

# Knowledge, attitude, and practices of breastfeeding and weaning among mothers at an urban immunisation clinic: A cross-sectional Study

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**Abstract:** *Introduction:* Breastmilk is the ideal food for infants, yet in India, optimal practices are affected by cultural beliefs and misconceptions. This study aimed to assess the knowledge, attitudes, and practices (KAP) regarding breastfeeding and weaning among mothers attending an urban health clinic to identify strategies for promoting optimal feeding. *Objectives:* To study knowledge, attitude and practices of breastfeeding and weaning among mothers attending immunization clinic in urban health centre and their socio-demographic profile. *Materials and Methods:* A hospital-based, cross-sectional study was conducted over a three-month period at the immunization clinic of an Urban Health Training Centre (UHTC) of a tertiary care government hospital. A total of 142 lactating mothers of children under two years of age were selected by consecutive sampling and interviewed using a pre-designed, pre-tested structured questionnaire. Data were analysed using descriptive statistics and chi square test. *Results:* The majority of mothers were 21-30 years old (83.81%) and housewives (86.6%). High levels of knowledge (100% knew breastfeeding is best, 96.48% aware of EBF) and practice (83.09% early initiation, 86.62% fed colostrum, 73.94% practiced EBF) were observed. However, an attitudinal contrast was found: 35.92% of mothers still believed in giving prelacteal feeds, even though only 18.3% reported the practice. *Conclusion:* This study assessed that 87.32% of mothers had good knowledge about breastfeeding and weaning. A knowledge-attitude gap exists regarding traditional misconceptions like prelacteal feeding. Maternal education was a significant predictor of early breastfeeding initiation. Strengthening antenatal and postnatal counselling to focus on attitudinal change is needed.

**Keywords:** KAP study, Exclusive breastfeeding, Complementary feeding, Lactating mother, Prelacteal feeds, Urban Health.

## Introduction

Breastmilk is the ideal food for infants. It is safe, clean and contains antibodies which help protect against many common childhood illnesses WHO(World Health Organisation) and UNICEF (United Nations Children's Fund) recommend that breastfeeding to be initiated within the first hour of birth and be exclusively breastfed for the first 6 months of life—meaning no other foods or liquids are provided, including water [1].

Globally over 8.2 lakh children's lives could be saved every year among children under 5 years, if all children 0-23 months were optimally breastfed [2]. A meta-analysis by the Agency for Healthcare Research and Quality reviewed the evidence in detail that for infants, not being

breastfed is associated with an increased incidence of infectious morbidity, including otitis media, gastroenteritis, and pneumonia, as well as elevated risks of childhood obesity, type 1 and type 2 diabetes, leukaemia, and sudden infant death syndrome (SIDS). Among premature infants, not receiving breast milk is associated with an increased risk of necrotizing enterocolitis (NEC). For mothers, failure to breastfeed is associated with an increased incidence of premenopausal breast cancer, ovarian cancer, retained gestational weight gain, type 2 diabetes, and the metabolic syndrome [3].

In India as per National Family Health Survey (NFHS-5), 64% of the Indian infants between 0 and 6 months were exclusively breastfed.

41% of children below 3 yrs were breastfed within 1 hour of birth. 16% received pre-lacteal feeds, 45.9% of children age 6-8 months received solid or semi-solid food and breastmilk and 11.1% of breastfeeding children age 6-23 months received an adequate diet [4].

While broad regional trends are captured by national surveys, and several studies have documented feeding practices across Maharashtra, ranging from rural to urban areas, a specific behavioural research gap persists. The urban immunization clinic specifically serves as a primary point of contact between healthcare providers and a diverse demographic of mothers during infant feeding (0-2 years). This setting allows for the assessment of mothers who are actively seeking preventive care, providing an opportunity for understanding mother's knowledge, attitude, and practices (KAP) which can help design strategies to promote optimal infant feeding.

*Aim:* To assess the knowledge, attitude, and practices (KAP) regarding breastfeeding and weaning among mothers attending an urban immunization clinic.

*Objectives:*

- To describe the socio-demographic profile of the study participants.
- To quantify the levels of knowledge and attitudes and practices regarding exclusive breastfeeding and weaning initiation.
- To analyse the association between maternal socio-demographic factors and their influence on breastfeeding and weaning practices.

