

Original Paper

Exploration of Breastfeeding Practices in India: A Systematic Review



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ABSTRACT

Introduction: Breastfeeding is essential and a unique way of providing food to infants for development and healthy growth. Various breastfeeding practices are followed in different regions of India.

Objective: This study aims to collect the information for practices related to prelacteal feed, early initiation of breastfeeding, exclusive breastfeeding, and weaning in India.

Materials and Methods: A systematic search was conducted in PubMed, MEDLINE, Embase, Google Scholar, Clinical key, the Cochrane Library, and Science Direct databases to identify studies on practices related to the initiation of early breastfeeding, prelacteal feed, Exclusive Breastfeeding (EBF) practices, and weaning as outcomes. Quality assessment of each study was done by the Newcastle-Ottawa scale.

Results: Twenty-four studies were included in this systematic review. Seven studies reported an early initiation of breastfeeding within 1-6 hours of birth. Six studies reported various prelacteal foods given to infants, such as tea, boiled water, honey, sugar, jaggery, or glucose with plain water and diluted animal milk. Four studies stated that exclusive breastfeeding was a suboptimal practice, often continued for less than six months for reasons like working mothers (not enough time for breastfeeding), traditional beliefs, and inadequate milk output. Four studies explored the causes of early onset of weaning, and the most common reasons were initiation of supplementary feeding before six months, insufficient breastmilk, and lack of knowledge.

Conclusion: Overall, the results of the individual studies indicate that unhealthy breastfeeding practices such as prelacteal feeding, suboptimal exclusive breastfeeding, and early initiation of weaning practices were prevalent and almost the same across India.

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Highlights

- Breast milk is one of the essential foods during the first six months of an infant's life for proper growth and development.
- Socioeconomic and cultural practices of family and society play a significant role in the initiation and persistence of breastfeeding for the recommended duration.
- Prolactal feeds, delayed initiation, and early cessation of breastfeeding are commonly practiced in different regions of India.

Plain Language Summary

A systematic review was undertaken to know the existing cultural beliefs and practices of breastfeeding across different regions of India. Overall, 24 studies that met the inclusion criteria were included in the review. The majority of studies were cross-sectional surveys using either questionnaires or semi-structured interviews for data collection. The remaining studies had mixed-method designs, including surveys and one qualitative approach. The findings were categorized in key areas of concern consisting of early initiation of breastfeeding, prelacteal feeding, suboptimal exclusive breastfeeding, and early onset of weaning practices. The review concluded that it is necessary for healthcare providers, including health professionals and other health workers, to explore with their clients individually the perception about breastfeeding beliefs and practices.

Introduction

To make a country's population healthier, breastfeeding is one of the intelligent investments done by any government [1]. Breastfeeding is safe, available, affordable, and ensures the child's health, especially in developing countries [2]. Breastfeeding not only protects children from a bunch of ailments but also increases their Intelligence Quotient (IQ) and creates a strong connection between mother and baby [1].

The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) have suggested that all mothers should nurture their children exclusively with breastfeeding for four months to half a year and keep breastfeeding enhanced by other proper nourishments to the second year of life or later [3].

Despite having proven benefits, breastfeeding has remained a less than desirable practice, especially in a developing country like India. A considerable increase has been made in India in the paces of institutional conveyances from 38.7% (National Family Health Survey, NFHS-3) to 78.9% (NFHS-4) during a range of ten years. Still, almost half (45.1%) of the children below six months of age are not solely breastfed [4]. NFHS-4 likewise shows that 21% of infants get prelacteal feeds, and about 22% are brought into the world with low birth weight, who need additional help [4]. Prelacteal feeds

are common practice in India, especially in rural areas [5]. In India, many institutional deliveries happen in private hospitals, and infant formula is a common practice in these hospitals [6].

India, along with other South Asian countries, including Afghanistan, Bangladesh, and Sri Lanka, stands at the lowest position in breastfeeding practice, with just 44% of women desiring to breastfeed their child within one hour of birth [7, 8]. There has been an improvement in India's breastfeeding status over decades because of promoting strategies, powerful building initiatives, ground level-based activities, and strategic mass media communication [9].

