

Effectiveness of Mother Baby Friendly Breast-Feeding Sling on Maternal Comfort and Newborn Feeding Behavior: An experimental Study on Postnatal Women with full Term Newborn

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KEYWORDS

Mother Baby Friendly Breast-Feeding sling, Maternal comfort, Newborn feeding behavior, Postnatal women, Full term newborn.

ABSTRACT

Background and Objectives: The myth that “breastfeeding is simple” is untrue. During breastfeeding, various challenges may arise for both the mother and child. Maternal comfort and proper newborn feeding behavior are important for achieving exclusive breastfeeding. This study aimed to compare the level of maternal comfort among postnatal women and newborn feeding behavior among newborns of postnatal women with and without using Mother Baby Friendly Breast-Feeding Sling.

Materials and Methods: A true experimental two group post-test only control design was used to compare the newborn feeding behavior and maternal comfort with and without the use of Mother Baby Friendly Breast-Feeding sling. A total of 120 primiparous breastfeeding women with full term newborn after normal vaginal delivery admitted in PNC ward in selected hospitals of a Metropolitan city were enrolled. They were randomized into two study groups using simple random sampling technique. Duration of the study was 8 weeks. Standard care was provided to control group and Mother Baby Breastfeeding Sling was used in case of the experimental group. Newborn feeding behavior was assessed for 3 days (1st to 3rd day) after delivery by using observation rating scale and maternal comfort was assessed on 3rd day by analyzing self-reported Likert scale-based response.

Results: The findings of the study revealed that 65% women in the sling group reported good maternal comfort with use of Mother Baby Friendly Breast-Feeding Sling, whereas only 23.3% reported good maternal comfort without the use of Mother Baby Friendly Breast-Feeding Sling during breastfeeding. With regard to newborn feeding behavior, on day 3, 48.3% newborn exhibited good feeding behavior without the use of Mother Baby Friendly Breast-Feeding Sling, whereas 100% exhibited good feeding behavior with the use of Mother Baby Friendly Breast-Feeding Sling. There was significant statistical difference in the level of newborn feeding behavior and maternal comfort with the use of Mother Baby Friendly Breast-Feeding Sling at 0.05 level of significance.

Conclusion: Mother Baby Friendly Breast-Feeding Sling can be used as a standard intervention to promote maternal comfort and enhance newborn feeding behavior, thus contributing for exclusive breastfeeding.

1. Introduction

Breastfeeding is one of the parameters of essential newborn care. The incidence of breastfeeding in India has declined over the years.¹ Only 44% of children under 6 months are exclusively breastfed according to the World Health Organisation's 2021 report². During the course of breastfeeding, various challenges may arise for both the mother and child, including issues such as inadequate positioning, improper latch, sucking difficulties, discomfort, and lack of support.³ Kelemu Alemie et al. (2023) reported that the proportion of ineffective breastfeeding techniques among mothers were 66.8%.⁴ Mothers need continuous assistance to overcome these difficulties and achieve the goal of exclusive breastfeeding. Maternal comfort and good latching by infant are the two vital and integral factors for accomplishing successful lactation.⁵ So, initiating the measures to enhance breastfeeding should be the top priority of a responsible midwife. Hence this study was undertaken to find the effect of Mother Baby Friendly Breast-feeding sling on maternal comfort and newborn feeding behavior.

2. Materials and Methods

2.1 Study design and sample size

This true experimental research study was conducted from 16th October 2023 to 9th December 2023 at Bharat Ratna Indira Gandhi Municipal Hospital, Mira Road, Maharashtra. Two group post-test-only control design was used to compare the level of maternal comfort and newborn feeding behavior among primiparous breastfeeding women with term newborn with and without use of Mother Baby Friendly Breast-Feeding Sling. The sample included were primiparous breastfeeding women with term newborn within 3 days after normal vaginal delivery. Simple random sampling technique was used to select the required primiparous breastfeeding women

with term newborn. By considering 50% more comfort in primiparous breastfeeding women using Mother Baby Friendly Breast-Feeding Sling as compared to who did not use it at 95% confidence interval and 5% margin of error, the study required 120 participants (60 in each control and experimental group). The control group (60) was given standard care (early initiation of breastfeeding, demonstration of breastfeeding positions, health education) related to breastfeeding from 1st to 3rd postnatal day as per hospital protocol. The experimental group was provided with intervention of Mother Baby Friendly Breastfeeding sling from 1st to 3rd postnatal day. Explanation and demonstration of Mother Baby Friendly Breastfeeding sling was shown to experimental group participants.

