

A Study to Assess the Effectiveness of Breast Milk Extraction Among Lactating Mothers with Breast Engorgement in Selected Hospitals in Udaipur

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Abstract

Introduction: Breastfeeding is a unique experience, which should be valued and supported by both maternity and neonatal care givers.

Materials & Methods: A quantitative research approach with a quasi-experimental one-group pre-test and post-test design was adopted to assess the effectiveness of breast milk extraction on breast engorgement among lactating mothers. The study was conducted in the OBG wards of PMCH, Udaipur, and Pacific Institute of Medical Sciences and Hospital, Udaipur. A sample of 30 lactating mothers from the third day of the lactation period was selected using a non-probability convenience sampling technique. Data were collected using a demographic data sheet, Visual Analog Scale for pain assessment, and a 10-item breast engorgement checklist. The intervention was evaluated by comparing the pre-test and post-test scores of pain and breast engorgement.

Results: Among 30 mothers, 40% were aged 26–30 years, 60% belonged to nuclear families, and 70% were primipara mothers. Pain and breast engorgement showed a significant association with parity, while pain was also significantly associated with frequency of feeding; other selected demographic variables showed no significant association.

Conclusion: The study concluded that breast milk extraction was effective in reducing breast engorgement and pain among lactating mothers.

A statistically significant improvement was observed in breast engorgement and pain scores ($p < 0.05$). Thus, breast milk extraction can be considered a safe, non-invasive, and effective non-pharmacological intervention.

Keyword: Assess; Effectiveness; Breast Milk; Extraction; Lactating Mothers; Breast Engorgement

INTRODUCTION

Parent may see the task of feeding their baby as the center of their relationship with the new family member.¹

Breastfeeding, or lactation, is the natural way in which the mother of a newborn can feed her child instead of relying on cow's milk or artificial formula preparations. A woman's breasts are

ideally suited for the task of feeding a baby, and provides many benefits to both mother and baby.²

The American Academy of Pediatricians and the National Association of Paediatric Nurses Associates and Practitioners recommend breast-feeding as much as possible during the baby's first year. Breast milk is extremely nutritious and contains carbohydrates, proteins, and fats essential for a baby's health. Breast milk also contains antibodies that help prevent infections and allergies.³

Studies have shown that breast-feeding may help protect against infant ear infections, allergies, diarrhea, eczema, bacterial meningitis, and other serious illnesses. Research has also shown that breast-feeding reduces infant anemia (iron deficiency in the blood) and stomach or intestinal infection. Breast-feeding also offers benefits to nursing mothers. Breast-feeding releases hormones, which cause the uterus to shrink after delivery, and decreases bleeding. Mothers who breast-feed typically have an easier time losing weight after pregnancy.⁴

According to the American academy of paediatrics, breast-feeding also, helps build a woman's bone mineral density and helps prevent osteoporosis after menopause.⁵

All breast-feeding mothers develop some degree of engorgement, which is not an infectious process.⁶

The problem of breast engorgement is usually caused by giving pre lacteal feeds, early removal from the breast, bottle feeding and other restrictions to feeding. (Gupta et al 2001)^{7,8}

MATERIALS & METHODS

Research Approach

The research approach used for this study was a quantitative approach.

Research Design

In this study quasi-experimental one group pre -test and post- test design was adopted.

The diagrammatic representation of this design is as follows:

Variables Under the Study

Independent Variable - Breast Milk Extraction

Dependent Variable - Breast Engorgement

Research Settings

The study was conducted in the OBG ward of PMCH, Udaipur & Pacific Institute of medical sciences & hospital, Udaipur. These hospitals had a well-equipped labour room recording more than 70 deliveries per month. To have a large sample these hospitals were selected.

Population

The target population of this study comprised of Lactating mothers admitted in PMCH, Udaipur & Pacific Institute of medical sciences & hospital, Udaipur.