Breastfeeding in rural areas in India tends to be shaped by community beliefs, which are often influenced by social, cultural, and economic factors [10]. At the same time, a rapid increase in the proportion of people living in built-up areas and the social, cultural, and economic changes associated with this urbanization process can impact traditional breastfeeding practices [11]. However, regarding the significance of breastfeeding, it is surprising that the study of breastfeeding practices in India has remained ignored. No substantial attempts have been made to document the breastfeeding practices in different parts of India, the effect of urbanization and modernization on feeding practices, or the connection between fertility and lactation [12].

Although several studies have been conducted on this subject, no systematic review has summarised these findings. Hence, the following questions emerged as what practices mothers follow on early initiation of breastfeeding, prelacteal feed, Exclusive Breastfeeding (EBF) in the first six months of life, and weaning of an infant. Therefore, the present study has been conducted to systematically review literature exclusively from India to get an orientation of breastfeeding aspects, various programs to promote EBF introduced by the Government of India, and improved literacy rate in India from the past twenty years.

Materials and Methods

A systematic review was conducted by searching the published literature in PubMed, MEDLINE, Embase, Google Scholar, Clinical key, Cochrane library, and Science Direct databases through electronic media to identify the breastfeeding practices during the first six months of life of an infant. We used free-text and MeSH terms like “breastfeeding practices”, “postpartum beliefs”, “weaning practices”, “infant and young child feeding practices”, and “India” for searching the literature. Studies published from 2001 to December 2020 were included in this review. Hand searching and screening were done for the reference list of included studies.

The inclusion criteria were studies conducted in India, studies reporting early initiation of breastfeeding practices and related factors by using non-experimental descriptive and mixed-method study designs, using of prelacteal feed, EBF practices, studied weaning practices, and lactating mothers as study participants, regardless of the number of children and mode of delivery. We excluded content from books, unpublished theses/dissertations, unpublished case reports, and conferences.

All the studies were selected by skimming titles and abstracts to find potentially valid citations by three reviewers independently. Full texts of all potentially relevant papers were retrieved and evaluated for eligibility based on the predefined inclusion criteria independently by reviewers. The study data were extracted from the selected studies. Any disagreements and discrepancies among reviewers were resolved by discussion and consulting the fourth and fifth authors. Study characteristics and breastfeeding practices in India's rural and urban parts were extracted in the pre-designed datasheet. Each reviewer independently extracted the data, and discrepancies were resolved if found.

The outcomes of this study were early initiation of breastfeeding and related factors, exploring the use of prelacteal feed, EBF, and weaning practices.

Two reviewers assessed the quality of included studies by adopting the Newcastle-Ottawa scale for observational studies quality assessment tool [13]. All the studies were included in the review, and the result of quality assessment scores and details are mentioned in [Tables 1, 2, and 3](#).

Results

Study selection was performed according to the PRISMA (The Preferred Reporting Items for Systematic reviews and Meta-analyses) guidelines for search and selection of studies and the inclusion criteria. A total of 1267 studies were retrieved from electronic databases, of which 50 were duplicates due to different databases ([Figure 1](#)). The remaining 1217 paper titles and abstracts were screened for relevance, and 1177 were irrelevant and omitted. Furthermore, full-text papers were reviewed for eligibility and based on the pre-specified inclusion criteria, 24 studies were included for systematic review, which was published between 2001 to 2020 from different regions of India ([Table 4](#)).

Out of 24 selected studies, most articles were cross-sectional [[5, 14-32](#)] Aligarh has a population of 40,000 living in 5,480 households. Mothers delivering babies in September 2007 were identified from records of social mobilization workers Community Mobilization Coordinators or (CMCs), and others had had qualitative cohort or mix method design.

