



## ASSESSMENT OF INFANT FEEDING PRACTICES AMONG WORKING MOTHERS & THEIR CORRELATES

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### Abstract:

**Introduction:** Optimal nutrition during first two years of life is crucial for the survival, healthy growth, and development of infants and young children. Working women in India comprise a major constituent of mothers whose feeding decisions impact the status of their child health. So, this study focused on working women to assess IYCF practices among respondents as per WHO and to correlates the characteristics of respondent's breast-feeding practices.

**Material & Methods:** This study was carried out by the Department of Pediatrics, Subharti Medical College, Meerut, UP. It involved working mothers of children of age 0-24 months visited for vaccination. A single face-to-face interview was done after informed consent and semi-structured questionnaire based on the standard questionnaire on IYCF practices given by WHO.

**Results:** In our study, the majority of the mothers are in the age group of 20-24 years (37.5%) and 25-29 years (25%) and schooled up to middle and high school, 23.75% and 7.23% respectively. 60% have adhered to exclusive breastfeeding practices although one-fourth of the participants initiated breastfeeding a day after childbirth. Only 56.6% of mothers were continue to breast fed their child while 19% of the participants gave mixed feed to their children, 11% fed on cow's milk and 10% women gave powder milk in place of mother milk. Proper feeding practices is significantly associated with increasing age, literacy status and social support.

**Conclusion:** There is a gap of optimal feeding behavior among working mothers in studied population and only 56.6% of mothers were continue to breast fed their child. There is a pressing need to facilitate successful implementation of national guidelines. Giving safe and friendly place for feeding at working area holds promise as an effective intervention to ensure healthier feeding practices.

### INTRODUCTION:

Optimal nutrition during first two years of life is crucial for the survival, healthy growth, and development of infants and young children. Maintaining optimal breastfeeding for first 2 years

months holds significance for the well-being of both the infant and the mother and has the potential to save lives of at least 800,000 under 5 children every year. [1][2]

The global status of the mother and Child Health indicates that several countries including India have not been able to perform as anticipated. India ranks close to the bottom amongst countries with deficient performance on this front. This deficiency has been attributed to low levels of awareness and practice of optimal feeding practices among its women. As a result, India continues to lose millions of young lives year after year. [3] The World Health Organization (WHO) strongly advocates for breastfeeding as the optimal means of nourishment for babies and infants upto 2 years. Their efforts are directed towards enhancing the prevalence of exclusive breastfeeding for the initial half-year to a minimum of 50% by the year 2025. [4]

Feeding behavior of a working woman is a combination of her perceptions, awareness, facilities, and support. It is more challenging for employed women to equilibrate their feeding responsibilities and work. Employment modifies breastfeeding behavior of a woman in significant manner with full time employment having the most detrimental impact. [5-7]

The practice of breastfeeding has experienced a global decrease in recent times due to urbanization and maternal employment away from home. Suboptimal feeding approaches and perspectives towards exclusive breastfeeding persist as significant contributors to unfavorable health results among children, particularly in developing nations. Studies in India have also shown a decline in breastfeeding trends, especially in urban areas, Early initiation of breastfeeding has not been seen in over 60% of the nation's children, and over 36% of children are not exclusively breastfed. [8, 9]

Almost one-fifth of overall under-five mortality can be averted if 90% of infants are covered with a package of intervention to protect, promote, and support the optimal Infant and young child feeding (IYCF) practices. Global strategy for infant- and young child-feeding has been devised by the World Health Organization (WHO) and United Nations Children Fund.

Based on these guiding principles, the Government of India, in collaboration with international agencies, has adopted the culturally acceptable IYCF guidelines, which were incorporated in the Integrated Management of Neonatal and Childhood Illness Programme. [10,11]

WHO offers three recommendations for IYCF practices for children aged 6-23 months: continued breast-feeding or feeding with appropriate calcium-rich foods if not breast-fed; feeding solid or semisolid food for a minimum number of times per day according to age and breast-feeding status; and including foods from a minimum number of food groups per day according to breast-feeding status.

