



## Effectiveness of Lactational Counseling on Breast Engorgement and Newborn Feeding Behavior among Primigravidae at Sri Ramachandra Hospital

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### Abstract

*This research study was to assess the effectiveness of the lactation counselling on breast engorgement and newborn feeding behaviour among primigravidae at Sri Ramachandra Hospital. The research design chosen for the study was non equivalent quasi-experimental posttest control group design. Primigravidae who are admitted for safe confinement were the participants. Study group received lactation, whereas control group received the routine care from the health care professionals. Breast engorgement and new born feeding behaviour were assessed during first 3 days of postnatal period using breast engorgement assessment scale and new born feeding behaviour assessment tool respectively Data were analysed using standardized technique. The significant difference found on breast engorgement and newborn breastfeeding behaviour among primigravidae at  $p < 0.001$ . Thus the study proved that the effectiveness of lactation counselling on the breast engorgement and the newborn breastfeeding technique among primigravidae.*

**Keywords:** Lactational counselling, Breast engorgement, Newborn Feeding Behaviour.

### INTRODUCTION

Breast feeding is the universally preferred method of feeding a newborn, because it provides numerous health benefits to both the mother and the infant, as breast milk remains the ideal nutritional source for infants through the first year of life (ACOG 2007). It is nature's formula for ensuring the health and quality of life for infants. It is economically efficient, needs very little investment, gives invaluable returns to the family and to the nation.

WHO (2000) recommended, from first to six month of the baby only breastfeeding should be provided and next continuing to breast feed along with water, formula, juice or solid food until one year of age or even longer needed by mother and child.

The UNICEF(2009) revealed that the breast feeding rates in different international states were, Thailand-99%, Australia, Canada, China, France, Italy, Netherlands, Spain, Switzerland, United

Kingdom-98%, Sweden-61%, Sri Lanka-75%, India-41%, Pakistan-25%.

The National Family Health Survey revealed that the breastfeeding rates in different states were: Tamilnadu – 50.3%, Kerala – 55.4%, Maharashtra – 51.8%, Mizoram -65.4%, Meghalaya – 58.6%, Orissa – 54.3%, Goa 59.7% and Assam–50.6%. Breastfeeding rates in Punjab, Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, and Delhi were below 45% (National health survey 2009).

The district health survey (2010) revealed that the breast feeding rates in different district were Chennai-75%, Vilupuram-50%, Salem-25%, Trichy-45%, Kaur and Vellore-35%.

Many primi mothers begin breastfeeding with little support and understanding of breast feeding process. Proper breastfeeding techniques such as holding the baby, posture and sucking is essential for breastfeeding the baby and around the world about 99% of mothers sufficient enough to breastfeed their babies. Basic breastfeeding technique helps to avoid breastfeeding problems.

McLeod (2002) suggested that lack of antenatal information and education regarding breast feeding is one of the major factors contributing to initiating and discontinuation of breast feeding among postnatal mothers.

Delayed breast feeding can produce breast complications like breast engorgement and breast abscess. Breast engorgement occurs around the third and fifth postnatal day in varying degrees from slight to severe (Robert 2000).

It is the responsibility of care giver to provide written and verbal information to the primi mothers who begin this new and unique process. Lactational counsellor are primi people to teach

the woman during antenatal visits regarding breast feeding and provide anticipatory guidance, as early as possible even before pregnancy. Counsellor provides opportunity to educate clarifies misinformation and addresses concerns on breast feeding (Lowder milk 2009). Counsellor should address the problems with breast feeding that could help in promotion of a successful and satisfiable breastfeeding experience for the mothers and infants (Hall and Renfrew 2008). Based on these, the investigator decided to assess the effectiveness of lactation counseling on breast engorgement and newborn feeding behaviour among primigravidae.

**OBJECTIVES**

The objectives of the study were to,

1. Determine the effectiveness of lactation counseling on breast engorgement among primigravidae.
2. Determine the effectiveness of lactation counseling on newborn feeding behavior among primigravidae.
3. Associate the breast engorgement and newborn feeding behavior with selected background variables of the primigravidae.

**HYPOTHESES**

**H<sub>1</sub>:** There is a significant difference in breast engorgement among primigravidae who attend lactational counseling than those who do not.