Most studies reported that initiation of breastfeeding was within 1-6 hours after the delivery. In seven studies, many participants had initiated breastfeeding within one hour of newborn's life [[15, 24, 25, 27, 29, 30, 33](#)]. In contrast, few participants in another study [[15](#)] reported delayed breastfeeding initiation; the quoted reasons were baby separation as the commonest reason (45%), followed by mother's illness (27.3%). For 24.7% of mothers, breast milk was not secreted, and 3% were ignorant about timely initiation. Kaushal et al. observed that the majority of grandmothers (62%) believed in delaying breastfeeding until six hours after delivery, while few mothers (20%) believed in that [[34](#)]. It was also reported that they believe newborn has impure things in the stomach, so for two to three days, the baby was given oil and other foods than mothers' milk [[35](#)]. A study highlighted the initiation of breastfeeding within one hour of delivery in 40.5% of mothers. However, in 27.6% of

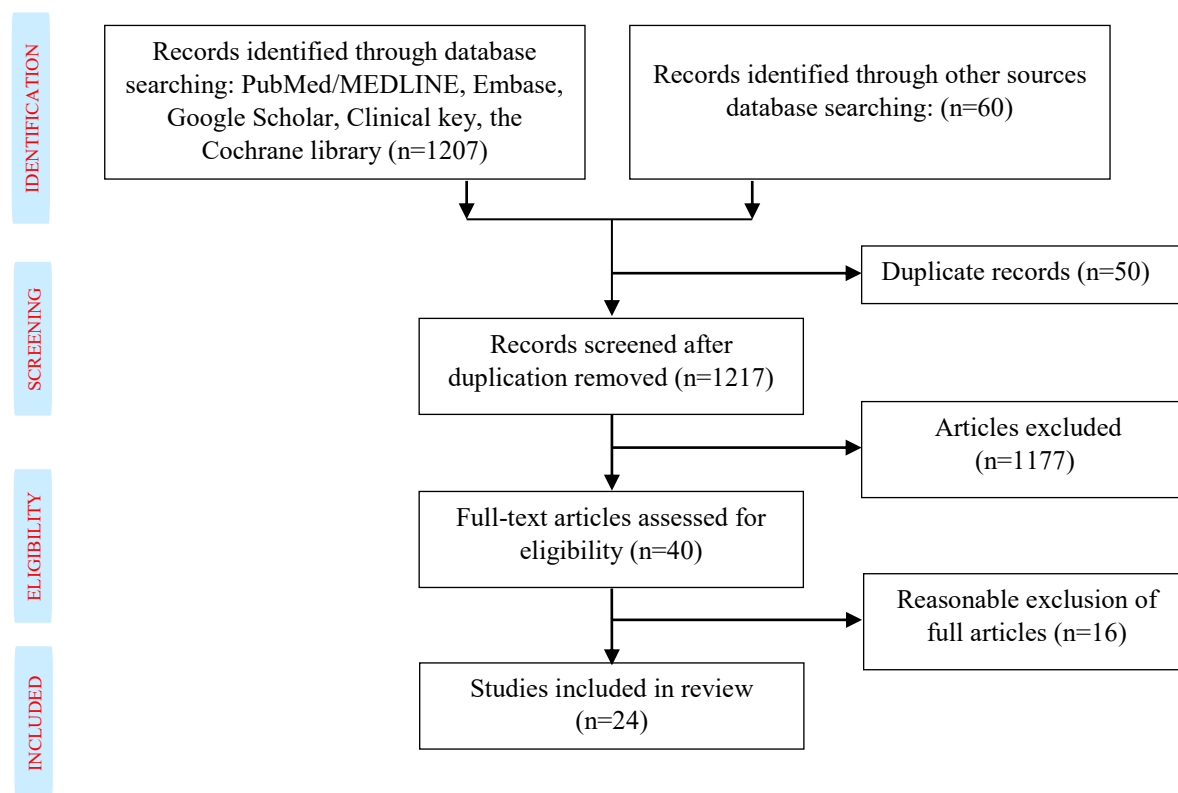


Figure 1. PRISMA flow diagram of study selection

cases, the mother's maternal surgery was the most common reason for the delay of breastfeeding initiation [30].

Various prelacteal feeds were given to newborns included beverages such as tea, boiled water, honey, sugar water, jaggery (a coarse brown sugar made from palm sap), glucose with plain water, diluted animal milk, tinned milk, ghee, and castor oil. Madhu et al. stated that 13% of the babies are fed for more than 48 hours of sugar water alone. Also, honey (6%) and ghee (3%) were widely used as prelacteal feeds [25]. About 62% of mothers practiced EBF, and 28.2% discarded colostrum. The most common explanations for discarding colostrum were the mother's belief that it was not safe for the baby (19.77%), unhygienic (17.44%), social norms (8.14%), and other reasons (11.63%) [30].

