

A cross-sectional study to assess the prevalence of breastfeeding practices among women working in software companies in Whitefield, Bengaluru

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ABSTRACT


Background: Breastfeeding is the best and complete food for the growth and development of the infants. According to the World Health Organization, “early initiation of breastfeeding should be started within 1 h of birth, exclusive breastfeeding should be practiced till 6 months of age, and complementary feeding should be started at 6 months, along with breastfeeding till 2 years of age to achieve optimum growth and development.” Working environment and breastfeeding policies also play a key role in practicing breastfeeding. The following study was undertaken to assess the prevalence of breastfeeding practices among women working in software companies in Whitefield, Bengaluru. **Objectives:** The objectives of this study are (1) to assess the infant feeding practices among mothers working in software companies and (2) to assess factors affecting breastfeeding in mothers working in software companies. **Materials and Methods:** A cross-sectional analytical study was carried over 1 year and 6 months among 370 working mothers working in software companies who had a child within the age group of 6 months–3 years study to assess the prevalence of exclusive breastfeeding practices. Data were entered and analysed using Epi-info version 7.2.1 (CDC Atlanta) software. The demographic variables such as age group, age of the child, and education are presented as percentage and proportion, and continuous variable is represented using mean and standard deviation. **Result:** The prevalence of exclusive breastfeeding till 6 months of ages of infant was 90.27%. In this study, the prevalence of pre-lacteal feed given by working mothers was 3.24%, and the substances given were honey, sugar syrup, cow’s milk, and formula feed. **Conclusion:** The study highlights the breastfeeding practices among working women, and the rate of initiation of breastfeeding within 1 h of delivery was practiced by 8.91% of mothers. Prevalence of exclusive breastfeeding was 90.27%. About 3.24% of the mothers reported giving pre-lacteal feeds to their child, and the substances given were honey, sugar syrup, cow milk, and formula feed. As more females are taking up jobs and working nowadays, more commonly in software industry, they should be educated about the harmful effects of pre-lacteal feeds and discouraged from feeding their infants with pre-lacteal feeds.

KEY WORDS: Breast Feeding; Complementary Feeding; Formula Feed

INTRODUCTION

Adequate nutrition in childhood and infancy is essential to ensure optimum growth and development of child.

Breastfeeding is considered as the one which provides the most effective nutrition for child <2 years.^[1] Breastfeeding for 6 months has many benefits for infants, including protection against various systemic infections, observed both in the developing and developed countries.^[2] The risk of mortality due to diarrhea and other infections can increase in infants who are either partially breastfed or not breastfed at all. Breastfeeding maximizes the nutritional and immunological status of children and can reduce up to 8,00,000 infant deaths globally.^[3,4] The 1st 2 years of life provide a critical window of opportunity for ensuring children’s appropriate growth and development through optimal feeding practices.

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Undernutrition is estimated to be associated with 2.7 million child deaths annually or 45% of all child deaths.^[5] According to the National Family Health Survey-4 (NFHS-4) data, prevalence of exclusive breastfeeding practices in infant up to 6 months of age is 54.9% only and breastfeeding initiated within 1 h is 41.6%. Over the past few years, there has been slight increase in the prevalence of breastfeeding practices, from 41.2% in 1998–99 (NFHS-2) to 46.4% in 2005–2006 (NFHS-3) to 54.9% in 2015–2016 (NFHS-4), but still it has not reached the satisfactory level.^[6] Inappropriate feeding practices are a major cause of the onset of malnutrition in young children.

Mothers play a very important role in maintaining health and shaping the future of the child. Studies have shown that one of the barriers to breastfeeding is mothers' work status and conditions at the workplace. Optimum feeding in early age is the foundation for good health and prevents the development of various communicable and non-communicable diseases.

With increasing urbanization and industrialization, more women have started working compared to earlier times, which poses a challenge to child health. Working women experience hindrance in continuing breastfeeding practices.^[7]

Hence, this study was conducted to assess breastfeeding practices among working women in software countries residing in Bengaluru having a child in the age group of 6 months–3 years.

MATERIALS AND METHODS

A cross-sectional analytical study was carried over 1 year and 6 months among 370 working mothers using pre-tested semi-structured questionnaire. Assuming the prevalence of breastfeeding as 40% (based on a study conducted in Bellary district, Karnataka State), with an absolute precision of 5% and confidence interval of 95%, a sample size of 370 was taken using the following formula:

$$N = \frac{z_{1-\frac{\alpha}{2}}^2 p(1-p)}{d^2}$$

Sampling Method

After making a master list of all the lists from participating companies, the study sample was selected through simple random sampling technique. Each of the selected women was contacted personally through phone/e-mail. The study was initiated after obtaining the Institutional Ethics Committee clearance. Married women working in software companies having at least one child between the age group of 6 months and 3 years and women willing to participate and who had given informed consent were included in the study.