2.2 Inclusion criteria

Primiparous breastfeeding women with full term newborn within first 3 days after full term normal vaginal delivery, who consented to participate in the study.

2.3 Exclusion criteria

Primiparous women with lower segment caesarean section, pregnancy induced comorbidities, breast or nipple abnormalities and newborn with low birth weight (Below 2.5kg), cleft lip, cleft palate or frenulum of tongue were excluded from the study.

2.4 Intervention

Primiparous breastfeeding women in experimental group were provided with breastfeeding sling for breastfeeding from 1st to 3rd postnatal day.

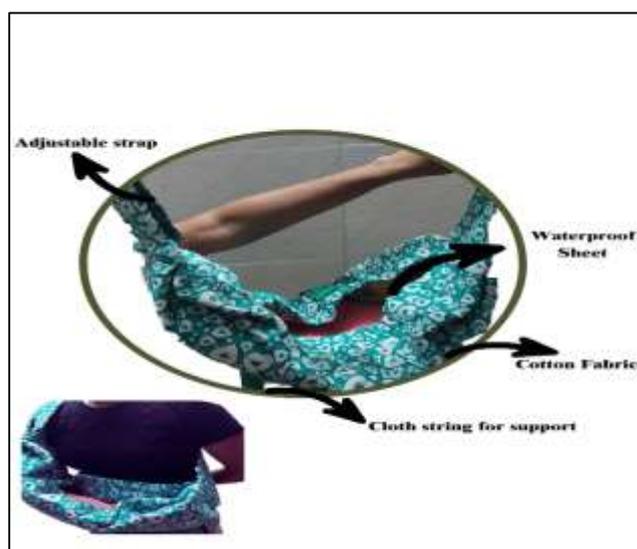


Fig 1: Breastfeeding Sling

Mother Baby Friendly Breastfeeding sling is a product crafted from soft, comfortable, skin friendly, cotton fabric to ensure that both mother and baby stay comfortable.

The primary material holds the baby in a comfortable position during breastfeeding. It maintains privacy and helps to maintain skin to skin contact during feeding.

The primary material has an outside pocket for keeping the essentials of baby.

It is attached with an adjustable and durable strap which allows to find the perfect fit, ensuring the safety and longevity of the sling.

It can also be used as a comfortable baby carrier, giving you the flexibility to keep your baby close and your hands free.

It has waterproof sheet stitched inside to prevent the soakage of the sling.

It is attached with two cloth string which can be tied by the mother around the waist for the support.

Mother Baby Breastfeeding Sling is a reusable and washable product.

2.5 Data collection

The data from the participants were collected under four sections: Demographic data, maternal comfort, newborn feeding behavior and satisfaction level regarding breastfeeding sling. Demographic data were collected with the use of a structured questionnaire, which included variables such as age, education, pregnancy type, type of family, support system and any prior knowledge about breastfeeding. Maternal comfort was assessed with the help of a pre-designed maternal comfort self-reported Likert scale on 3rd postnatal day from control and experimental group. The statements in the Likert scale were grouped under four domains: Ability to maintain position during breastfeeding, pain related to breastfeeding, maintenance of breastfeeding pattern and emotional well-being during breastfeeding. Newborn feeding behavior data was recorded with the use of a rating scale through observation from 1st to 3rd day after birth between control and experimental group. The items included in the rating scale were time taken for latch, baby’s latch, sucking pattern, swallowing pattern and baby’s position. Satisfaction level of the experimental group regarding breastfeeding sling was taken with the use of a self-reported checklist.