EBF is suboptimally practiced and often continued for less than 4-6 months. Few mothers (30.2%) practiced formula feeding, and insufficient milk was the primary (44.5%) reason for starting formula feeding compared to mothers in the slum area (20.39%). Almost 61.84% of the babies were given breastfeeding during illness [30]. Weaning practices were primarily started at 4-5 months of life, and there were several reasons reported for the early initiation of the weaning practices, the most common was insufficient milk (92%; 49 out of 53). On-de-

mand feeding practices and rooming-in were followed by 84% of mothers. The commonest food for breastfed infants for less than 6 months was cow's milk (26%) [25].

In a study conducted by Bhanderi et al. [20], cow's milk was used for top feeding, whereas rice and "daal" as weaning food. Kaushal et al. analysis revealed that 34% of mothers and 25% of grandmothers adopted complementary feeding at 4-6 months of age. About 41% of mothers and 34% of grandmothers used "Dalia" and "Khichdi" as complementary foods. However, most respondents (59% mothers and 66% grandmothers) said that they were not sure when to begin weaning and with what semi-solids [34] using a triangulation of qualitative (focus group discussion).

In conclusion, the time of initiation of breastfeeding was within 1-6 hours after birth, and various prelacteal feeds were given to newborns, including beverages such as tea, boiled water, honey, sugar water, jaggery, or glucose with plain water, diluted animal milk, tinned milk, ghee, castor oil. Weaning practices were primarily started at 4-5 months of life. Whereas EBF remains less than desirable, and suboptimal weaning practices have led to suboptimal growth of an infant.

Table 1. Newcastle-Ottawa quality assessment scale, cross-sectional studies

Study	Selection			Ascertain- ment of the Exposure (Risk Factor)**	Comparability Subjects in Dif- ferent Outcome Groups are Comparable**	Outcomes		Quality
	Represen- tativeness of the Sample*	Sample Size*	Non-re- spondents*			Assess- ment of the Out- come**	Statisti- cal Test*	
Das et al. [6]	1	1	0	0	1	2	0	5
Khan et al. [15]	1	1	1	0	0	2	0	5
Kalita et al. [16]	1	1	1	0	0	2	1	6
Veeranki et al. [17]	1	1	1	0	0	2	0	5
Junaid et al. [18]	1	1	0	0	2	2	1	7
Randhawa et al. [19]	1	1	0	0	2	2	1	8
Ali et al. [20]	1	1	1	0	2	2	1	8
Bhanderi et al. [21]	1	1	0	0	0	2	1	5
Shashi et al. [22]	1	1	0	0	2	2	1	8
Young et al. [23]	1	1	1	0	2	2	1	8
Rudrappa et al. [24]	1	1	0	0	2	2	1	7
Gadhavi et al. [25]	1	1	0	0	0	2	1	5
Madhu et al. [26]	1	1	1	0	0	2	1	6
Sinhababu et al. [27]	1	1	1	0	2	2	1	8
Shaili et al. [28]	1	1	1	0	0	2	0	5
Khan YM. et al. [29]	1	1	1	0	2	2	1	8
Sinha et al. [30]	1	1	0	0	2	2	1	7
Swetha et al. [31]	1	1	1	0	2	2	1	8
Meharda et al. [32]	1	1	1	2	2	2	1	10
Satija et al. [33]	1	1	0	0	0	2	1	5
Reddy N et al. [34]	1	1	1	2	2	2	1	10
Kaushal et al. [35]	1	1	1	0	2	2	1	8
Kesterton et al. [36]	1	1	1	0	2	2	0	7
George et al. [37]								