### Material and Methods

*Study Settings and Design:* A hospital-based, cross-sectional study was conducted at the immunization clinic of the Urban Health Training Centre (UHTC) affiliated with Vilasrao Deshmukh Government Medical College and Hospital, Latur. The study was carried out over a three-month period from July 2025 to October 2025.

*Sample Size and Sampling Technique:* The sample size was calculated using the formula  $n = Z^2pq/d^2$ . Taking the prevalence (p) of exclusive breastfeeding as 64% from NFHS-5 data, a 95%

confidence interval ( $Z = 1.96$ ), and an allowable error (d) of 8%, the minimum required sample size was determined to be approximately 139. During the three-month study period, a total of 165 mothers attended the clinic. After applying inclusion and exclusion criteria (such as excluding mothers with chronic illnesses), 142 eligible mothers were successfully interviewed. A consecutive sampling method was employed, where all eligible mothers attending the clinic during the study period were invited to participate until the sample size was achieved.

*Inclusion and Exclusion Criteria:* Lactating mothers of children under two years of age who were willing to participate were included. Mothers with chronic illnesses such as cancer or HIV/AIDS etc. were excluded.

*Study Tool and Validation:* A pre-designed and pre-tested structured questionnaire was used for data collection. Data were collected using a questionnaire adapted from WHO/UNICEF Infant and Young Child Feeding (IYCF) indicators. It's content validated by three experts from the Department of Community Medicine and was translated into the local language. A pilot test on 10% of the sample size ensured clarity and cultural appropriateness before final administration.

*Scoring Method for KAP:* To quantify Knowledge, Attitude, and Practice levels, a scoring system was implemented:

- *Knowledge:* One point was awarded for each correct response regarding breastfeeding and weaning (7 items total). Scores > 75% were categorized as "Good," 50-75% as "Fair," and < 50% as "Poor".
- *Attitude:* Mothers were scored based on their agreement with positive breastfeeding behaviours. A score > 70% was considered a "Positive Attitude".
- *Practice:* Reported behaviours (e.g., colostrum feeding, early initiation) were documented as binary outcomes.

*Data Collection and Ethical Considerations:* Data were collected through face-to-face interviews after obtaining written informed

consent from each participant. The study protocol was reviewed and approved by the Institutional Ethics Committee (IEC) of Vilasrao Deshmukh Government Medical College.

*Statistical Analysis:* Data were entered into Microsoft Excel and analysed using descriptive statistics, including frequencies and percentages. The Chi-square ( $\chi^2$ ) test was used to determine the associations with a p-value < 0.05 considered statistically significant.

**Results**

*Socio-demographic Profile:* A total of 142 lactating mothers participated in the study. The majority were in the 21–30 year age group (83.81%), followed by those under 20 years (13.38%). Regarding literacy, most participants had some level of formal schooling, with only 2.82% being illiterate; the largest segments had completed primary (36.62%) or higher secondary education (27.46%). Most respondents were housewives (86.60%) and belonged to nuclear (46.48%) or joint (53.52%) families. According to the modified BG Prasad classification for 2024, the middle socio-economic class was most prevalent (43.66%). Detailed demographic data are presented in Table 1.

*Maternal Knowledge, Attitudes, and Practices (KAP):* The assessment of knowledge, attitudes, and practices is summarized in Table 2. Knowledge regarding the benefits of breastfeeding was universal (100%), and awareness of exclusive breastfeeding (EBF) for six months was exceptionally high at 96.48%. However, specific knowledge regarding initiation within one hour (76.76%) and the importance of colostrum (87.32%) was slightly lower.

Variables	Frequency	Percentage % (n= 142)
<b>Age</b>		
18-20	19	13.38%
21-30	119	83.81%
31 and above	4	02.81%
<b>Religion</b>		
Hindu	87	61.27%
Muslim	53	37.32%
Other	2	01.41%
<b>Type of family</b>		
Nuclear	66	46.48%
Joint	76	53.52%
<b>Literacy Status</b>		
Illiterate	4	2.82 %
Primary	52	36.62 %
Secondary	37	26.06 %
Higher secondary	39	27.46 %
Graduate and above	10	7.04 %
<b>Occupation</b>		
Housewife	123	86.6 %
Professional	19	13.4 %
<b>SES (Modified BG prasad classification)</b>		
I	7	4.93 %
II	20	14.08 %
III	62	43.66 %
IV	44	30.99 %
V	9	6.34 %
SES = Socio-Economic Status.		