2.6 Statistical analysis

The collected data were analysed in terms of the objectives of the study using descriptive and inferential statistics. Frequency and percentage distribution was used to analyse the demographic data. Assessment and comparison of the level of maternal comfort and newborn feeding behavior with and without use of Mother Baby Friendly Breastfeeding Sling in primiparous breastfeeding women was done using frequency & percentage. Mann Whitney U test was used to compare primiparous breastfeeding women in relation to effect of Mother Baby Friendly Breastfeeding Sling on levels of maternal comfort and newborn feeding behavior.

2.7 Ethical clearance

The study was approved by the Institutional Ethical Review Board and Institutional Ethical Committee of P D Hinduja National Hospital and Medical Research Centre, Mahim, India. Approval was obtained from Maharashtra University of Health Sciences, Nashik, India. Written informed consent was obtained from the primiparous breastfeeding women. Privacy, confidentiality of the information and anonymity of participants were ensured by the researcher. Participants right to withdraw from the study were treated with respect.

3. Results

The data analysed showed that on 3rd postpartum day, 65% participants in experimental group reported good maternal comfort, whereas only 23.3% reported good maternal comfort in control group during breastfeeding. Majority of the subjects in the control group were ranging between poor (35%) to moderate (41.7%) comfort level, whereas in experimental group, majority (65%) were having good comfort level (fig 2).

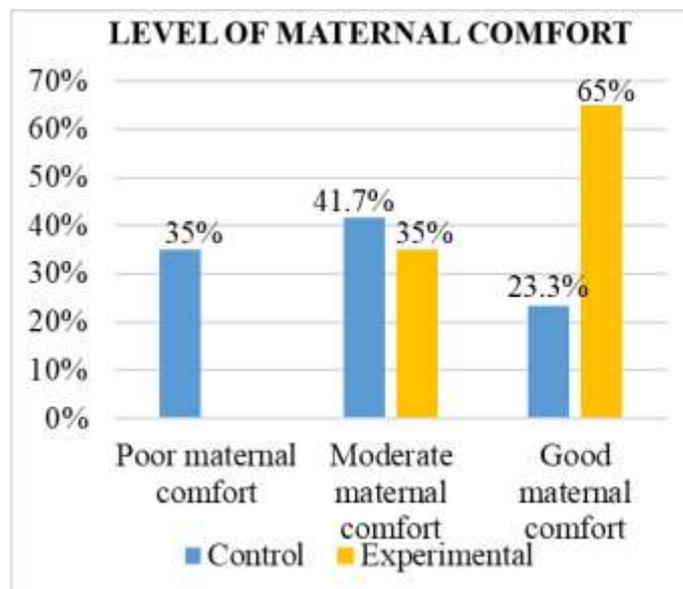


Fig 2: Distribution of primiparous women according to level of maternal comfort with and without use of breastfeeding sling

On day 3, the level of newborn feeding behavior in the control group was 51.7%, which showed moderate feeding behavior and 48.3% exhibited good feeding behavior. In the experimental group, 100% exhibited good feeding behavior (fig 3).

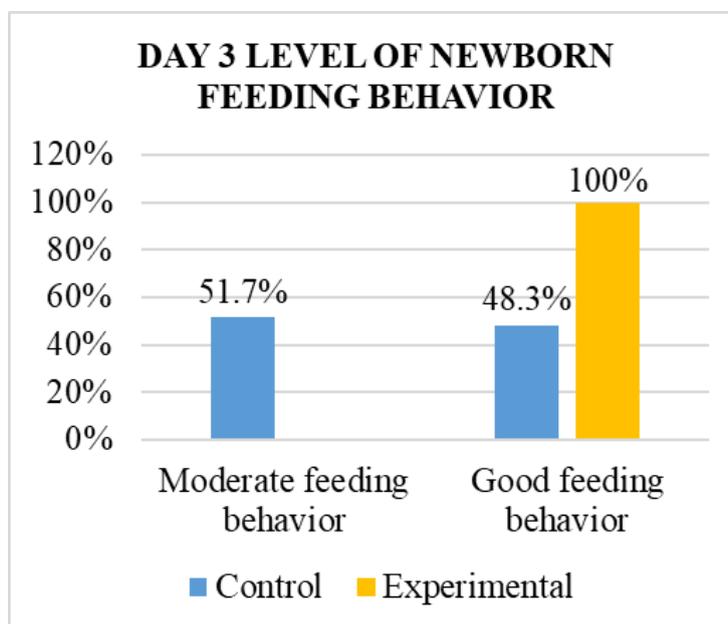


Fig 3: Distribution of newborns according to the level of newborn feeding behavior with and without use of breastfeeding sling