Table 2. Newcastle-Ottawa quality assessment scale, cohort studies

Study	Selection				Comparability		Outcomes			Quality
	1 Representativeness of the Exposed Cohort	2 Selection of the Non-Exposed Cohort	3 Ascertainment of the Exposure	4 Demonstration that Outcome of Interest Was Not Present at the Start of the Study	1 Comparability of Cohorts Based on the Design or Analysis Controlled for Confounders	1 Assessment of the Outcome	2 Was Follow-up Long Enough for Outcomes to Occur	3 Adequacy of Follow-up of Cohorts		
Reddy N et al. [34]	1	1	1	0	2	0	1	1	Good (7)	

Discussion

The early introduction of breastfeeding, EBF for half a year, and the prompt implementation of age-appropriate complementary feeding are the key mediations for achieving the Millennium Development Goals 1 and 4 that address the infant malnutrition aspect of the goals and mortality, respectively [16] cross-sectional descriptive study was conducted during June-July 2008 to assess the infant-and young child-feeding (IYCF. To understand the measures to reduce Neonatal Mortality Rate (NMR), we should know optimal breastfeeding practices followed in different regions of India. The present review emphasized the breastfeeding practices followed in rural and urban Indian population.

Our results were inferred from 24 studies on the various aspects of breastfeeding practice in different regions of India. Early breastfeeding initiation has survival benefits and also decreases neonatal mortality [37]. Consistent with the above findings from the systematic review [14, 15, 19-21, 23-25, 27, 28, 32, 33, 35] Aligarh has a population of 40,000 living in 5,480 households. Mothers delivering babies in September 2007 were

identified from records of social mobilization workers (Community Mobilization Coordinators or CMCs, early initiation of breastfeeding is in practice so that NMR has declined to 23.5 as compared to 38 in 2019. Contrary to the above findings, some studies have shown delayed breastfeeding initiation due to cultural beliefs, less amount of breast milk, too tired to feed, baby sleep, cesarean section, and lack of awareness. These are some of the mentioned reasons for delayed breastfeeding practice, particularly in rural versus urban populations [15, 18, 26, 34, 36] using a triangulation of qualitative (focus group discussion).

Prelacteal feeds are those foods given to newborns before initiating breastfeeding or before breast milk “comes in”, usually on the first day of life [38]. Because of cultural diversity, the Indian population emphasizes the rural area and still practice prelacteal feeding. The common prelacteal feeds were honey, “ghutti”, sugar, and tea [34, 36] using a triangulation of qualitative (focus group discussion. Not only among mothers and family but this belief is also followed among health providers Anxiety Nurse Midwife (ANM) in a rural setting has proclaimed that despite the change in guidelines,

Table 3. Criteria used for the assessment of qualitative studies

Study	Research Aim(s)	Qualitative Methods	Study Design Suitable	Recruitment Strategy Appropriate	Data Collection Was Adequate	Relationship Between Researcher and Participants- Adequate	Other Potential Ethical Issues-Adequate	Data Analysis-Sufficient	Findings-Clearly Stated	The Research Adds Value to Science, Practice, and or Policy
Sinha et al. [30]	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Kaushal et al. [35]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Kesterton et al. [36]	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
George et al. [37]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4. Brief description and summary characteristics of studies Included in the review