Data were collected using a semi-structured and pre-tested questionnaire. Data were collected on sociodemographic details, awareness about infant feeding practices, duration of maternity leave, type of delivery, and information about prelacteal feeds. The pilot testing of the data collection tool was done by giving it to 10 working women who fulfilled the inclusion criteria. Anonymity and confidentiality of data were maintained. Data were entered and analyzed using Epi-info version 7.2.1 (CDC Atlanta) software. The demographic variables such as age group, age of the child, and education are presented as percentage and proportion, and continuous variable is represented using mean and standard deviation. Chi-square test/Fisher exact test is used to test the association. $P < 0.05$ was considered as statistically significant.

RESULTS

There were 370 mothers who participated in the study; majority 275 of them belonged to the age group of 26–30 years. 327 (88.37%) have studied up to Bachelor of Technology, 30 (8.10%) were educated up to Master of Business Administration, 9 (2.43%) were educated up to Master of Technology, 2 (0.54%) have studied still B.com, and 2 (0.54%) up to B. Tech and Master of Business Administration.

The mean age of working mothers is 28.76 years with SD \pm 2.09 and median age is 29 years (interquartile range 27–30). Distribution of age group of children of these working mothers is as follows: 101 (27.30%) were in age >2 years, 186 (50.27%) were in the age group of 1–2 years, and 83 (22.43%) were in the age group of 6 months–1 year.

The study showed that initiation of breastfeeding within 1 h of delivery was practiced by 8.91% of mothers, between 1 and 2 h by 75.95% of mothers, and after 2 h but within 24 h by 15.14% of mothers.

About 79.2% belonged to the nuclear family, 20.8% belonged to the joint family, and the remaining 77 (20.81%) belong to joint family [Figure 1].

The prevalence of exclusive breastfeeding was practiced by 90.27% of mothers. About 3.24% of the mothers reported giving pre-lacteal feeds to their child, and the substances given were honey, sugar syrup, cow milk, and formula feed.

Of 370 working mothers, 84% availed leave for 6 months, 15% availed leave for <6 months, and 1% availed leave for more than 6 months as depicted in Figure 2.

Of total 370 study subjects, majority, i.e., 334 (90.27%) had normal delivery while the remaining 36 (9.72%) had cesarean section for the delivery of their child. Of 334 working women delivered by normal delivery, 29 (8.68%) initiated

breastfeeding within 1 h, 266 (79.64%) initiated breastfeeding within 1–2 h, and 39 (11.67%) initiated breastfeeding after 2 h but within 24 h of delivery. Among those 36 women who delivered by C-section, 4 (11.11%) initiated breastfeeding within 1 h, 15 (41.66%) initiated breastfeeding within 1–2 h, and 17 (47.22%) initiated breastfeeding after 2 h but within 24 h. The finding suggests that the chances of early initiation of breastfeeding are more among mothers who had normal delivery compared to those who had C-section. This relationship was found to be statistically significant ($P < 0.05$) [Table 1].

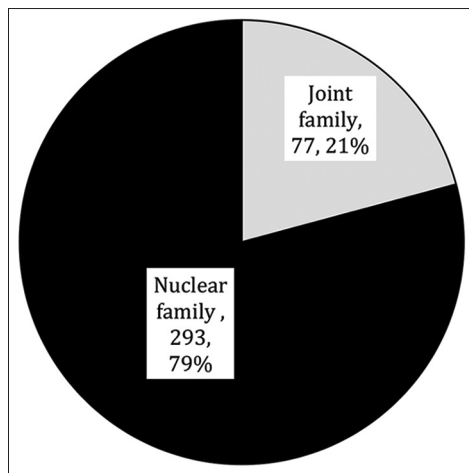


Figure 1: Distribution of study subject based on the type of family ($n = 370$)

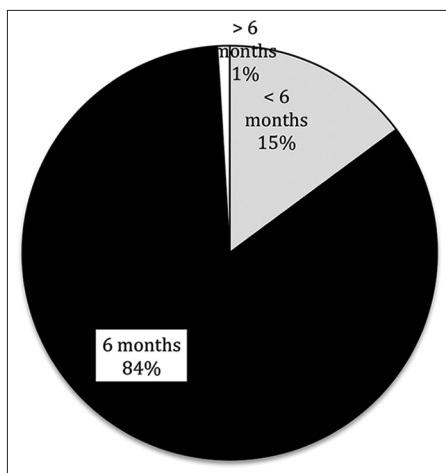


Figure 2: Distribution of study subject based on the duration of maternity leave availed ($n = 370$)

Expressed breast milk feeding was practiced by only 3% of working mothers which is a lesser practiced option when compared to formula feeds.

DISCUSSION

In the present study, among working women in IT companies having a child in the age group of 6 months–3 years of age, initiation of breastfeeding within 1 h of delivery was practiced by only 8.91% of mothers and within 1–2 h by 75.95% of mothers. The prevalence of exclusive breastfeeding till 6 months of ages of infant was 90.27%. In this study, the prevalence of pre-lacteal feed given by working mothers was 3.24%, and the substances given were honey, sugar syrup, cow milk, and formula feed. In the present study among working women in software companies having a child in the age group of 6 months–3 years of age, expressed breast milk was practiced by 3% of working mothers which is less practiced option by working mothers compared to formula feed. A cross-sectional study conducted by Kumar *et al*^[8] among working mothers attending physicians clinic along with child for any health issue showed that initiation of breastfeeding within 1st h was practiced by 54% and exclusive breastfeeding for 6 months was practiced by only 38% of the working mothers.

