

## Research Article

### EXPRESSED BREAST MILK FEEDING IN EMPLOYED LACTATING WOMEN: BENGALURU KARNATAKA INDIA

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#### ABSTRACT

**Introduction:** Expressed Breast Milk Feeding is very essential in employed lactating women in worldwide. The number of working women has risen from 5.1 million in 1950 to 18.4 million in 1990 and 65.7 million in 2005. Currently the female labour force in India is 19.23% acc to 2021 statistics. The world bank collection of development indicators 2022 report states that in India the female population growing at an average rate of 1.80% and the number is 669 millions in 2021. However work is essential to economic survival for some families and the period of maternity leave provided does not match with period of exclusive breast feeding. In addition to expressed breast milk feeding is the only measure that can help our working women to continue breast feeding exclusively. Expressed breast milk is milk expressed from the breast by the mother, either by manually or by electric breast pump. It must be collected and stored properly to prevent the risk of bacterial growth. Moreover, Freshly expressed breast milk can be stored in room temperature (66-78 0 F) for 4 to 6 hours, cooler with 3 Frozen ice packs for 24 hours (590 F), in refrigerator for 3 to 8 days (39 0 F), in Freezer for 6-12 months (40 F). Before feeding the stored breast milk, it must be brought into normal temperature by placing the container in a bowl of warm water and should be gently thawed and thawed breast milk should be used within 24 hours. **Objectives:** To assess the pre-test level of knowledge regarding expressed breast milk feeding. To evaluate the effectiveness of self instructional module on expressed breast milk feeding. To find the association between post-test level of knowledge and selected socio demographic variables. **Method:** An evaluative approach with one group pre-test and post-test Pre-experimental design was used. Self instructional module on knowledge regarding expressed breast milk feeding is administered on 50 employed lactating women within six months of postnatal period, residing at areas under Sheshadripuram Primary Health Centre. Bangalore. **Result:** It was found that highest improvement mean percentage 40.33% with the 't' value 8.68 was obtained in knowledge regarding Collection and storage of expressed breast milk feeding, whereas the lowest mean percentage 13.33% with the 't' value 3.17 was obtained in knowledge regarding breast milk feeding and its importance, the overall improvement, mean percentage was 26.8, and 't' value was 14.82. The difference found to be statistically significant at p<0.01 level of confidence. **Conclusion:** Expressed breast milk can preserve at room temperature (77°F or colder) for up to 4 hours. In the refrigerator for up to 4 days. In the freezer for about 6 months is best; up to 12 months is acceptable.

**Keywords:** Expressed Breast Milk feeding, Knowledge, Self Instructional Modul, Employed Lactating Women.

#### INTRODUCTION

Breastfeeding is one of the most effective way to ensure child growth and Psycho- Social & Emotional development. A lack of exclusive breastfeeding during the first six months of life contributes to over a million avoidable child deaths in each year. However, adequate breastfeeding support mothers and families could save the many young lives. There are many barriers for successful breast feeding, the employment is one among the main barriers. In United States as on 2005, 74% of babies had been initiated with breast-feeding, and only 12% continue exclusive breast-feeding until 6 months. <sup>4</sup>UNICEF reported during 2000-2007 in India 59% of children are exclusively breast fed for 6 months 57% are breast-fed with complimentary food at 6-9 moths, 77% are still breast feed at 20-23 months.<sup>5</sup> The National Family Health Survey revealed that the breastfeeding rate in Karnataka is 45%, and is less due to lack of awareness among women. Today an employment takes precedence over breastfeeding among employed women leading to early introduction of artificial feed and early weaning. Employed mothers are forced to start weaning and return to work as they are given shorter duration of maternity leave which has a very serious effect on

the health status of infants.<sup>7</sup> In Karnataka, the maternity leave is 135 days for state government employees and 90 days for non-governmental employees.<sup>8</sup> A descriptive survey conducted among 60 mothers having a child within 2 years of age in Mangalore city, using Purposive sampling to determine the knowledge and attitude regarding practice of breastfeeding showed that 46.66% of the sample know that, the working mother can continue breastfeeding by giving expressed breast milk to her baby. Whereas, only 1.66% of the subjects had knowledge that expressed breast milk can be stored at room temperature for a period of 6 to 8 hours.<sup>9</sup> As work can be an essential to economic survival for the families and the period of maternity leave provided does not match with period of exclusive breast feeding expressed breast milk feeding is the only measure that can help our working women to continue breast feeding exclusively. However, the investigator perceived the need for educating working women about expressed breast milk feeding and thereby to continue exclusive breast feeding.