Author(s), region/year	Aim	Methods (Design, Sample size, sampling techniques)	Results
Das et al. Bihar 2019 [6]	To find the association between prelacteal feeding and EBF continuance in children under the age of three months.	Cross-sectional surveys were undertaken; In total, five rounds of surveys (Rounds I-V), using lot quality assurance sampling (LQAS) technique were conducted in eight districts (from total 38) of Bihar. Data were collected from 10,262 children, selected by multi-stage sampling.	Prelacteal feeding was given to 26% of the 10,262 children for whom data was available. About 55% of mothers said their children were exclusively breastfed, while 82% said their children had only had breastmilk in the preceding 24 hours.
Khan et al. Uttar Pradesh 2009 [15]	To recognize current perinatal procedures in an urban slum and to identify obstacles to mothers' utilization of health services	Cross-sectional descriptive. Data were collected from conveniently selected 92 mothers	Inappropriate early neonatal feeding activities were prevalent although breastfeeding was universal. Nearly 50% of the babies received prelacteal feed and in 8% of cases, feeding was delayed beyond 24 hours.
Kalita et al. Assam 2016 [16]	To assess the current practices related to infant feeding and identifies various factors influencing the feeding practices.	Cross-sectional. 380 convenient selected mothers having children in the age group of 1 to 2 years. A pre-designed and pre-tested semi-structured questionnaire was used.	70.5% of mothers-initiated breastfeeding within 1 hour of birth. Exclusive breastfeeding for the first six months was reported by 70.3% of mothers. Exclusive breastfeeding was significantly associated with ANC visits, primipara, higher education, younger age, and lower socioeconomic status.
Veeranki et al. Karnataka 2017 [17]	To estimate the prevalence of suboptimal breastfeeding practices.	Cross-sectional study conducted by conveniently selected 1294 mother-infant dyads. An interviewer-administered question, including a maternal, child, and sociodemographic details and breastfeeding-related characteristics, to all women.	Delayed initiation of breastfeeding was seen in 20% of mothers. Exclusive breastfeeding for the first months was reported in about half (51.4%) of the sample.
Junaid et al. Chhattisgarh 2018 [18]	To understand the practice of breastfeeding.	Cross-section study. A total 198 lactating mothers having babies up to 1-year were selected by purposive sampling method.	Most mothers (78.3%) had demonstrated breastfeeding initiation within 6 hours of birth. 58.6% of mothers had practiced exclusive breastfeeding and 64.2% of mothers gave their new-borns first breast milk.
Randhawa et al. Punjab 2019 [19]	To study breastfeeding trends and the effect of literacy and cultural factors.	Cross-sectional study. Convenient sampling techniques was used to select 370 lactating mothers for data collection.	27.3% of mothers reported that breastfeeding could start within 1 hour of birth; 51.6% feels prelacteal feed to be right practice, and colostrum is bad for the baby by 55.9% of mothers. 45.6% of mothers practice exclusive breastfeeding.
Ali et al. Tamil Nadu 2019 [20]	To assess the prevalence and factors influencing infant and young child feeding practices among the rural mothers.	Cross-sectional study. Data from 247 children of age less than 2 years were collected. Selection of children was done by consecutive sampling	226 (91.5 %) mothers given colostrum and 163 (66%) initiated breastfeeding within one hour after birth. Weaning started among 58.6% of children.
Bhanderi et al. Gujarat 2011 [21]	To investigate attitudes, beliefs, and behaviour concerning feeding and weaning habits in children aged 0-5.	Cross-sectional study. A personal interview was conducted at participant's home, followed by a clinical examination and anthropometric measures of the 300 conveniently selected children and the information thus collected was recorded on a pretested questionnaire.	Study pointed out 23.7% of newborns were breastfed within the first hour of life. Breastfeeding started within 1-6 hours in 44.7% of the children. Colostrum feeding was practiced in 76.3%. 80.7% of children were put on weaning foods (rice and daal) in the age of 4 months.
Kumar et al. Haryana 2015 [22]	To determine the pattern of breastfeeding behaviours among mothers.	Cross-sectional study including 158 consecutively selected mothers of infants aged 6-12 months were interviewed using a pre-tested semi-structured interview schedule.	27.8% of mothers started nursing within one hour, whereas 36.7% waited more than 12 hours to start feeding. Only 19% of women exclusively breastfed their babies for the first six months.
Young et al. Uttar Pradesh 2019 [23]	To investigate breastfeeding patterns and how programmes might improve them.	Cross-sectional study among 1838 delivered mothers with infant under 6 months of age, during maternal nutrition programme. Two-stage cluster sampling technique was used.	Early initiation of breastfeeding was reported by 26% of the women. Cow/goat milk, honey, and newborn formula were prelacteal diets.