So, this study focused on working women to explore their levels of awareness and to assess IYCF practices among respondents as per WHO and to correlates the characteristics of respondent's breast-feeding practices. The lessons drawn from this study can be utilized to fine-tune the working environment of mothers. With this background, the present study was planned to find the prevalence of optimal breastfeeding practices among lactating working mothers and its correlates.

## **MATERIALS AND METHODS:**

### **Study area**

This study was carried out by the Department of Pediatrics, Subharti Medical College, Meerut, UP.

### **Study design**

A cross-sectional study was carried out over the period from January 1 to June 30, 2023.

### **Study population**

It involved working mothers of children of age 0-24 months visited for immunization clinic were enrolled for study.

### **Inclusion Criteria**

- Working mothers of children age 0-24 months
- Who had consented to participate in the research activity.

- Age 18 years and above

### **Exclusion Criteria**

- Women who did not volunteer to participate in the research study
- Who had medical reasons not to breastfeed, or
- who had adopted a child were excluded from the study.

### **Methodology**

After obtaining written consent, study participants were enrolled for a single face-to-face interview. An interview was done after informed consent and semi-structured questionnaire based on the standard questionnaire on IYCF practices given by WHO. The questionnaire contained both closed-ended and open-ended questions to fulfill our study objectives. The questionnaire includes the following sections;

#### **Section A: Mothers' Socio-Demographic Profile**

This questionnaire included a general profile of the lactating mother wherein the information about the personal details of the subject such as age, occupation, educational status, and family type was ascertained.

#### **Section B: IYCF Practices Questionnaire**

This questionnaire included questions to assess the knowledge, attitude, and practices about breastfeeding.

### **Sample Size Determination**

Calculation of sample size by the Cochran formula:

$$n = (Z\alpha)^2 \times P \times (1-P) / d^2,$$

where standard normal variate that is 1.96 at a 95% confidence interval,

p=prevalence of interest in the event (prevalence of EBF from the previous study is 65%) } [12]

and d=error of absolute precision, which is 5%. Putting all the values into the above formula,  $n = (1.96)^2 \times 0.65 \times 0.35 / (0.05)^2 = 350$ . Taking 10% as the nonresponsive rate, the minimum sample size (n) was 385.

### **Data Analysis:**

The collected data was compiled into Microsoft Excel and analyzed using the SPSS 23 version. The data was analyzed using descriptive statistics such as frequencies, percentages, and tables. Also, a Chi-square test was used to determine the association of various correlates with exclusive breastfeeding among study subjects.

### **OBSERVATION & RESULTS:**

In our study, the majority of the mothers are in the age group of 20-24 years (37.5%) and 25-29 years (25%). The majority of our study participants have schooled up to middle and high school, 23.75% and 72.3% respectively. Of these, 86% of our study participants were currently working. Most of our study participants belong to II and III socio-economic statuses 41% & 22% respectively. [Table 1]

**Table 1: Distribution of Sociodemographic Characteristics of study mothers**

Variables	Sub-category	Frequency	Percentage
Age (in years)	<i>Below 18</i>	40	10%
	<i>18-24</i>	150	37.5%
	<i>25-29</i>	100	25%
	<i>30-34</i>	80	20%
	<i>35 and above</i>	30	7.5%
Education status	<i>Primary</i>	55	13.75%
	<i>Middle</i>	70	17.5%
	<i>High School</i>	95	23.75%
	<i>Intermediate</i>	92	23.0%
	<i>Graduate/PG</i>	88	22%
Socioeconomic status	<i>Class I</i>	72	18%
	<i>Class II</i>	164	41%
	<i>Class III</i>	88	22%
	<i>Class IV</i>	60	15%
	<i>Class V</i>	16	4%

Then we analyzed the association of exclusive breastfeeding practices with various correlates. An exclusive breastfeeding practice is more prevalent in females belonging to the age group of 25-29 years followed by 20-24 years, which is statistically significant with a p-value of 0.00.