Comparison of maternal comfort in relation to effect of breastfeeding sling is shown in Table 1, the median value of maternal comfort was 8 in control group, whereas in experimental group, the median value was 15, which differed significantly (0.00001). In control group, the median value of newborn feeding behavior on day 1, 2 & 3 were 4, 5 and 7 respectively, whereas in experimental group, the median value of newborn feeding behavior on day 1, 2 & 3 were 6, 9 and 10 respectively (Table 2) (fig 4). Thus, this value shows an increase in median value of newborn feeding behavior in experimental group with use of Mother Baby friendly Breastfeeding Sling as compared to control group at significant level (0.00001).

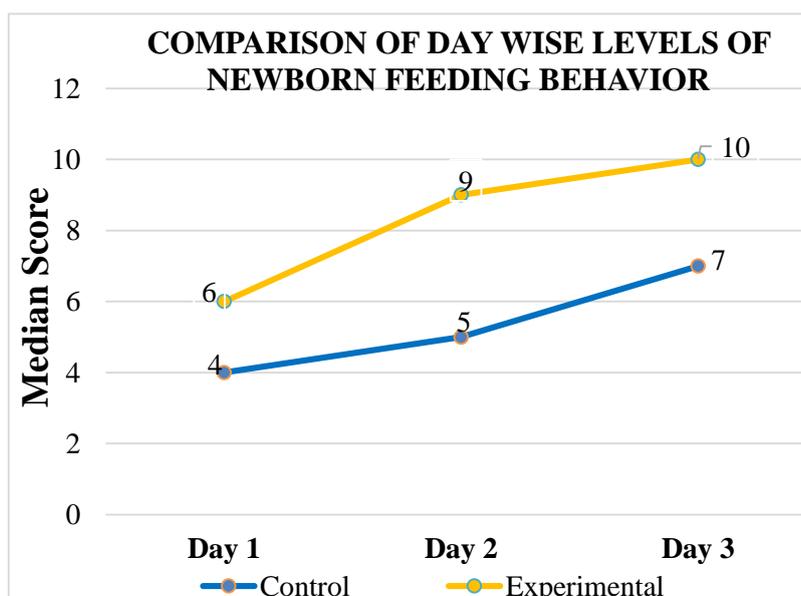


Fig 4: Comparison of newborns with the effect of breastfeeding sling on day wise levels of newborn feeding behavior



Fig 5: Satisfaction level with the use of mother baby friendly breastfeeding sling

Table 1: Comparison of primiparous breastfeeding women in relation to effect of breastfeeding sling on levels of maternal comfort

GROUP	MATERNAL COMFORT SCORES						P value (Mann Whitney U test)
	Min	Max	Mean	SD	Median value	25-75 P	
Control	0	18	8.71	4.3222	8	5.000-12.000	0.00001
Experimental	7	18	14.51	3.4567	15	12.000-18.000	

Table 2: Comparison of newborn in relation to effect of breastfeeding sling on levels of newborn feeding behavior

GROUP	NEWBORN FEEDING BEHAVIOR DAY WISE SCORES						
	Day 1						
	Min	Max	Mean	SD	Median value	25-75 P	P value (Mann Whitney U test)
Control	0	5	3.15	1.3126	4	2.000 to 4.000	0.00001
Experimental	3	8	5.95	0.8321	6	6.000 to 6.000	
	Day 2						
Control	3	9	5.35	1.2327	5	5.000 to 6.000	0.00001
Experimental	7	10	8.61	0.8456	9	8.000 to 9.000	
	Day 3						
Control	5	10	7.41	1.4531	7	7.000 to 8.000	0.00001
Experimental	8	10	9.63	0.5513	10	9.000 to 10.000	