Sample

In this study, the sample comprised of all Lactating mothers from 3rd day of Lactating period admitted in obg ward who fit in to the inclusion criteria was selected.

Sample Size

The Sample size consisted of 30 Lactating mothers.

Sampling Technique

In this study, the technique used was non-probability convenience sampling technique.

Criteria for Sample Selection Inclusion Criteria**Inclusion Criteria**

- Mother who underwent normal delivery and LSCS
- Lactating mother whose babies are in ICU
- Willing to participate in the study

Exclusion Criteria

- Mother with soft breasts
- Mother who receiving lactation suppressants
- Mother with infection in the breasts, breast abscess, mastitis, broken skin of breasts, bleeding or cracked nipple etc.

Research Tool

Based on the objectives demographic data, visual analog pain scale and breast engorgement checklist was used to assess the level of pain and breast engorgement.

The tool was formulated based on the review of literature and discussion with the experts in the field of nursing.

This standardized tool was considered adequate. The breast engorgement check list was validated.

Description of The Tool: The tool used for this study was divided in to three sections.

SECTION I: It consisted of demographic data of post-natal mothers which included - age,

SECTION II: Section II consisted of visual analog scale to access the intensity of pain related to breast engorgement. It consisted of baseline interval ranging from 0 to 10.

SECTION III: Comprised of breast engorgement check list .it consisted of 10 characteristics of breast engorgement. The maximum score was 10.

Reliability

The stability was assessed by test retest method. The obtained reliability co efficient was $\gamma=0.9754$.

Plan for Data Analysis

The data analysis was planned according to the objectives and hypothesis of the study

☐ **DESCRIPTIVE STATISTICS**

Frequency, percentage, means, standard deviation was planned for analyzing pretest, post-test assessment

☐ **INFERENTIAL STATISTICS**
RESULTS

Table : I Frequency And Percentage Distribution Of The Demographic Variables Of The Group
N=30

S.N.	VARIABLES	GROUPS	NUMBER OF LACTATING MOTHERS	PERCENTAGE
1.	Age	20-25	4	13.33%
		26-30	12	40.00%
		31-35	8	26.66%
		36-40	6	20%
2.	Education	Secondary	5	16.00%
		Senior	9	30.00%
		Secondary	10	33.33%
		Graduate Post Graduate	6	20%
3.	Religion	Hindu	13	43.33%
		Shikh	5	16.00%
		Jain	7	23.33%
		Muslim	5	16.00%
4.	Type of family	Joint Family	12	40.00%
		Nuclear Family	18	60.00%
5.	Parity	Primi	21	70.00%
		Multi	9	30.00%
6.	Type of delivery	Vaginal	12	40.00%
		Operative	18	60.00%
7.	Frequency of feeding	Demand	4	13.00%
		Once in 2 hours	2	6.66%
		Once in 3 hours	7	23.33%
		rarely	17	56.66%

Table - II: Assessment of Breast Engorgement Before Intervention

SCORE	LEVEL OF BREAST ENGORGMENT	BEFORE APPLICATION OF BREAST MILK EXTRACTOR	
		FREQUENCY	%
1 -3 Score	Mild Breast Engorgment	00	00
3-7 Score	Moderate Breast Engorgment	09	30
8-10 Score	Severe Breast Engorgment	21	70

Table - III: Assessment of Breast Engorgement After Intervention

SCORE	LEVEL OF BREAST ENGORGMENT	AFTER APPLICATION OF BREAST MILK EXTRACTOR	
		FREQUENCY	%
1 -3 Score	Mild Breast Engorgements	30	100
3-7 Score	Moderate Breast Engorgements	00	00
8-10 Score	Severe Breast Engorgements	00	00

Table - IV: Assessment of Pain Before Intervention

SCORE	LEVEL OF PAIN	BEFORE APPLICATION OF BREAST MILK EXTRACTOR	
		FREQUENCY	%
1 -3 Score	Mild Pain	01	3.33
3-6 Score	Moderate Pain	12	40
7-10 Score	Severe Pain	17	56.67

