17 (ii) Source of information _____

18. Consumption of any one of the galactogue helps to increase breast milk promotion

(a) Fenugreek ()

(b) Ginger ()

(c) Garlic ()

(d) Cumin ()

(e) None of the above ()

19. Health benefits of fenugreek ()

(a) Relieve abdominal pain ()

(c) Stimulator for breast milk production ()

(d) Reduces the body heat ()

SECTION-C

Perceived insufficient milk questionnaire items and responses

S.NO	ITEMS AND RESPONSES
1.	Do you believe you are producing enough milk to satisfy your baby? (a) yes () (b) No ()
2.	My breast milk looks like it is nutritious enough to nourish my baby. <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-between; width: 80%; margin: 0 auto;"> Strongly Disagree Strongly agree </div>
3.	My baby generally appears satisfied after feedings. <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-between; width: 80%; margin: 0 auto;"> Strongly Disagree Strongly agree </div>
4.	My baby seems to like to breastfeed. <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-between; width: 80%; margin: 0 auto;"> Strongly Disagree Strongly agree </div>
5.	My breast milk is all the nutrition my baby needs to thrive. <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-between; width: 80%; margin: 0 auto;"> Strongly Disagree Strongly agree </div>
6.	My breasts seems to have enough milk <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-between; width: 80%; margin: 0 auto;"> Strongly Disagree Strongly agree </div>
	Hill & Humenick (1989)

பகுதி - அ
(சுயவிவரக் கேள்விகள்)

1. மாதிரி எண் _____
2. வயது
(அ) 21 வயதிற்குக் கீழ் ()
(ஆ) 21 முதல் 25 வரை ()
(இ) 26 முதல் 30 வரை ()
(ஈ) 30 வயதிற்கு மேல் ()
3. கல்வி விவரம்
(அ) படிக்காதவர் ()
(ஆ) ஆரம்ப நிலைக்கல்வி ()
(இ) மேல்நிலைக் கல்வி ()
(ஈ) பட்டப் படிப்பு ()
4. தொழில் விவரம்
(அ) இல்லத்தரசி ()
(ஆ) வேலைக்குச் செல்பவர் ()
(இ) சுயதொழில் ()
5. மாத வருமானம்
(அ) ரூ 6000/- கீழ் ()
(ஆ) ரூ 6001 லிருந்து 7000/- வரை ()
(இ) ரூ 7001/- லிருந்து ரூ10,000 வரை ()
(ஈ) ரூ 10,000க்கு மேல் ()
6. மதம்
(அ) இந்து ()
(ஆ) சிறித்தவர் ()
(இ) முஸ்லிம் ()
(ஈ) மற்றவர் ()
7. இருப்பிடம்
(அ) நகரம் ()
(ஆ) கிராமம் ()
8. திருமண விவரம்
(அ) திருமணமானவர் ()
(ஆ) பிரிந்து வாழ்பவர் ()

(இ) மணமுறிந்தவர் ()

9. குடும்ப வகை
(அ) தனிக் குடும்பம் ()
(ஆ) கூட்டுக் குடும்பம் ()
(இ) விரிவானக் குடும்பம் ()

10. உணவு பழக்க முறை
(அ) சைவம் ()
(ஆ) அசைவம் ()
(இ) இரண்டும் சேர்ந்தது ()

பகுதி - ஆ (மகப்பேறு சார்ந்த தகவல்)

11. குழந்தை பிறப்பு
(அ) சுகப் பிரசவம் ()
(ஆ) அறுவைச் சிகிச்சை மூலம் ()
(இ) ஆயுத முறையின் மூலம் ()
(ஈ) இதர முறை ()

12. குழந்தைகளின் எண்ணிக்கை
(அ) ஒன்று ()
(ஆ) இரண்டு ()
(இ) மூன்றுக்கு மேல் ()

13. பிறந்தவுடன் குழந்தைக்கு பால் ஊட்டிய நேரம்
(அ) அரை மணி நேரத்திற்குள் ()
(ஆ) ஒரு மணி நேரத்திற்குள் ()
(இ) 1 மணியிருந்து 2 மணி வரை ()
(ஈ) 2 மணி நேரத்திற்கு மேல் ()

14. மார்பக முனையின் தன்மை
(அ) உள்நோக்கிய மார்பக முனை ()
(ஆ) சமமான மார்பக முனை ()
(இ) புண்ணான மார்பக முனை ()
(ஈ) இயல்பான நிலையில் உள்ள மார்பக முனை ()

பகுதி - இ

(தாய்ப்பால் அளிக்கும் விதம் மற்றும் தாய்ப்பால் பற்றிய பொது அறிவுத் தகவல்)