Author(s), region/year	Aim	Methods (Design, Sample size, sampling techniques)	Results
Rudrappa et al. Mysore 2020 [24]	To assess postpartum mothers' nursing practises, knowledge, and attitudes among postnatal mothers.	A cross-sectional study by using a pre-tested semi-structured questionnaire, to assess knowledge and attitude of 200 purposively selected postnatal mothers.	28.5% of mothers-initiated breastfeeding within 1 h and there were only 28% of mothers who gave colostrum to their babies.
Gadhavi et al. Gujarat 2020 [25]	To examines the factors that may influence the time of onset of breastfeeding.	Cross sectional. An interview format (pre-designed questionnaire), consecutively selected 200 lactating mothers and caregivers of neonates <24 hours of life.	Only 55% of the newborns got early breastfeeding. Many women over the age of 26 began breastfeeding earlier than their younger. A total 72.6% Hospital delivered mothers started feeding early as compared to 23.8% of their home delivered counterparts.
Madhu et al. Karnataka 2009 [26]	To identify the practices regarding breastfeeding and newborn care.	Cross-sectional. 100 mothers were conveniently selected for data collection.	97% of mothers-initiated breastfeeding, 19% used prelacteal feeds, 90% delivered at the hospital, 10% had home deliveries, and 50% used a house knife to cut the umbilical cord in-home deliveries
Sinhababu et al. West Bengal 2010 [27]	To determine the practices of infant and young child feeding.	Cross-sectional descriptive. 647 children aged less than 2 years through 2-stage revised 40-cluster sampling.	Suboptimal practice (13.6%) for early initiation and almost half of the population practiced exclusive breastfeeding (57.1%) and received complementary feeding (55.7%).
Shaili et al. Uttarakhand 2012 [28]	To assess breastfeeding practices among mothers in view to strengthen these practices for improving the health of infants.	Cross-sectional study. Data were collected from 468 conveniently selected mothers.	Early initiation was practiced by 21.3% of mothers. While only few babies were exclusively breastfed for six months. 87.1% of mothers reported that they fed colostrum, whereas 66.03% gave prelacteal feed.
Khan et al. Kashmir 2013 [29]	To assess the breastfeeding practices of mother	Cross-sectional study. Practices measured by using pre-tested questionnaires. 1293 mothers (680 mothers from Jammu, 512 from Kashmir, and 101 from Ladakh) were selected	Exclusive breastfeeding rates at 0-6 months were 52%, 52.1%, and 15.8% in Jammu, Kashmir, and Ladakh respectively. Children were weaned very early in Ladakh.
Sinha et al. Haryana 2014 [30]	To estimate the knowledge, attitude, and practices of mothers about newborn care.	Mixed-method study. Mothers who had delivered a child during the previous seven months (320) selected by cluster and cluster was selected by probability-proportionate-to size linear systematic sampling method, ASHAs (61)	Overall, 237 (74%) mothers started breastfeeding within the first hour, 279 (87%) fed colostrum, and 188 (58%) mothers exclusively breastfed their newborn.
Swetha et al. Andhra Pradesh 2014 [31]	To understand the prevailing practices of breastfeeding.	Cross-sectional study. A total of 304 mothers of children aged less than 24 months were selected by consecutive sampling method.	Almost 66% mother gave prelacteal feeds. Initiation of breastfeeding within one hour of delivery was started in 40.46% of mothers. Exclusive breastfeeding was practiced by 62.3% of mothers. Few mothers (30.2%) practiced artificial feeding due to inadequate milk (44.5%).
Meharda et al. Rajasthan 2015 [32]	To study the practice of breastfeeding among mothers having a child 6 months to 24 months.	cross-sectional study. Systematic random Sampling technique used, 300 nursing mothers having children between 6 months to 24 months of age; were selected for data collection.	Many 188 (62.66%), infants had prelacteal feeds. 202 (67.33%) of children had not exclusively breastfed.
Satija et al. Punjab 2015 [33]	To assess WHO standard feeding indicators.	Cross-sectional study. Consecutive sampling techniques was used to select 813 mothers/primary caregivers of living children 0-23 months of age group.	More than half (56.7%) mother-initiated breastfeeding within one hour of birth, whereas exclusive breastfed was practiced in almost 75% of infants.
Reddy N et al. Vellore 2019 [34]	To examine exclusive breastfeeding behaviours in the Indian.	cohort study. Data from 251 children selected by consecutive sampling were collected. The tools were standardised questionnaire and biweekly surveillance on exclusive breastfeeding and supplemental feeding behaviours from birth.	Breastfeeding was commenced in 59% of the newborns during the first hour of birth. Colostrum was administered to 89.6% of the newborns, while 12.7% were given prelacteal feeds. Only 1.1% of the cohort women continued to exclusively breastfeed up to six months, despite the fact that 22.1% of infants were exclusively breastfed for up to four months.