Category	Assessment Item	Correct/ Positive (n)	Percentage (%)
Knowledge	Breastfeeding is the best food for infants	142	100%
	BF* should be initiated within one hour	109	76.76%
	Importance of Colostrum	124	87.32%
	Correct definition of Exclusive Breastfeeding (EBF)	137	96.48%
	Correct technique of breastfeeding	124	87.32%
	Continue BF until 2 years of age	114	80.28%
	Initiation of weaning at 6 months	126	88.73%

Category	Assessment Item	Correct/ Positive (n)	Percentage (%)
Attitude	BF prevents childhood illness	105	73.94%
	BF strengthens mother-child relationship	110	77.46%
	Disagree with giving prelacteal feeds	74	52.11%
	BF should continue during maternal illness	116	81.96%
Practices			
Breastfeeding (n=142)	Colostrum given	123	86.62%
	Early initiation (within 1 hour)	118	83.09%
	Prelacteal feeds given	26	18.30%
	Exclusive Breastfeeding (EBF) practiced	105	73.94%
	Feeding on demand (As per baby's need)	102	71.84%
	Night-time feeding practiced	136	95.77%
Weaning (n=95)	Complementary feeding started at 6 months	80	86.96%
	First Food Introduced:		
	Mashed Cereals	44	47.83%
	Cow's Milk	30	32.61%
	Fruits	15	16.30%
	Other Local Foods	3	3.26%
	Continued BF with complementary feeding	92	100%
*BF- Breastfeeding			

( $\chi^2= 4.85$ ,  $p = 0.027$ ), A notable mismatch between knowledge and attitude was observed. Specifically, 27.4% of mothers who were categorized as having 'Good Knowledge' still held traditional beliefs that favoured suboptimal practices, such as the perceived necessity of prelacteal feeds.

In attitudinal assessments while 73.94% agreed that breastfeeding prevents childhood illness, only 52.11% disagreed with the use of prelacteal feeds, indicating that over a third of the

population (35.92%) still had positive attitudes toward traditional prelacteal practices. Reported practices generally aligned with high knowledge levels. Early initiation was practiced by 83.09% of mothers, and colostrum was fed by 86.62%. Among the 92 mothers who had initiated weaning, 86.96% started at the recommended age of six months. The most common weaning foods were mashed cereals (47.83%) and cow's milk (32.61%).

Maternal Education	Total (N=142)	Early Initiation (Within 1 hr)	Delayed Initiation (>1 hr)	$\chi^2$ Value	p-value
Below Secondary (Primary + Illiterate)	56	40	16	7.42	0.0064*
Secondary and Above (Secondary + Higher Secondary + Graduate)	86	78	8		
Total	142	118	24		
p<0.05 is statistically significant					

Table 3 illustrates the relationship between maternal education and early breastfeeding initiation. Using the Chi-square test, a statistically

significant association was found ( $\chi^2= 7.42$ ,  $p = 0.006$ ), demonstrating that mothers with secondary education or higher were

significantly more likely to initiate breastfeeding within the first hour compared to those with lower literacy levels.

Table 4 examines the mismatch between maternal knowledge and attitude scores. Although a statistical correlation between high knowledge and positive attitude exists.

Knowledge Category	Total Mothers	Positive Attitude Score (>70%)	Suboptimal Attitude Score	$\chi^2$ Value	p-value
Good Knowledge	124	90	34	4.85	0.0276*
Fair/ Poor Knowledge	18	7	11		
Total	142	97	45		

p<0.05 is statistically significant

### Discussion

This study, conducted among mothers at an urban immunization clinic, aimed to assess the knowledge, attitudes, and practices (KAP) regarding breastfeeding and weaning. The findings indicate that while a majority of mothers possessed good levels of knowledge (87.32%) and demonstrated high rates of optimal practices, their positive attitude levels (71.36%) were suboptimal. This divergence suggests that while health education effectively influences reported behaviour, internalizing these practices against persistent cultural beliefs remains a challenge.

*Socio-demographic Influence on Practices:* The high rates of optimal breastfeeding observed may be partially attributed to the participants' socio-demographic profiles. Most mothers (86.6%) were housewives, a factor that facilitates exclusive breastfeeding (EBF) by reducing time-related barriers. This is consistent with findings by Dalbhanjan et al.[5] in Western Maharashtra and Kurian et al.[6] in Kerala, both of whom identified maternal employment as a significant barrier to optimal breastfeeding.