**Table 2: Association of exclusive breastfeeding various correlates**

Variables	Sub-category	EBF	Non EBF	Chi-square value	P-value
Age (in years)	<i>Below 18</i>	22	18	34.81	0.00
	<i>18-24</i>	102	48		
	<i>25-29</i>	74	26		
	<i>30-34</i>	32	48		
	<i>35 and above</i>	10	20		
Education status	<i>Primary</i>	28	27	13.86	0.02
	<i>Middle</i>	32	38		
	<i>High School</i>	57	38		
	<i>Intermediate</i>	60	32		
	<i>Graduate/PG</i>	63	25		
Socioeconomic status	<i>Class I</i>	40	32	7.11	0.13
	<i>Class II</i>	90	74		
	<i>Class III</i>	62	26		
	<i>Class IV</i>	39	21		
	<i>Class V</i>	9	7		

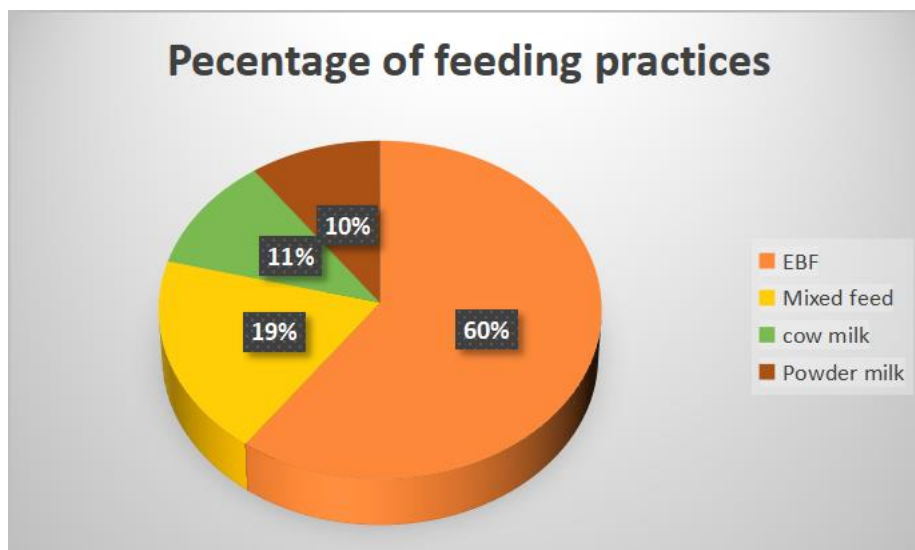
Exclusive breastfeeding is significantly associated with increasing literacy status with a p-value of 0.02. Exclusive breastfeeding practice is not significantly associated with socioeconomic status with a p-value of 0.13. [Table 2]

Table.3 depicts that 300(75%) of mothers-initiated breastfeeding within 1 hour of delivery. Colostrum feeding was given after birth by 80% of mothers. 60% of respondents' mother exclusively breast feed their children and continuation of breastfeeding & current breast fed.

Among mothers of children of age group 12-23 months only 56.6% of mothers were continue to breast fed their child while 19% of the participants gave mixed feed to their children. 44 mothers (11%) fed on cow's milk and forty (10%) women gave powder milk in place of mother milk to their children. Proper feeding practices is significantly associated with increasing age, literacy status and social support. [Figure 1]

**Table 3: WHO Criteria to access IYCF Practices of study mothers**

Variables	Response	Frequency	Percentage
Early initiation of Breast Feeding (<24 hours)	YES	300	75%
	NO	100	25%
Pre-lacteal feeding among Children (<24 hours)	YES	168	42%
	NO	232	58%
Exclusive breast feeding among children <6 months	YES	240	60%
	NO	160	40%
Continued breast feeding among children (12-23 months) *(n=165)	YES	94	56.6%
	NO	70	42.4%