15. பிறந்த குழந்தையின் உணவு முறை

- (அ) தாய்ப்பால் ()
(ஆ) பால் பவுடர் ()
(இ) அ மற்றும் ஆ ()

16. ஒரு நாளைக்கு அதிக பட்சமாகத் தாய்ப்பால் ஊட்டுதல்

- (அ) 2 லிருந்து 3 தடவை ()
(ஆ) 3 லிருந்து 5 தடவை ()
(இ) 5 லிருந்து 7 தடவை ()
(ஈ) 7 தடவைக்கு மேல் ()

17. பால் சுரப்பதற்கான மாற்று மருத்துவ முறையைப் பற்றி அறிந்திருக்கிறீர்களா

- (அ) ஆம் ()
(ஆ) இல்லை ()

17(அ) ஏதேனும் இருப்பின் குறிப்பிடுக _____

(ஆதகவல் அறிந்து கொண்ட விதம் _____

18. கீழ்க்கண்டவற்றுள் ஏதேனும் ஒன்றை உட்கொள்வதன் மூலம் பால் சுரப்பதை அதிகரிக்கச் செய்யலாம்

- (அ) வெந்தயம்
(ஆ) இஞ்சி
(இ) பூண்டு
(ஈ) சீரகம்
(இ) இதில் ஏதும் இல்லை

19. வெந்தயத்தினால் வரும் இதர நன்மைகள்

- (அ) வயிற்று வலியை நீக்க
(ஆ) தாய்ப்பால் சுரக்கும் தன்மையை அதிகரித்தல்
(இ) உடல் சூட்டைத் தணிக்கும்

பகுதி - இ
குறைவாகத் தாய்ப்பால் சுரக்கும் தன்மையை உணர்தலுக்கானக்
கேள்விகள்

1. குழந்தைக்குப் போதுமான அளவு தாய்ப்பால் சுரப்பதை நீங்கள் உணர்கிறீர்களா?
 (அ) ஆம் ()
 (ஆ) இல்லை ()

2. எனது தாய்ப்பால் என் குழந்தைக்குப் போதுமான சத்து நிறைந்ததாக உள்ளது.

<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக மறுக்கிறேன்</p>	<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக ஒப்புக் கொள்கிறேன்</p>
---	--

3. என் குழந்தை பொதுவாக தாய்ப்பால் அருந்தியவுடன் நிறைவுடன் இருக்கிறது.

<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக மறுக்கிறேன்</p>	<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக ஒப்புக் கொள்கிறேன்</p>
---	--

4. எனது குழந்தை தாய்ப்பால் அருந்த ஆர்வமுள்ளதாக உள்ளது.

<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக மறுக்கிறேன்</p>	<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக ஒப்புக் கொள்கிறேன்</p>
---	--

5. எனது குழந்தையின் வளர்ச்சிக்குத் தேவையான ஆரோக்கியமான உணவு தாய்ப்பாலே ஆகும்.

<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக மறுக்கிறேன்</p>	<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக ஒப்புக் கொள்கிறேன்</p>
---	--

6. எனது மாப்பகங்களில் போதிய அளவிற்குத் தாய்ப்பால் இருக்கிறது.

<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக</p>	<p style="text-align: center;"> ----- </p> <p>முற்றிலுமாக ஒப்புக்</p>
---	---

ஆராய்ச்சி தகவல் தாள்

ஆராய்ச்சித் தலைப்பு : பாலூட்டும் தாய்மார்களுக்கு வெந்தயம் உட்கொள்ளச் செய்து பால் சுரக்கும் திறனை ஆராய்ச்சி செய்தல்.

ஆய்வாளர் பெயர் : அ. புவனேஸ்வரி வயது :

பங்கேற்பாளர் பெயர் :

தேதி :

ஆராய்ச்சிச் சேர்க்கை எண் :

- நான் அரசு தாய் சேய் நல மருத்துவமனையின் சுக மற்றும் அறுவை சிகிச்சைப் பிரிவு மகப்பேறு பின் கவனிப்பு பிரிவுப் பகுதியில் உள்ள உள் நோயாளிகளான பாலூட்டும் தாய்மார்களை திறனாய்வு மேற்கொள்கிறேன்.
- தாய்ப்பால் சுரக்கும் திறன் குறைவாக உள்ள தாய்மார்களுக்கு வெந்தயத்தை தொடர்ந்து, 5 நாட்களுக்கு இரண்டு வேளையாகப் பிரித்து உட்கொள்ளச் செய்ய போகிறேன்.
- இந்த செயல்முறையின் மூலம் பாலூட்டும் தாய்மார்களின் பால் சுரக்கும் தன்மை அதிகரிக்க வாய்ப்பு அதிகம் உள்ளது. இம்முறையைத் தாய்மார்கள் நன்றாக பயன்படுத்திக் கொள்ளலாம்.
- தாய்மார்கள் தங்கள் சொந்த விருப்பத்தின் பேரில் ஆராய்ச்சியில் இணைக்கப்படுவர். விருப்பமில்லையென்றால் எந்நேரமும் விலகிக் கொள்ளலாம். இதனால் ஆராய்ச்சிக்கு எந்தவித பாதிப்பும் ஏற்படாது.
- முடிவுகளை அல்லது கருத்துக்களை வெளியிடும் போது தங்களின் பெயரையோ அல்லது அடையாளங்களையோ வெளியிட மாட்டோம் என்பதை தெரிவித்துக் கொள்கிறோம்.