#### REVIEW OF LITERATURE

A cross-sectional study was carried, to evaluate the practice, knowledge and attitude to breastfeeding and to assess factors associated with breastfeeding among women in Klang, Malaysia, involving 220 women with infants aged six months.

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Exclusive breastfeeding was reported by 32.8%, mixed feeding was reported by 14.5% and infant formula feeding was reported by 52.7% of the respondents. Chinese women were more likely not to practice exclusive breastfeeding compared to Malay women, while working women were more likely not to practice exclusive breastfeeding compared to non working women. Malaysian women had a positive attitude but work place and short maternity leave had a negative impact on breastfeeding. Adopting facilitatory measures at hospitals and work place could increase the rate of exclusive breast feeding.

A study conducted in University of Minnesota School of Nursing, USA on "Breastfeeding and returning to work". A group of primiparas who combined breast-feeding and employment are described in terms of how they felt about the experience. Of the 619 women included in the analyses, 499 (80.6%) of the women returned to work by 12 months postpartum and 288 (46.5%) continued to breast-feed after returning to work. A number of women who chose to express breast milk only at home thought they would have had problems with having enough time and finding a place to express and to store expressed milk had they tried to express breast milk at work. The findings suggest that nursing interventions and workplace accommodations could assist more women to experience the benefits and rewards of continuing to breast-feed after returning to employment. A journal article titled "breast feeding and working mother" states that despite the resurgent popularity and known benefits of breastfeeding, most Canadian women don't consider the possibility of continuing breast feeding when they returned to work. Lack of motivation is the main cause.

A Edmonton study of breast feeding patterns in primi mothers showed that 85% began breast feeding in hospital, only 50% were fully breast feeding at two months, by six months 8% were fully breastfeeding, 75% were partially breastfeeding at two months, and 38% by six months. However, the study compared the feeding practices between employed and unemployed mothers, over 50% of the American women employed. It shows for every 100 women with full time employment who were breastfeeding the infants at age of six months, 65.4% used supplemental bottles. Among women who were unemployed 23.2% provided supplemental bottle at six months.<sup>13</sup>

A study was conducted to determine the Duration of breast milk expression among working mothers enrolled in an employer-sponsored lactation programme. 462 women were selected. Breast feeding was initiated by 97.5% of participants, with 57.8% continuing for at least 6 months. Of 435 who returned to work, 343 attempted to pump milk at work, 336 were successful. The study concluded that Company-sponsored lactation programs can enable employed mothers to provide breast milk for their infants as long as they wish, thus helping the nation attain the Healthy People 2010 goals of 50% of mothers breastfeeding until their infants are 6-months-old.<sup>14</sup> An article on "Breastfeeding promotion for the employed mother", said that Increasing numbers of mothers are returning to work during the first year of their infant's life. Maternal employment has been associated with decreased duration of breastfeeding. Breast milk remains the optimal source of infant nutrition, yet only 50% of families choose breastfeeding for their newborns. In addition, Clinicians are well positioned to promote the specific benefits to mother and baby that breastfeeding provides through advocacy, education, and support with regard to breastfeeding and employment. Anticipatory guidance specifics such as feeding patterns, guidelines for pumping and storing breast milk, and information regarding available resources are clinical knowledge areas that pediatric health care providers must have to increase breastfeeding rates and duration among women who return to the work force after the birth of their baby.<sup>15</sup>

**METHODS**

An evaluative approach with one group Pre-test Post-test pre experimental design was chosen to conduct the study at Sheshadripuram Primary Health Centre, Bangalore. By using non-probability, convenient sampling technique 50 postnatal employed lactating women those who were willing to participate in the study were selected. The study enhanced the Knowledge of postnatal lactating women regarding expressed breast milk feeding through self Instructional module. However, study was limited to employed lactating women who are visiting the post natal clinics at Seshadripuram primary health centre. The data was collected for the period of 4 weeks. The study results are confined to only selected employed lactating women at seshadripuram primary health centre.