Furthermore, the literacy level in this study subjects was high, with only 2.8% being illiterate. Analytical statistics in Table 3 confirmed a statistically significant association between maternal education and the early initiation of breastfeeding ( $\chi^2= 7.42$ ,  $p = 0.006$ ). Mothers with secondary education or higher were significantly more likely to initiate breastfeeding within the first hour compared to those with lower literacy levels, supporting the positive link between maternal education and infant health outcomes

noted by Kogade et al.[7], Dalbhanjan et al.[5], and Joshi et al.[8].

*Breastfeeding Practices and Comparisons:* The observed EBF rate of 73.94% is considerably higher than the 36.27% found by Kogade et al.[7] in rural Wardha and the 26% reported by Dalbhanjan et al.[5] in Western Maharashtra. Similarly, the early initiation rate of 83.1% is comparable to the 80.48% in the Vidarbha study by Wagh et al [9] but notably higher than the 36% reported in Patna by Kumar et al.[10].

These higher rates likely reflect the advantages of an urban study population affiliated with a tertiary care centre, demonstrating a higher level of practical adherence to breastfeeding guidelines compared to community settings. Similarly, the practice of feeding colostrum was very high in our study (86.62%), a rate substantially higher to the 68% reported by Dalbhanjan et al.[5]. Furthermore, the low prelacteal feed rate (18.3%) in this study is better than the 57.6% reported in Karnataka by Divyarani and Patil [12] and the 87.8% reported in South India by Sarojini et al. [11].

*The Knowledge-Attitude Gap:* The Knowledge-Attitude Gap identified through analytical testing in Table 4 suggests that, while knowledge regarding ideal EBF duration was possessed by nearly all study subjects (96.5%), a statistically significant mismatch was observed ( $\chi^2= 4.85$ ,  $p = 0.027$ ). Specifically, 27.4% of mothers categorized as having "Good Knowledge" still maintained

suboptimal attitudes toward traditional misconceptions, such as the perceived necessity of prelacteal feeds.

This gap suggests that cultural influences remain persistent even when clinical knowledge is acquired. Similar observations were made by Joshi et al.[8] in Navi Mumbai, where 67% of mothers still believed traditional practices like "ghutti" or honey were beneficial despite intending to follow clinical guidelines. Furthermore, Kurian et al.[6] in Kerala and Sarojini et al.[11] in South India also noted poor practice levels or attitudinal conflicts despite high awareness. This indicates that positive behaviours in a hospital-affiliated population may be based on following healthcare provider instructions rather than a shift in personal belief systems.

*Weaning and Complementary Feeding:* Regarding complementary feeding, 88.73% of mothers demonstrated correct knowledge of weaning initiation, with high concordance (86.96%) in actual practice. This rate of timely initiation at six months is higher than that observed in Western Maharashtra (Dalbhanjan et al.[5]) and rural Wardha (Kogade et al.[7]). The preference for home-made mashed cereals (47.83%) aligns with findings from Joshi et al.[8] in Navi Mumbai, although the notable reliance on cow's milk (32.61%) indicates a need for targeted nutritional counselling.

*Limitations:* This study's strength lies in its KAP assessment, which differentiated between knowledge, personal attitude, and reported practice of breastfeeding and weaning. Limitations include the cross-sectional design, which prevents establishing causality. Furthermore, as the data is self-reported, it may

be subject to recall and social desirability biases. A consecutive sampling method was employed at a single urban immunization clinic, which may introduce selection bias as attendees may be more health-conscious; thus, the findings, may not be generalizable to the wider population.

### Conclusion

This study concludes that mothers attending an urban tertiary care clinic possess high levels of knowledge regarding breastfeeding and weaning practices. However, a notable mismatch exists between clinical knowledge and personal attitudes, particularly concerning the use of prelacteal feeds. Analytical statistics confirmed that higher maternal education is significantly associated with the early initiation of breastfeeding ( $p < 0.05$ ). While reported practices are currently optimal, the underlying attitudinal gap suggests that behaviours may be influenced more by clinical instruction than by a shift in core beliefs. Addressing these persistent cultural misconceptions is vital for long-term adherence to infant and young child feeding practices guidelines.

### Recommendations:

*Individualized Behavioural Counselling:* Transition from general information sharing to individualized counselling that directly addresses and deconstructs cultural myths during both antenatal and postnatal visits. Counselling sessions should focus on the specific benefits of colostrum and the risks of prelacteal feeds to move mothers beyond "rule-following" toward a genuine attitudinal shift.

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