ஆராய்ச்சியாளர் கையொப்பம்
தேதி :

பங்கேற்பாளர் கையொப்பம்
தேதி :

ஆராய்ச்சி ஒப்புதல் படிவம்

ஆராய்ச்சி தலைப்பு : பாலூட்டும் தாய்மார்களுக்கு வெந்தயம் உட்கொள்ளச் செய்து பால் சுரக்கும் திறனை ஆராய்ச்சி செய்தல்

பெயர்: :
தேதி :
உள்ளேநாயாளி எண் :
ஆராய்ச்சி சேர்க்கை எண்:

வயது :

இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக எனக்கு விளக்கப்பட்டது

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்து கொண்டு நான் எனது சம்மதத்தைத் தெரிவிக்கிறேன்

இந்த ஆராய்ச்சியில் பிறரின் நிபந்தனையின்றி சொந்த விருப்பத்தின் பேரில் பங்கு பெறுகின்றேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின் வாங்கலாம் என்பதையும் அதனால் எவ்வித பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.

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

நான் என் சுயநினைவுடனும் மற்றும் முழுமனதுடனும் இந்த ஆய்வில் பங்கு பெற சம்மதிக்கிறேன்.

நான் இந்த ஆராய்ச்சிக்கு என்னுடைய முழு ஒப்புதலை அளிக்கிறேன்.

எனக்கு இந்த ஒப்புதல் கடிதத்தின் நகல் கொடுக்கப்பட்டது.

ஆராய்ச்சி யாளார் கையொப்பம்
தேதி :

பங்கேற்பாளர் கையொப்பம்
தேதி :

Demographic and Obstetric variables -Experimental Group

S.no	Section A										Section B					Section C			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	A	b	17
E1	B	D	B	A	A	A	A	C	A	A	A	A	A	B		A		Fenugreek use	
E2	A	C	A	D	A	A	B	B	C	C	D	A	C	D			C	A	
E3	C	C	A	C	B	A	A	B	A	A	C	C	C	C			B	A	
E4	B	C	A	C	A	A	B	C	A	A	B	A	C	C			C	A	
E5	B	C	A	B	A	B	A	C	B	A	C	C	D	B			E	A	
E6	B	B	A	C	A	B	A	C	A	A	A	C	A	D	Garlic	Grand mother	C	A	Garlic
E7	D	D	A	C	A	A	B	C	B	C	D	A	D	B			D	A	
E8	C	D	A	B	A	A	A	A	A	A	B	A	D	C			B	A	
E9	C	B	A	C	A	A	A	C	A	B	B	A	C	B	Non-veg diet	Aunty	B	A	Non-veg diet
E10	B	C	A	C	A	A	A	C	B	B	B	A	D	D			D	A	
E11	A	B	A	C	A	B	A	C	A	B	B	A	D	C	Injections Milk	Aunty	E	C	Injections
E12	C	D	B	C	A	A	A	C	A	A	A	D	A	D		Aunty	E	C	Milk
E13	B	B	A	A	A	B	A	C	B	A	D	A	D	C			E	A	
E14	B	D	A	B	A	B	A	A	B	B	D	A	D	D			E	C	
E15	B	B	A	B	A	B	A	C	B	B	D	A	D	D			E	A	
E16	B	D	B	B	A	A	A	B	C	C	A	A	D	D			C	A	
E17	A	B	A	B	A	A	B	A	A	A	C	C	D	C			A	C	
E18	C	B	A	B	A	A	A	C	B	B	D	A	D	B			C	B	
E19	B	D	A	A	A	A	A	C	B	A	D	A	D	C			E	A	
E20	A	C	A	C	A	A	B	A	A	A	C	A	D	C			E	A	
E21	C	D	A	C	A	B	A	C	A	A	D	A	D	D			D	C	
E22	B	D	B	C	A	A	A	C	A	A	C	A	A	C			C	A	
E23	B	C	A	C	B	A	B	C	A	A	B	C	A	C			C	C	
E24	B	C	A	B	A	A	B	A	A	A	B	A	D	D			E	A	
E25	B	C	A	C	A	A	A	C	A	A	D	A	D	B			C	C	
E26	B	C	A	C	A	A	B	A	A	A	B	A	D	C			E	C	
E27	C	C	A	C	A	B	A	A	A	A	A	C	A	D			C	C	
E28	C	D	A	B	A	B	A	C	B	B	D	A	D	C			C	C	
E29	B	D	A	A	A	A	A	C	B	A	B	A	D	D			C	C	
E30	C	D	A	D	A	A	B	A	A	A	C	A	D	D			E	A	