Table - V: Assessment of Pain After Intervention

SCORE	LEVEL OF PAIN	BEFORE APPLICATION OF BREAST MILK EXTRACTOR	
		FREQUENCY	%
0 Score	No Pain	02	6.67
1 -3 Score	Mild Pain	26	86.67
3-6 Score	Moderate Pain	02	6.67
7-10 Score	Severe Pain	00	00

Table - VI : Distribution Of Mean And Standard Deviation Of Effectiveness Of Breast Milk Extractions In Reduction Of Breast Engorgement And Pain

Variables	Before Breast milk extraction		After Breast milk extraction		Reduction		“t”	df	Significance
	Mean	S.D	Mea n	S.D	Mea n	S.D			
Breast engorge ment	8.13	1.66	1.83	0.79	6.3	1.3	26.20	29	p < .05
Pain level	6.67	1.67	1.83	1.15	4.83	1.62	16.34	29	p < .05

DISCUSSION

he study revealed that the mean age of lactating mothers was 30.5 years. Most mothers (70%) were primiparous, 60% belonged to nuclear families, and 60% had undergone operative delivery.

Before breast milk extraction, 56.67% of mothers experienced severe pain, while 60% had moderate breast engorgement. After the intervention, the mean pain score decreased from 6.67 ± 1.67 to 1.83 ± 1.15 , and the mean breast engorgement score decreased from 8.13 ± 1.66 to 1.83 ± 0.79 . Both reductions were statistically significant ($p < 0.05$), indicating the effectiveness of breast milk extraction in reducing pain and breast engorgement.

Regarding demographic associations, pain was significantly associated with parity and frequency of feeding, whereas breast engorgement was significantly associated with parity only ($p < 0.05$). Other selected demographic variables showed no significant association.

CONCLUSION

As for this research is concerned, the interventional study proved that there is a significant reduction of pain and breast engorgement among Lactating mothers. The difference of pre and post test breast engorgement's mean score was 4.5. The difference was statistically significant (**paired 't' = 26.20 & $p < 0.05$**).

The pain mean score was 3.6 between pre and post- test. The difference was statistically highly significant (**$t = 16.34$, $p < 0.05$**). Therefore the Breast Milk extraction is very effective form of non pharmacological intervention to relieve pain and breast engorgement among post natal mothers as it is non invasive and no side effects. The findings of the present study agree with the findings of the previous clinical study, regarding Breast Milk extraction.

REFERENCES

01. Annamma Jacob,(2008)a comprehensive text book of midwifery(2nd ed) Jaypee brothers medical publishers.new delhi .478
02. Arulkumaran.s.,leonek penna,k.,Bhasker rao,the management of labour,(2nd ed):orient long man pvt ltd (2005) .427
03. Basavanthappa,BT,(1998). Nursing research(1st ed).Mumbai:Jaypeebrothers medical publishers. 49.
04. Bennett, RV., Brown, Lk. (2001).Myles text book for midwives.(13th edition). London:Churchill Livingstone.720.
05. Bobak,IM;Lowdermilk, DL.,Jensen,MD.(1995) Meternity nursing,(4thed).Torato:Mosby publishers.414.
06. Dutta,DC.(1997). Text book of Gynaecology.(3rd edition). New central book agency.456.
07. Henderson,C.,Macdonald, S.(2004).Mayes Midwifery A textbook for midwives.(13^{ed}). London:Bailliere Trindall.728.
08. Julia B.George .(1995) .Nursing theories (4th ed) .california :Appletonand lange Norwalk
09. Lynna,Y.C.Joan,CE.(2005). Maternity nursing care. (1st ed). Australia: Thomson Delmar learning maternity nursing care.619
10. Mahajan ,B.K.(1997). Methods in biostatistics.(6th ed).Delhi: Jaypee brothers Medical publishers. 141-144