4. Discussion

The most widely and universally advised method of feeding an infant is through breastfeeding. Maternal comfort and good latching by infant are the two vital and integral factors for accomplishing successful breastfeeding. Thus, the investigator undertook this study to promote the maternal comfort and effective newborn feeding behavior to enhance exclusive breastfeeding. In the present study, 120 primiparous breastfeeding women with term newborn were recruited. The investigator used Mother Baby Friendly Breastfeeding Sling to promote maternal comfort and newborn feeding behavior in postnatal women. A statistically significant difference was seen in the level of maternal comfort and newborn feeding behavior ($p < 0.00001$) after use of Mother Baby Friendly Breastfeeding Sling among postnatal women in experimental group. Similar findings were obtained in a study conducted by Pornsri Distortnatiwat, Mary Steen, Sudjit Liblub to compare effectiveness of a breastfeeding arm sling with normal breastfeeding cross-cradle hold position. A quasi-experimental pretest post-

test design was used to conduct the study among 46 primipara mothers in postnatal unit, Ramathibodi hospital, Thailand. As per the research findings, breastfeeding was more effective using breastfeeding arm sling ($t = 4.32$, $P < 0.001$) in comparison with normal cross cradle position.⁶ Hence it shows that the findings of the present study are complying with the existing studies and the Mother Baby Friendly Breastfeeding sling is effective in improving the level of maternal comfort and newborn feeding behaviour.

5. Recommendations

- The study can be replicated to larger sample size to generalize the findings.
- Similar study can be done with infants being the study subjects.
- Study can be done to compare Mother Baby Friendly Breastfeeding Sling with other breastfeeding assistive devices to determine the effectiveness.

6. Conclusion

The use of Mother Baby Friendly Breastfeeding Sling was found to be effective in improving the level of maternal comfort and newborn feeding behavior in experimental group. The study suggests the use of breastfeeding sling to enhance exclusive breastfeeding practices for the well-being of mother and baby.

7. Acknowledgments

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References

- [1] The rationale for BFHI-India. (Cited 2021). Available from: <https://www.bfhi-india.in/the-rationale-for-bfhi-india>
- [2] World Health Organization. Infant & Young Child feeding. (Cited 2023 December). Available from: <https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding>
- [3] UNICEF. 5 common breastfeeding problems. (Cited 2021 February) Available from: <https://www.unicef.org/parenting/food-nutrition/5-common-breastfeeding-problems>
- [4] K. Alemie et al. Ineffective breastfeeding techniques and associated factors among breastfeeding mothers who gave birth in the last 6 months in Sinan Woreda, Northwest Ethiopia. *Public Health Research Journal*. 2023 Jun 28;12(2).
- [5] National Institute of Child Health and Development. Breastfeeding & Breastmilk (Cited 2017 January 31). Available from: <https://www.nichd.nih.gov/health/topics/breastfeeding/conditioninfo>
- [6] Pornsri Distorntatiwat, Mary Steen, Sudjit Liblub. A quasi-experimental study to compare effectiveness of a breastfeeding arm sling with normal breastfeeding cross-cradle hold position. *European Journal of Midwifery*. 2024 Aug; 2:8.
- [7] Angeline Jeyakumar et al. Prevalence and Determinants of Early Initiation (EI), Exclusive Breastfeeding (EBF), and Prolactal Feeding among Children Aged 0-24 Months in Slums of Pune City, in Maharashtra. 2021; 60(3):377-393.
- [8] Saudamini Naik et al. A Retrospective Study of Breastfeeding Practices in the First Six Months of Lactation Among Mothers in a Metropolitan City. *Journal of Medical Sciences & Health*. 2021; 7(3): 26-31.
- [9] Ameinah Thamer. Factors associated with early initiation of breastfeeding in central Saudi Arabia: a hospital-based survey. *International Breastfeeding Journal*. 2023 Nov 16; 18(62).
- [10] A. Prajapati et al. A community-based assessment study of positioning, attachment and suckling during breastfeeding among 0-6 months aged infants in rural area of Gandhinagar district, Gujarat, India. *International Journal of Community Medicine and Public Health*. 2016; 3(7):1921-1926