Demographic and Obstetric variables -Control Group

S. no	Section A										Section B					Section C				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	A	b	17	18
E1	C	D	A	B	A	A	A	C	D	B	D	A	D	B	B			E	A	
E2	B	D	B	C	A	A	B	C	B	A	D	A	D	C	B			E	A	
E3	D	A	A	B	A	A	A	C	B	B	D	A	D	C	B			E	A	
E4	A	C	A	B	C	A	B	C	B	A	D	A	D	D	B			E	C	
E5	C	D	A	C	A	A	A	C	B		D	A	D	C	B			E	C	
E6	B	C	A	B	A	A	A	C	B	A	B	A	D	C	A			E	C	
E7	C	B	A	C	A	A	A	C	B	B	D	A	A	B	B			E	C	
E8	D	D	A	A	A	A	A	C	B	A	D	A	D	A	B			E	C	
E9	B	C	A	B	A	A	A	C	A	A	D	A	B	C	B			E	A	
E10	B	D	A	C	A	A	A	C	B	A	C	A	D	C	B			E	A	
E11	B	B	A	C	A	A	B	A	B	A	B	A	D	C	B			C	A	
E12	D	B	A	B	A	A	A	C	B	A	C	C	D	B	B			E	A	
E13	B	B	A	B	A	A	B	C	B	A	C	A	C	D	B			C	A	
E14	B	C	A	C	A	A	B	A	A	A	C	A	D	C	B			C	A	
E15	B	D	A	C	A	A	A	C	B	A	C	A	D	D	B			E	C	
E16	D	C	A	C	A	A	B	A	B	A	D	A	D	C	B			E	A	
E17	B	C	A	A	A	A	B	A	A	A	B	A	D	C	B			C	A	
E18	B	C	A	D	A	B	A	C	A	A	B	A	D	C	B			E	C	
E19	B	B	A	A	A	B	B	C	B	B	C	A	D	C	B			C	A	
E20	D	D	A	C	A	A	A	C	B	B	D	A	D	B	B			C	A	
E21	A	D	A	C	A	A	B	A	B	A	C	A	D	C	B			C	C	
E22	B	D	B	B	A	A	B	C	B	A	D	A	D	A	B			C	A	
E23	B	C	A	C	A	A	B	C	A	A	D	A	D	C	A	Non-veg Diet	Aunty	E	C	
E24	B	B	C	B	A	B	B	A	B	A	D	A	D	D	B			C	A	
E25	B	D	A	C	A	A	B	A	B	A	D	A	D	C	A	Non-veg Diet	Aunty	C	A	
E26	B	B	A	A	A	A	A	C	A	B	D	A	D	C	B			C	A	
E27	D	B	A	B	A	A	A	C	B	A	D	A	D	C	B			E	A	
E28	B	D	A	C	A	A	B	C	A	A	B	C	D	B	A	Garlic	Mother	C	C	
E29	C	C	A	C	A	A	B	A	A	B	C	A	D	B	B			C	C	
E30	B	B	A	A	C	B	A	C	A	A	D	A	D	C	B			C	C	

CERTIFICATE

This is to certify that the dissertation work "A study to assess the effectiveness of fenugreek consumption on lactation among postnatal mothers admitted at Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Chennai", done by Ms.A.Bhuvaneshwari, M.Sc (N) II year student, College of Nursing, Madras Medical College, Chennai - 03 is edited for English language appropriateness.

Place:



Date:

J. Rangaswamy
Signature 4/02/16
- Headmistress
Our Lady's Hr. Sec. School
955, T. H. Road,
Thiruvottiyur, Chennai - 18

Designation

ABBREVIATIONS

LIST OF ABBREVIATIONS

- **AHRQ** – Agency for Health care Research and Quality
- **PCR** – Polymerase chain reaction
- **SCW** – Special care ward
- **ICDDR-B** – International centre for Diarrhoeal Disease Research
Bangladesh
- **NSICU** – Neonatal surgical Intensive Care Unit
- **IMS** – Insufficient Milk Supply
- **PIM** – Perceived Insufficient Milk Questionnaire Items and
Responses
- **BSS** – Breast feeding self efficacy scale
- **CAM** - Complementary alternative medicine