**H<sub>2</sub>:** There is a significant difference in newborn feeding behavior among primigravidae who attend lactational counseling than those who do not.

**METHODS AND MATERIALS**

**Research design:**

A non equivalent quasi experimental design

Group	Intervention	Posttest		
		1 <sup>st</sup> day	2 <sup>nd</sup> day	3 <sup>rd</sup> day
Study group	*X	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>
Control group	*	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>

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The study was conducted at antenatal and postnatal ward at SRH. All primigravidae were the target population. Term Primigravidae who were admitted in the antenatal ward for safe confinement at Sri Ramachandra Hospital were the accessible population. The sample consisted of 60 primigravidae, 30 in the study group and 30. Purposive sampling technique was used in the study. Inclusion Criteria were term primigravidae who are admitted for safe confinement primigravidae who are able to understand English or Tamil. Who are willing to participate in the study. Exclusion Criteria were primigravidae with high risk pregnancy and delivery, mother with high risk baby admitted in neonatal intensive care unit.

### DESCRIPTION OF TOOL AND SCORING

The tool consists of three sections

#### Section A - Demographic Variable

This consists of questionnaire on demographic variables. The variables included were Age in years, Education, Occupation, Monthly income, Type of family, Domicile.

#### Section B - Breast engorgement assessment scale

Breast engorgement was assessed using 6 point breast engorgement scale devised by Hill.P.D. And Humenick (1994). Clinical breast assessment was done by the investigator and the findings were interpreted and scored as per the scale.

#### Score interpretation:

- Score 1** : Soft
- Score 2** : Slight changes in breast
- Score 3** : Firm, non-tender breast
- Score 4** : Firm, beginning tenderness in breast
- Score 5** : Firm, tender
- Score 6** : Very firm, very tender

Highest score of 6 indicated severe breast engorgement and lesser scores indicated reduction in severity of breast engorgement. Score of 1 indicated that the mother is free from breast engorgement. Increased score indicates the increased severity of breast engorgement.

### Section C –New born feeding behaviour assessment tool

New born feeding behaviour was assessed using breast feeding assessment tool was devised by Jenson, Deborah. Shiela Wallace and Patricia Kelly (1994). The components of the tool are Latch, Audible swallowing, Type of nipple, Comfort Level, Hold Positioning, Elimination, and Satiation.

#### New born feeding behaviour (Latches) scale

Components	Score
Latch	3
Audible swallowing	3
Type of nipple	3
Shape of nipple	3
Comfort Level	
Breast	3
Nipple	3
General feeding	3
Hold Positioning	3
Elimination	
Urine	3
Stool size	3
Stool colour	3
Satiation	3
<b>Total score</b>	<b>36</b>

#### Score Interpretation

- 0 - 12 Inadequate,
- 13 - 24 moderately adequate,
- 25 - 36 Adequate.

Assessment of breast engorgement, new born feeding behaviour assessment was done with the scale for the first, second and third days of postnatal period.

## DATA ANALYSIS AND INTERPRATION

**Table 1.**Frequency, percentage distribution and chi square value of demographic variables among primigravidae (N=60)

Demographic Variables	Study group (n=30)		Control group (n=30)		$\chi^2$ df p value
	No.	%	No.	%	
<b>1. Age (years)</b>					
a. 18-22	13	43.3	15	50.0	1.175
b. 23-27	16	53.3	15	50.0	2
c. 28-32	01	03.3	00	00.0	0.556 (NS)
d. 33-37	00	00.0	00	00.0	
<b>2. Education</b>					
a. Primary school	01	03.3	02	06.7	2.482
b. High school	14	30.3	17	56.7	4
c. Higher secondary	19	46.7	08	26.7	0.648(NS)
d. Graduate	04	13.3	01	03.3	
e. Post graduate	02	06.7	02	06.7	
<b>3. Occupation</b>					
a. House wife	25	83.3	27	90.0	0.744
b. Government	02	06.7	01	03.0	3
c. Private	02	06.7	01	03.3	0.863(NS)
d. Business	01	03.3	01	03.3	
<b>4. Monthly Income(Rs)</b>					
a. 2501 -5000	01	03.3	00	00.0	3.844
b. 5001 -7500	03	10.0	05	16.7	3
c. 7501 -10000	09	30.0	04	13.3	0.279(NS)
d.10001 -12500	17	56.7	21	70.0	

**Table. 1**Frequency, percentage distribution and chi square value of demographic variables among primigravidae (N=60) contd....