**Figure 1: Distribution of percentage of feeding practices****DISCUSSION:**

This community-based study evaluates and analyzes various aspects of needs, and resources, and correlates with breastfeeding in the field area. In our study the prevalence of exclusive breastfeeding practices is 60% while 19% of the participants gave mixed feed to their infants; 11% fed cow's milk 11% and 10% fed powder milk. N.A. Gebeyehu et al. (2023) [13] has conducted a systematic review and meta-analysis for knowledge, attitudes, practices (KAP), and factors influencing exclusive breastfeeding and indicated a significant relationship between the national pooled estimates of KAP and the practice of exclusive breastfeeding, with maternal educational status, antenatal care visits, giving birth in a healthcare facility, occupation, and vaginal delivery playing important roles. Consequently, the overall prevalence of satisfactory knowledge about exclusive breastfeeding was found to be 74.17% (95% CI: 62.93–85.41), which aligns with similar research conducted in Nigeria (71.3%) [14]. Results were notably higher than those reported in studies from Malaysia (44%–55%) [15] and Nigeria (31%) [16].

Conversely, these findings were lower than those from a systematic review in East Africa, which indicated a knowledge rate of 84.4% for exclusive breastfeeding and 81% for the appropriate time to introduce complementary feeding [17], as well as lower than the rate observed in Bhutan (98%). [18]

In our study findings, exclusive breastfeeding practice is more prevalent in females belonging to the age group of 25-29 years followed by 20-24 years, which is statistically significant with a p-value of 0.00. As the literacy rate the exclusive breastfeeding practice is more prevalent and significantly associated with a p-value of 0.02. In present study, working mothers of children of age group 12-23 months, only 56.6% of mothers were continue to breast fed their child while 19% of the participants gave mixed feed to their children, 11% fed on cow's milk and 10% women gave powder milk in place of mother milk. In contrast the housewives were observed to be three times more inclined to

engage in exclusive breastfeeding compared to mothers who were employed. This discovery mirrors the outcomes of a meta-analysis conducted in Iran. [19] This can be explained by the challenges faced by employed mothers, such as time constraints and fatigue, which can hinder their ability to maintain exclusive breastfeeding. [20]

The importance of early initiation of breast feeding has been stressed upon since long. Early initiation of breastfeeding was associated with a reduced risk of neonatal mortality. Initiating breastfeeding after the first hour doubled the risk of neonatal mortality. [21]

In the present study only 75% respondents had initiated breast feeding within first hour after delivery. Breastfeeding within the first hour of life is recognized as one of the most important actions for infant survival. Yet in India, only 41.6 % infants start breastfeeding within one hour of life.[22] Increasing delay in breastfeeding initiation time was associated with an increasing risk of neonatal mortality. Infants who initiated breastfeeding 2-23 hours after birth had a 33% greater risk of neonatal mortality (95% CI: 13-56%), and infants who initiated breastfeeding  $\geq$ 24 hours after birth were more than twice as likely to die during the neonatal period (pooled RR 2.19, 95% CI: 1.73-2.77) when compared to those who initiated breastfeeding within one hour of birth.[23]

The reason might be because these mothers are with their babies throughout the day and can feed their baby as and when needed without any constraint and Working mothers have to return to work early which affects EBF. However, in another study by Chandhiok et al EBF was more in working mothers and the explanation given by them was more interaction among women in their workplace. [24] [25]

Additionally, most mothers introduced supplementary feeds after their infants reached six months of age, with reasons cited being the perceived inadequacy of breast milk to sufficiently support the growing baby and a perceived insufficiency in milk production. Babies who were delivered in hospitals were less likely to be exclusive breast fed which could be due to lack of privacy in hospitals for breastfeeding. Pregnancy related morbidity might also be a cause of these babies being less likely to be exclusively breast fed.

## CONCLUSION:

To our knowledge, this is the first study on feeding practices involving working women in Meerut, Uttar Pradesh. A significant number of lactating women have lacked the practice to initiate breastfeeding within the recommended time of one hour. There is a gap of optimal feeding behavior among working mothers in studied population and only 56.6% of mothers were continue to breast fed their child. There is a pressing need to facilitate successful implementation of national guidelines. Giving safe and friendly place for feeding at working area holds promise as an effective intervention to ensure healthier feeding practices. Giving safe and friendly place for feeding at working area holds promise as an effective intervention to ensure healthier feeding practices.

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