**RESULTS**

Table - 1

SI No	Knowledge variables	Level of knowledge					
		Inadequate knowledge (<50%)		Moderately adequate knowledge (50-75%)		Adequate knowledge (>75%)	
		f	%	F	%	f	%
1	Breast milk and its importance	14	28	07	14	29	58
2	Exclusive breast feeding	37	74	09	18	04	08
3	Expressed breast milk feeding	10	20	18	36	22	44
4	Collection and storage of expressed breast milk feeding	34	68	06	12	10	20
5	Utilization of expressed breast milk feeding	33	66	11	22	06	12
6	Overall knowledge score	08	16	30	60	12	24

The knowledge of employed lactating women is moderately adequate in pre-test (60%).

Table - 2

SI No	Knowledge variables	Level of knowledge					
		Inadequate knowledge (<50%)		Moderately adequate knowledge (50-75%)		Adequate knowledge(>75%)	
		f	%	F	%	f	%
1	Breast milk and its importance	2	04	14	28	34	68
2	Exclusive breast feeding	4	08	22	44	24	48
3	Expressed breast milk feeding	2	04	09	18	39	78
4	Collection and storage of expressed breast milk feeding	8	16	06	12	36	72
5	Utilization of expressed breast milk feeding	4	08	09	18	37	74
6	Overall knowledge score	0	0	05	10	45	90

The knowledge of employed lactating women is adequate in post test that is about( 90%) There is a significant improvement regarding expressed breast milk feeding.

Table - 3

SL NO	Knowledge variables	Improvement			Paired 't' value
		Mean	Mean percentage (%)	Standard deviation	
1	Breast milk and its importance	0.8	13.33	1.38	3.17
2	Exclusive breast feeding	1.34	33.50	0.60	9.47
3	Expressed breast milk feeding	1.98	22	1.51	7.09
4	Collection and storage of expressed breast milk feeding	2.42	40.33	1.52	8.68
5	Utilization of expressed breast milk feeding	1.78	35.60	0.84	11.00
6	Overall knowledge score	8.06	26.86	3.83	14.82

The above table projected the aspect wise and overall improvement mean, mean percentage, standard deviation and 't' value. The overall improvement, mean percentage was 26.8, and 't' value was 14.82. The difference found to be statistically significant at p<0.01 level of confidence. It revealed that there is an enhancement of knowledge indicating the effectiveness of self instructional module regarding expressed breast milk feeding. Hence, the null hypotheses H<sub>01</sub> – stated that there is no significant difference between pre -test and post - test level of knowledge of employed lactating women regarding expressed breast milk feeding is rejected.

Table - 4

SL NO	SOCIODEMOGRAPHY VARIABLES	CATEGORIES	LEVEL OF KNOWLEDGE		CHI SQUARE
			MODERATE KNOWLEDGE	ADEQUATE KNOWLEDGE	
1	Post Natal periods	0-2	0	18	7.03 df-2 Significant
		3-4	3	24	
		5-6	2	3	
2	Maternity Leave availed	< 2	1	13	1.40 df-2 NS
		2-4	2	23	
		>4	2	9	
3	Type of Work	Part time job	1	6	0.57 df-2 NS
		Full time job	4	35	
		Own business	0	4	
4	Sources of previous knowledge	Media	1	11	3.21 df-4 NS
		Health personnel	3	21	
		Previous experience	1	2	
		Family members	0	07	
		Friends	0	4	

The above table. shows that there is significant association found between selected socio demographic variable such as post natal period and post test level of knowledge. The other variables such as Maternity leave availed, Type of work, Sources of previous knowledge has no significant association between selected socio demographic variable and post test level of knowledge. Hence the null hypotheses H<sub>02</sub> stated that, there is no significant association between post test level of knowledge and selected socio-demographic variables is accepted in these areas, and restated as post test level of knowledge is associated with the duration of post natal period.