In a cross-sectional study conducted by Polineni *et al*^[9] in a tertiary hospital in Mysuru city of Karnataka state to assess the breastfeeding practices among working women showed that 33.6% of the working women had initiated breastfeeding within 1 h of birth and only 15.9% of the working women had exclusively breastfed their children for 6 months. The study conducted by Kumar *et al.* among postnatal mothers visiting a tertiary hospital attached to a Government Medical College in Bhopal, Madhya Pradesh, showed that 67.5% of the women initiated timely breastfeeding and that exclusive breastfeeding was practiced by only 40% women.^[10]

A comparative study conducted by Boralingiah *et al*^[11] among the working and non-working mothers of the children aged between 13 and 24 months attending an immunization clinic in Mysuru city showed that 53.3% of non-working mothers initiated breastfeeding within 1 h of birth compared to only 33.6% of working mothers. Similarly, about 46.7% of non-working mothers practiced exclusive breastfeeding for 6 months where only 15.9% of working mothers practiced exclusive breastfeeding for 6 months. In a cross-sectional

Table 1: Relation between type of delivery and time of initiation of breastfeeding

Type of delivery	Time of initiation of breastfeeding after birth			Total
	<1 h	1–2 h	>2–24 h	
Normal (%)	29 (8.68)	266 (79.64)	39 (11.67)	334 (100)
Cesarean-section (%)	4 (11.11)	15 (41.66)	17 (47.22)	36 (100)
Total (%)	33 (8.91)	281 (75.94)	56 (15.13)	370 (100)

Fisher’s exact test 26.592; $P < 0.0001$

hospital-based study conducted in the Department of Pediatrics, Government General Hospital, Rangaraya Medical College, Kakinada, Andhra Pradesh state among 2000 infants, 56.65% were exclusively breastfed.^[12]

In this study, the prevalence of pre-lacteal feed given by working mothers was 3.24%, and the substances given were honey, sugar syrup, cow milk, and formula feed. According to the study conducted by Noor *et al.* among mothers in the urban slums of Rourkela, pre-lacteal feed was given by 76.6% of mothers and majority have given water and honey.^[13] A study conducted by Sathe *et al.* among two groups of working women, i.e., 50 paramedical female staff and 50 sugarcane female workers showed that pre-lacteal feeds were given to babies by 54% and 2% of the mothers in the respective groups.^[14]

A hospital-based study conducted by Chudasama *et al.*^[15] among the new-born infants in South Gujarat region in 2008 showed that 15% of the infants who received pre-lacteal feeds and that the things given were formula milk (8.5%), water (2.5%), or honey (4.0%).

In the present study among working women in software companies having a child in the age group of 6 months–3 years of age, expressed breast milk was practiced by 3% of working mothers which is less practiced option by working mothers compared to formula feed. A study conducted by Rai *et al.* among 100 working mothers with infants <1 year attending postnatal clinic at a tertiary care center in Hyderabad showed that knowledge regarding expressed breast milk feeding was unsatisfactory in 64% of women and satisfactory in 36% of them. Positive attitude toward expressed breast milk feeding was seen in 60% of them, and 40% of them had negative attitude. Expressed breast milk feeding was practiced by 11% of them and formula milk by 53%.^[16]

Strength

This study focuses on women who are working in software companies which constitute a major portion of women in Bengaluru. Although many studies have been done to assess breastfeeding practices in women, there are not many in women working in software companies.

Limitation

The prevalence results in the present study were based on self-reporting. It is possible that there may be under/over reporting, due to recall or subjective bias. As gender of child was not considered in the study, the possible influence of the same could not be assessed.

Recommendation

There is a need to educate about benefits of proper breastfeeding to all the mothers, including the working mothers about timely

initiation of breastfeeding, practice of exclusive breastfeeding, initiation of complementary feeding at the right age, and continuation of breastfeeding until 2 years of age of the child. Working mothers should be given adequate maternity leave, as per the maternity benefit act, amendment 2017, to be able to practice exclusive breastfeeding for 6 months.

CONCLUSION

The study highlights the breastfeeding practices, and the rate of initiation of breastfeeding within 1 h of delivery was practiced by 8.91% of mothers, between 1 and 2 h by 75.95% of mothers, and after 2 h but within 24 h by 15.14% of mothers. The prevalence of exclusive breastfeeding was 90.27%. About 3.24% of the mothers reported pre-lacteal feeds to their child, and the substances given were honey, sugar syrup, cow milk, and formula feed. As more females are taking up jobs and working nowadays, more so in software industry, mothers should be educated about the harmful effects of pre-lacteal feeds and discouraged from feeding their infants with pre-lacteal feeds. Measures should be taken to provide facilities at the workplace for the mother to feed their babies confidently.

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