International Journal of Innovative Research in Health Science

Published: May 2026

Volume 2, Issue 5, Pages 6-8

Research Article

DOI: https://doi.org/10.63349/ijirhs.202624

A study to assess the effectiveness of hot application on breast engorgement among postnatal mothers at selected hospital, Puducherry

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Abstract:

Background: The postnatal phase is a vital period when issues like breast engorgement frequently arise and can hinder effective breastfeeding. Managing these challenges requires simple and efficient nursing interventions to enhance maternal comfort and support lactation. **Methodology:** A quantitative, quasi-experimental one-group pretest–posttest design was used. The research included 30 postnatal mothers experiencing breast engorgement who were admitted to Sri Manakula Vinayagar Medical College and Hospital, Puducherry. Participants were selected through purposive sampling. **Results:** Prior to the intervention, 66.7% of participants experienced severe engorgement, while 33.3% had moderate symptoms. Following the application of heat, 90% reported no engorgement and 10% experienced only mild discomfort. The mean engorgement scores significantly dropped from 16.77 ± 2.254 to 2.27 ± 1.388 ($t = 31.746$, $p < 0.05$). **Conclusion:** Hot application is a simple, non-pharmacological, and effective nursing strategy for reducing breast engorgement in postnatal mothers.

Keywords: Breast engorgement, hot application, postnatal mothers, breastfeeding.

INTRODUCTION

The postpartum phase, often called the fourth trimester, is an important period for both the mother and her baby, lasting for about six weeks after delivery. Throughout this time, mothers go through major physical, hormonal, and emotional changes, and breastfeeding takes on a key role in caring for the newborn. Breastfeeding is essential for infant growth and immunity and also provides important health benefits to the mother.

Although natural, breastfeeding is frequently associated with challenges, especially in the early days after delivery. Common problems include nipple pain or cracks, breast engorgement, poor infant latch, low milk supply, feeding refusal, and maternal fatigue. If not properly managed, these difficulties may lead to early discontinuation of breastfeeding and adverse nutritional outcomes for the infant.

Medical management may be required in some cases. Treatments include topical medications for nipple damage or infections, analgesics and cold compresses for engorgement, antibiotics for mastitis, and galactagogues to improve milk production. Hormonal evaluation may be necessary when milk supply remains inadequate.

In India, breastfeeding is strongly promoted through national programs; however, many mothers still experience feeding difficulties due to insufficient guidance and support. Routine nursing care during the postnatal period plays a vital role in identifying and managing these issues. Nurses assist with positioning, latch techniques, newborn care, and maternal education, while also providing emotional reassurance. Even when informal, this care often serves as the first and most immediate support for mothers facing breastfeeding challenges.

NEED FOR THE STUDY

In India, although about 95% of infants are breastfed at some point, only around 41.6% begin breastfeeding within the first hour of birth. Exclusive breastfeeding rates have improved but still fall short of global recommendations. Studies report high rates of latching problems, nipple soreness, and inadequate knowledge of optimal practices among mothers. Feeding challenges are also linked to infant malnutrition and delayed complementary feeding.

Feeding difficulties are particularly common among first-time mothers and those undergoing cesarean delivery. While routine nursing care is provided, its effectiveness varies across settings. Clinical observations indicate a need for structured, evidence-based interventions. Therefore, this study aims to assess the effectiveness of hot application on breast engorgement among postnatal mothers.

METHODOLOGY

A quantitative, quasi-experimental one-group pretest–posttest design was used. The study was conducted at SMVMCH, Puducherry. The study population comprised postnatal mothers admitted to the postnatal wards of the hospital. A total of 30 postnatal mothers diagnosed with breast engorgement were selected through purposive sampling. Postnatal mothers admitted to the selected hospital and diagnosed with breast engorgement. Postnatal mothers with contraindications to hot application and those unwilling to participate.

Baseline characteristics included age, educational status, occupation, type of delivery, and previous history of breast engorgement. Breast engorgement was measured using a self-structured Breast Engorgement Checklist (SSBEC), a four-point observational scale. Each breast was assessed separately to ensure accurate evaluation.

Eligible participants were recruited after institutional permission. Baseline (pretest) assessment of breast engorgement was performed using the SSBEC. The intervention, hot application, was administered according to the planned protocol. Posttest assessment was conducted using the same instrument. The data were analyzed using simple statistical methods.

RESULT AND DISCUSSION

Most postnatal mothers were aged 21–25 years (43.3%), followed by 26–30 years (30%), with the majority being postgraduates (36.7%) and working in the private sector (43.3%) or as housewives (40%). The pretest findings showed that 66.7% had severe and 33.3% had moderate breast engorgement, whereas posttest results indicated marked improvement, with 90% having no engorgement and 10% mild (Table 1).