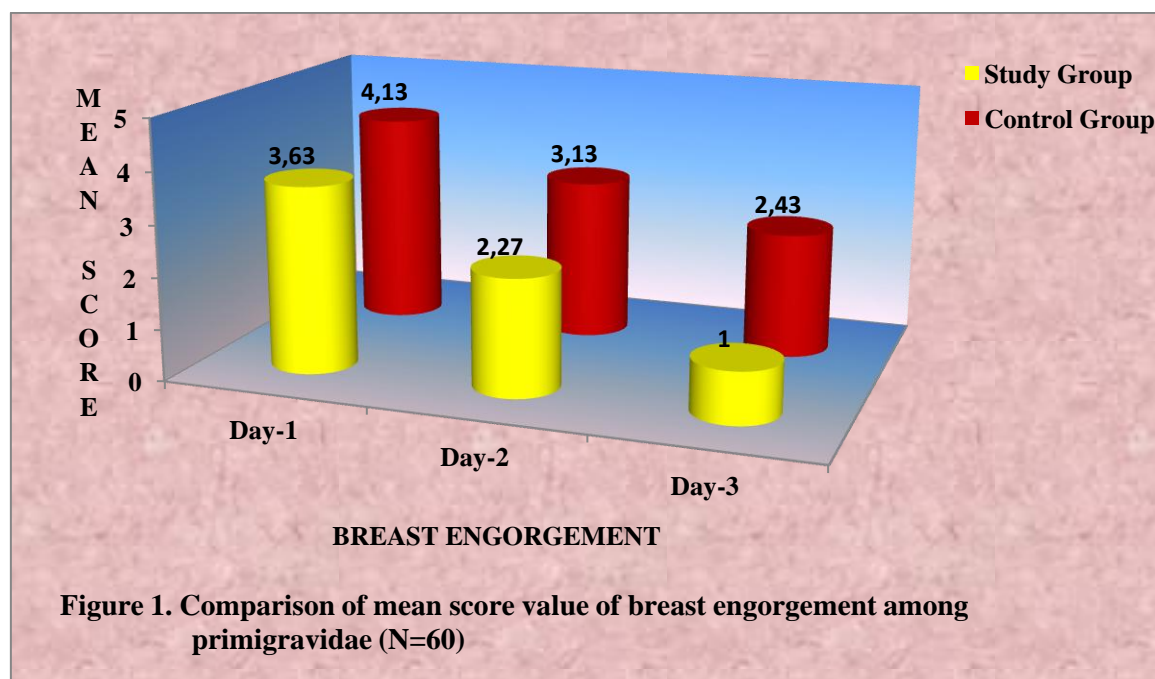
Demographic Variables	Study group (n=30)		Control group (n=30)		$\chi^2$ df p value
	No.	%	No.	%	
<b>5.Type of Family</b>					
a. Nuclear	19	63.3	18	60.0	0.071
b. Joint	11	36.7	12	40.0	1
<b>6. Domicile</b>					
a. Urban	20	66.7	22	73.3	0.791(NS)
b. Sub urban	04	13.3	05	16.7	1.206
c. Rural	06	20.0	03	10.0	2
					0.547(NS)

**Table 2.**Frequency, percentage distribution and chi square value of Breast engorgement among primigravidae (N=60)

Breast engorgement	Study group (n=30)						Control group (n=30)					
	Day-1		Day-2		Day-3		Day-1		Day-2		Day-3	
	1	%	2	%	3	%	1	%	2	%	3	%
Free from engorgement	30	100	30	100	30	100	6	20	8	26	8	26
With engorgement	0	0	0	0	0	0	24	80	22	73	22	73

**Table 3.** Frequency, percentage distribution and chi square value of Newborn feeding behaviour among primigravidae (N=60)