## DISCUSSION

The Pre-test level of knowledge of employed lactating women as represented in table 1 findings revealed that the majority of the subjects 30(60%) had moderately adequate knowledge, 12(24%) of the subjects had adequate knowledge, and 8(16%) had inadequate knowledge. The overall improvement mean 8.06, mean percentage was 26.8, standard deviation 3.83, and 't' value was 14.82. The difference found to be statistically significant at  $p < 0.01$  level of confidence. It revealed that there is an enhancement of knowledge indicating the effectiveness of self instructional module regarding expressed breast milk feeding. Hence the null hypotheses  $H_{01}$  – stated that there is no significant difference between pretest and posttest level of knowledge of employed lactating women regarding expressed breast milk feeding is rejected. The chi-square analysis showed that the computed chi-square values was less than table value at  $p$ -value  $< 0.05$  in all the areas except post natal period where the calculated chi-square value is more than the table value at  $p$ -value  $< 0.05$ , which was found to be having association with the level of knowledge. Hence the null hypotheses  $H_{02}$  stated that, there is no significant association between post test level of knowledge and selected socio-demographic variables is accepted in all areas, except in terms of duration of post natal period.

## CONCLUSION

The employed lactating women were satisfied regarding benefits of expressed breast milk feeding 45(90%) However. the self instructional module was effective in improving the knowledge of employed lactating women on expressed breast milk feeding. There was no significant association between level of knowledge and selected socio-demographic variables except post natal period.

## RECOMMENDATIONS:

1. The study can be replicated with large number of working women for generalizations.
2. Expressed Breast milk is one of the best and nutritious fluid for child optimum development.
3. It improves the immunity and prevent many infectious disease in children.

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## REFERENCES

1. Parthasarathy A, Menon PSN, Nair MKC. IAP textbook of pediatrics. 1<sup>st</sup> ed. New Delhi: Jaypee Brothers; 1999. p.110.
2. Ministry of Women and Child Development – Govt. of India. 2006 Apr 17. Available; from URL: <http://www.planningcomission.nic.in/aboutus/comette>
3. Ortiz J, McGilligan K, Kelly P. Duration of breast milk expression among working mothers enrolled in an employer-sponsored lactation program. Corporate Lactation Programs, Burbank, CA, USA. *Pediatr Nurs*. 2004 Mar-Apr;30(2):111-9.
4. Win NN, Binns CW, Zhao Y. *Int Breastfeed J*. 2006 Dec 22; 1:28(12) available at <http://www.internationalbreastfeedingjournal.com/content/1/1/28>
5. Breastfeeding statistics. 2004-09. Available from: URL: [http://breastpumpdeals.com/learn/2009/04/breastfeeding\\_statistics\\_numbers/](http://breastpumpdeals.com/learn/2009/04/breastfeeding_statistics_numbers/)
6. UNICEF–India Statistics. 2007. Available from: URL: [http://www.unicef.org/infobycountry/india\\_statistics.html](http://www.unicef.org/infobycountry/india_statistics.html)
7. UNICEF. National Family Health Survey-2006. Available from: URL: <http://bpmi.org>
8. Rebecca M, Patricia M, Marsha W. International lactation consultant association. 2<sup>nd</sup> ed. Jones and Bartlett publishers: Baston; 2007.p.67-78,5-17
9. John, Rinda. Practice of employed mothers about breast-feeding. *Nurs J India* 2005 April. Available from URL: <http://findarticles.com/>
10. Ministry of Women and Child Development – Govt. of India. 2006 Apr 17.

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