The mean breast engorgement score decreased from 16.77 (SD = 2.254) in the pretest to 2.27 (SD = 1.388) in the posttest, and the paired t-test ($t = 31.746$, $p < 0.05$) confirmed a statistically significant reduction (Tabel 2).

CONCLUSION

The study concluded that hot application was effective in reducing breast engorgement among postnatal mothers. Following the intervention, the severity of engorgement decreased markedly, with most mothers experiencing relief from symptoms. Hot application was found to be a simple, safe, non-pharmacological, and cost-effective nursing intervention that can be easily implemented in postnatal care to improve maternal comfort and support successful breastfeeding.

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Table 1: Distribution of the Level of Breast Engorgement Among Postnatal Mothers . N = 30

S. No.	Level of Breast Engorgement	Pretest		Posttest	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	No engorgement	0	0	27	90
2	Mild	0	0	3	10
3	Moderate	10	33.3	0	0
4	Severe	20	66.7	0	0

Table 2: Comparison of the mean score ofpretest and posttest level of breast engorgement among postnatal mothers.

S. No	Level of Knowledge	Mean	SD	Paired 't' test PValue
1	**Pre test**	16.77	2.254	t = 31.746 p = 0.00*
2	**Post test**	2.27	1.388	

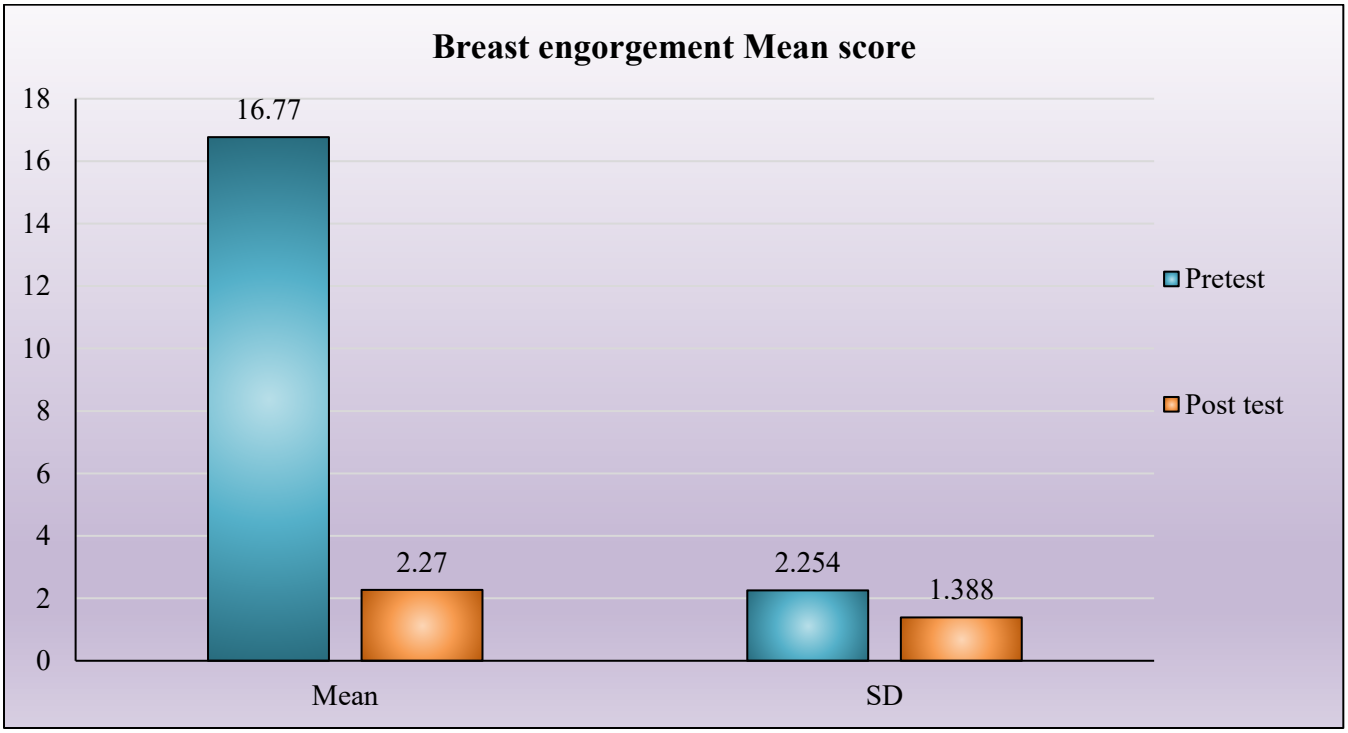

Figure 1: Comparison of the mean score of pretest and posttest level.

Cite this article as: Sakthipriya et al. A study to assess the effectiveness of hot application on breast engorgement among postnatal mothers at selected hospital, Puducherry. *International Journal of Innovative Research in Health Science*, 2(5), 6-8