New born feeding behaviour	Study group (n=30)						Control group (n=30)					
	Day-1		Day-2		Day-3		Day-1		Day-2		Day-3	
	1	%	2	%	3	%	1	%	2	%	3	%
Inadequate	0	0	0	0	0	0	0	0	0	0	0	0
Moderately adequate	9	30	1	3	0	0	28	93	23	76	19	63
Adequate	21	70	29	96	30	100	2	6	7	33	11	36



**Figure 1.** Comparison of mean score value of breast engorgement among primigravidae (N=60)

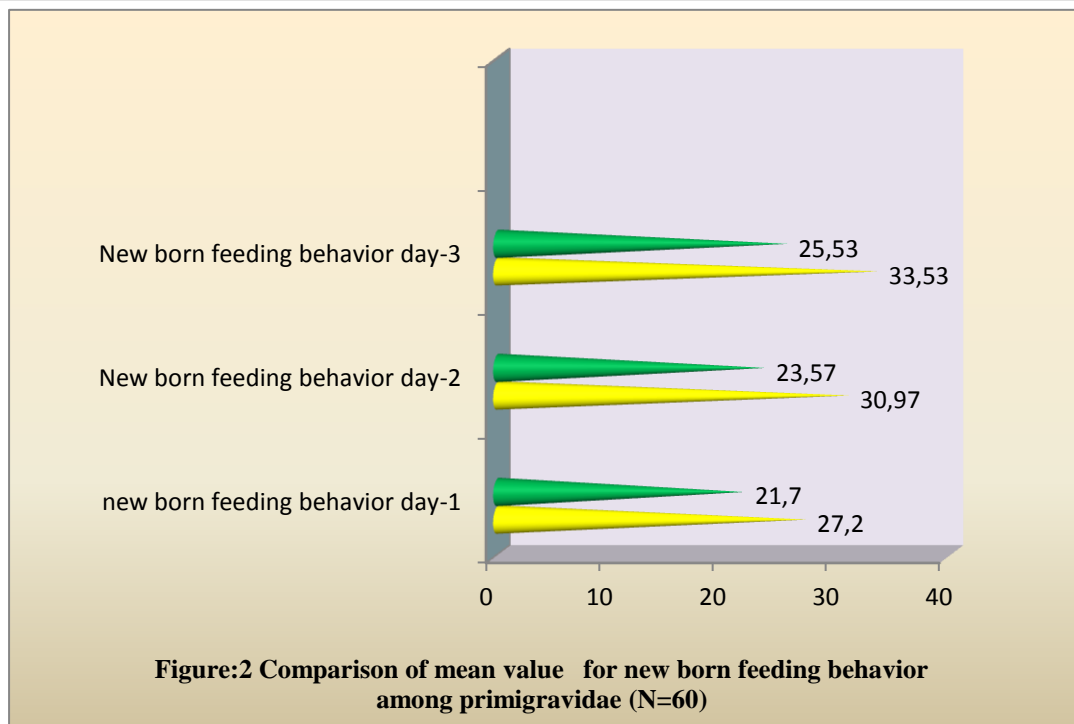


Figure:2 Comparison of mean value for new born feeding behavior among primigravidae (N=60)

Table 4. Mean, Standard deviation, Independent t and p value of breast engorgement among primigravidae in the study and control group (N=60)

Assessment of Breast engorgement	Study group(n=30)		Control group(n=30)		Independent t test & p value
	Mean	SD	Mean	SD	
Day-1	3.63	0.664	4.13	0.730	2.766 0.008(NS)
Day-2	2.27	0.450	3.10	0.712	5.420 0.000***
Day-3	1.00	0.000	2.43	0.504	15.577 0.000***

NS - Non significant.\*\*\* - p<0.001

Table 5. Mean, Standard deviation, Independent t and p value of Newborn feeding behaviour among primigravidae (N=60)

Newborn feeding behaviour	Study group(n=30)		Control group(n=30)		Independent t test & p value
	Mean	SD	Mean	SD	
Day-1	27.20	4.627	21.70	2.366	5.797 0.000***
Day-2	30.97	2.236	23.57	3.191	10.402 0.000***
Day-3	33.53	1.634	25.53	1.456	20.019 0.000***