Author(s), region/year	Aim	Methods (Design, Sample size, sampling techniques)	Results
Kaushal et al. Haryana 2005 [35]	To evaluate mothers and grandmothers' knowledge of newborn care and attitudes	Mixed method design. Mothers, and grandmothers conveniently selected, were surveyed and FGDs were conducted in the selected village and rural areas of Haryana.	Early initiation of breastfeeding within 2 hours was more among grandmothers (88%) than mothers (68%). Ghutti, as pre-lacteal feed should be given before breast-milk was expressed by mothers (65%) and grandmothers (85%).
Kesterton et al. Karnataka 2009 [36]	To investigate local care practices for the newborns	Mixed methods design. Data were collected from 388 conveniently selected mothers, grandmothers and birth attendants by survey, interview and FGDs methods. 8 FGD and 39 IDIs were conducted.	Prelacteal feed was universally practiced by all the new-born babies, while in 50% castor oil was given, believing to clean the inside body and to pass the stool. There was 60% delayed breastfeeding, as believed that colostrum is a thick yellow milk is not good for new-born baby.
George et al. Karnataka 2018 [37]	To investigate cultural values and practices about postpartum care of mothers and new-borns.	A qualitative study was conducted with six focus group discussions and four in-depth interviews.	The nurse reported that the old routine of discarding colostrum had now changed, and women were feeding the baby shortly after birth.

ASHAs: Accredited Social Health Activists; FGDs: Focus group discussion; IDIs: In-Depth Interviews; ANC: Ante Natal Care.

prelacteal feed is still recommended [36]. Reddy et al. highlighted the use of honey [35], risk factors, and interactions of enteric infections and malnutrition and the consequences for child health. Khan et al. cited family customs and relatives' advice for prelacteal feed [14].

As per WHO, EBF means giving the baby only breast milk for the first 6 months without adding any additional drink, including water or food [39]. Despite the undeniable benefits of EBF, its practice has remained less than desirable. According to Kaushal et al., less than 10% of the study population followed the EBF [34]. In contrast, a study revealed that participants started the weaning practice in less than 4 months and followed the on-demand feeding [15]. Studies from different parts of India have found that the EBF practice was not followed by mothers [17, 18, 21, 25]. Saxena Y et al. found multiple hindering factors for EBF: inadequate mother's milk, cesarean sections, and coercion from elders in the family to start top milk [40].

Weaning practices are the approach of introducing soft, semi-solid, and or solid foods by six months of age along with breast milk [41]. In India, there is an enormous diversity in different regions to start weaning feed, such as "Dalia", "Khichdi", "ragi sari", cow's milk, and rice. The early weaning hinders the EBF practice [20, 23, 34]. Additionally, inadequate knowledge about weaning and weaning foods were the limiting factors contributing to suboptimal weaning practices leading to suboptimal growth of an infant [34]. Accordingly, the risk for infections, undernutrition, and child morbidity and mortality has been increased [42, 43]. Emphasis should be on assessing proper, regionally available weaning di-

ets and a well-planned regional weaning education, a common element of well-baby programs [44].

Conclusion

This review shows that breastfeeding practice in India is common. However, many breastfeeding and weaning methods are not conducive to the child's growth and development. The study shows that the early onset of breastfeeding is commonly being practiced, but colostrum is still being discarded. It is necessary to address the myths of prelacteal feed that delay the early initiation of breastfeeding by postnatal mothers. Health care workers, especially nurses, Auxiliary Nurse Midwives (ANM), primary health centers, community health centers, emphasize the importance of early initiation of breastfeeding, EBF, and weaning practices.

We recommend that future researchers perform a meta-analysis to provide higher-level evidence from India. Also, a transcultural study will be appropriate to understand differences in cultural practices, which could hinder the early initiation of breastfeeding, EBF, and weaning process that will help plan different intervention modules according to regional practices. We could not access a few full texts of related articles, which might have added strength to the present review.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

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Author's contributions

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Conflict of interest

The authors declared no conflict of interest.

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