\*\*\* - p<0.001

## DISCUSSION

1. Homogeneity was maintained for all the demographic variables in both the groups.

2. A significant decrease in breast engorgement on the second day and the third day at  $p < 0.001$  was seen among the primigravidae in the study group. The mean score for the second day was 02.27 with the SD of 0.45 for the study group and 03.10 with the SD of 0.712 for the control group. On the third day the mean score for the study group was 01.00 with the SD of 0.000, and the control group was 02.43 with the SD of 0.504. Parmar (2009) conducted a descriptive study on postnatal mother's attitude, knowledge, problems and practices related to breast engorgement. The study findings found that about 65% of the mother's have know the methods to prevent the breast engorgement, 56% of the mother's suggested that repeated sucking prevents breast engorgement. On preventing breast engorgement, primi gravida mother's (8%) have less knowledge when compared to multipara mothers (57%). On treatment of breast engorgement, about 76% of the mother's have knowledge on how to get relived from breast engorgement, about 59% of the mother's suggested that by expressing out the breastfeed manually, helps to get relieved from breast engorgement, about 12% of the mother's had said that hot water fomentation helps in relief of breast engorgement and about 34% of the mothers have positive view on giving breastfeeding to the premature child. Thus it shows that the majority of the multipara mother's having in the nuclear family have good attitude when compared to primi gravida in view of breastfeeding.

3. Over all there was a significant increase in the newborn feeding behaviour  $p < 0.001$  among primi gravidae in the study group. On the first day new born feeding behaviour mean score of 27.20 with the SD of 4.62 was found in the study group, and the control group had the mean score of 21.70 with the SD of 2.36. In the second day the mean score was 30.97 with the SD of 2.23 in the study group and the control group had a mean of 03.10 with the SD of 0.71. On the third day, the study

group the mean score was 01.00 with the SD 0.000 and the control group had the mean of 02.43 with the SD of 0.50. Blair, Cadwell, Turner-Maffei and Brimdyr (2003) identified that about 95% of the postnatal mothers with breast engorgement were assessed for various aspects such as levels of pain, positioning of the head, mouth and the breast using Lactation Assessment Tool (LAT), which showed that there was no significance difference between the postnatal mother's variables. But other factors such as sucking, rooting, gasping etc., may cause a pain ( $r = -0.09$ ,  $P > 0.05$ ). Thus, it proved that breastfeeding should be initiated immediately after the birth of the baby.

4. There was significant association was found between the education and occupation and the level of breast engorgement on the first day and second day  $p < 0.01$ , third day  $p < 0.001$  among primigravidae. There was an association found between new born feeding behaviour on the first day  $P < 0.01$ , second and third day  $p < 0.001$  in the education and occupation aspects of the among primi gravida.

## NURSING IMPLICATIONS

Nursing is a dynamic process, which involves evidence based practice, and dissemination of research knowledge into practice. The finding of this study recommends the implication on nursing practice, nursing education, nursing administration and nursing research.

### 1. Nursing Practice

Breast feeding is not as natural as it is thought to be. It has to be practiced, learnt and needs a lot of determination and effort on the part of the mother. Nurses need to accept the responsibility of helping mothers gain knowledge and skills necessary to breast feed successfully their babies.

### 2. Nursing Education

Though breast feeding positions, techniques and time of feeding, nutrition, breast feeding problems, management, are included in the curriculum, students should apply skills in assisting mothers ,teaching them about breast

feeding practices, being familiar and skilled in both the functioning and medical management of breast feeding. Promoting breast feeding education must be a routine component in education. Lactational counselling can serve as an education tool for staff nurses working in maternity units by continuous maternity nursing education.

### 3. Nursing Administration

Nursing leaders are challenged to undertake the health needs of most vulnerable groups, especially maternal and child health by effective organization and management.

### 4. Nursing Research

The role of nurse in educating and encouraging women to breast feed and to identify the impact on breast feeding practices. Steps should be taken to develop and implement the research by preparing nurses to read, critique, use researches.

### RECOMMENDATIONS

1. This study can be replicated on a larger sample size
2. With extended period of time to observe breast engorgement and new born feeding behaviour in relation to lactational counseling.
3. Comparative study between primi and multi mothers and with intervention of lactational counseling.
4. Comparative study between in urban and rural mothers related to lactational counseling.

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