

Assessment of breast-feeding and weaning practices of under-fives and their associated co-morbidities in urban and rural areas of Ahmedabad City, Gujarat, India

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ABSTRACT

Introduction: Shaping up the post-2015 development agenda is of crucial importance in the development process around the Globe as 2015 was the last year of millennium development goals. It is the right time to assess our own progress vis-a-vis the Millennium development goals. Appropriate feeding and weaning practices are the key contributor for decreasing morbidities and mortalities in under-five children. As per national family health survey-5 (NFHS-5), only 55.8% of the Indian infants between 0 and 6 months were exclusively breastfed in Gujarat. Children age 6-8 months receiving solid or semi-solid food and breast milk were only 49.4% in Gujarat. Only 5.8% of breastfeeding infants aged 6-23 months receive an adequate diet in Gujarat. Hence the following study was done to know the practice of breastfeeding and weaning in mothers of urban and rural area of Ahmedabad city, Gujarat. **Objective:** The primary objective of this study was to describe the breastfeeding and newborn care practices and the factors affecting the initiation and duration of breastfeeding in urban and rural areas of Ahmedabad city, Gujarat and the secondary objective was to describe the comorbidities associated with them. **Methods:** Cross-sectional study was done in anganwadis of slums of urban and rural field practice area of B.J. Medical College, Ahmedabad. **Results:** Half of the under-five children were provided jaggery as pre-lacteal feed both in urban (45%) and rural (53%) area. In urban area most common reason for providing pre lacteal feeds was due to family customs (55%) followed by their belief that it leads to help in removal of meconium from gut (22%) followed by as advised from their relatives (23%) as compared to in rural area where there was belief that it leads to help in removal of meconium from gut (52%) followed by family customs (31%) and advice from relatives (17%). There were 7.5% under-five children in urban area in whom breastfeeding was not initiated immediately compared to rural area in which there were 42% under-five children. **Conclusion:** Frequent occurrence of acute illness among under-fives may have lead to undernutrition.

Keywords: Comorbidities, early initiation, exclusive breastfeeding, under-five's, weaning

Introduction

Infant care is vital for the proper growth of the infant and healthy infant life. Any damage during infancy may lead to impaired cognitive development, malnutrition, poor growth and

development, compromised educational achievement, and low economic productivity.^[1-3] Therefore, knowing breastfeeding care practice and associated comorbidities of infant care can provide crucial support to meet the Sustainable development Goal.

Despite a >50% reduction in child deaths since 1990, nearly six million children under the age of five died in 2015. The Sustainable Development Goals (SDGs), launched in 2015, include targets of reducing under-5 mortality below 25 per 1000 live births and eliminating preventable child deaths by 2030.

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Under-nutrition is one of the leading causes of child mortality, and suboptimal breastfeeding practices are associated with more than 10% of all child deaths.^[4-6] Efforts to understand the epidemiology surrounding early infant nutrition and specific health outcomes are key to developing and targeting interventions to improve child health and survival.

The study of breastfeeding practices is of considerable importance in different settings in developing countries because of its relationship with child health and birth spacing. It is well documented that mother's milk is the best food for the newborn child and has a significant role on decreasing mortality in infants. It also plays an equally important role in controlling fertility in developing countries. Recently, however, it has been observed that the practice of breast-feeding is declining which is a matter of great concern.

In India, although breast-feeding is still almost universal, particularly in rural areas, however, there are indications that in educated and urban elites, the duration of breast-feeding is declining.

World Health Organization (WHO) has come up with a set of guidelines about essential care practices which are evidence-based cost-effective measures to improve child outcomes. This guideline is to be used by all stakeholders who are engaged with the infant including the health care providers and mother, community, and government.

The antenatal and postnatal period is cost-effective that improve maternal health and save mothers' lives and can save most infant too; early and exclusive breastfeeding, keeping warm, hygiene, cord care, immunization, treatment during illness, and complementary feeding are the recommended care to be given for all infant care. The infant is a critical bridge^[5,7] between mother and child care and central to the paradigm of the continuum of care linking mother, child, and infant care. Infant mortality is one of the leading public health problems globally; the problem is even more staggering in India.

Considering the importance of the matter, this article is an attempt to review some available studies on the subject and draw some broad conclusions on breast-feeding and weaning practices and their associated comorbidities as no District-level or comparable State-level data are available on this.

Aim and Objectives

1. To assess and compare Breastfeeding and weaning practices of under-fives living in anganwadis of urban and rural field practice areas.
2. To assess their associated co-morbidities among urban and rural areas of Ahmedabad city, Gujarat, India.

Materials and Method

A community-based cross-sectional study was conducted in anganwadis of urban and rural field practice area of B.J Medical

college, Ahmedabad which is under administrative control of Community Medicine Department, B.J Medical College. The study was conducted for a period of 6 months after prior permission from Institute Ethics Committee. Considering the prevalence of under-nutrition as 46%, sample size is calculated by using the formula, $N = 4pq/L^2$, where allowable error L is 10% of p.

So estimated sample size is 469. Upon considering the non-response error as 7.5%, 504 under-fives were taken for the study.

A simple random sampling was done to select 504 under-fives (252 from urban area and 252 from rural area) in anganwadis from urban and rural field practice areas of B.J Medical college, Ahmedabad.

Urban areas, under Ahmedabad Municipal Corporation, have been divided into 6 zones. Each zone had 8 to 10 UHCs (Urban Health Centers). From each zone, one UHC had been selected randomly. So, in total, 6 UHC has been selected. From each UHC, 3 anganwadis were selected randomly to cover roughly 42 under-fives from each zone. Thus, in total, 18 anganwadis were selected for survey in urban areas to cover 252 under-fives. Currency method was used for random selection.

In rural areas, Ahmedabad district has 10 taluka excluding corporation area. Ten PHCs were selected randomly (one from each taluka); out of 10 PHC, one PHC (Sanathal), which is situated in Sanand Taluka, was selected using simple random sampling method. From 13 villages of Sanathal PHC, 6 villages were selected randomly. From each village, 3 anganwadis were selected randomly, so total 18 anganwadis were selected for survey in rural areas to cover randomly 252 under-fives (42 under-fives were selected randomly from each anganwadi).

A list of mothers having children below 2 years of age was obtained from them. After obtaining the written consent of the study participants' mothers, an interview was conducted by performing house to house visit in the community. Information about younger children was collected if the mother had multiple children under the age of 2 years in the family.

A predesigned, pretested, semi-structured questionnaire was used to study the Socio demographic details along with antenatal care of mothers of studied under-fives were taken. Information regarding anthropometric measurement (height, weight) was taken. Birth history was taken along with the duration of breast feeding of the children which is gathered based on memory recall method. Age and immunization status of children was assessed by immunization card or history of immunization during the interview and examination for BCG mark. History of cough, fever, diarrhea, spell of illness, and history of treatment was asked.

Each child is weighed by using a 25-kg hanging spring scale marked out in steps of 0.1 kg. After weighing pants are attached to the lower hook of the scale, the instrument is adjusted to zero.

The child is weighed in minimum clothing after putting on the weighing pants.

For assessing height, infants and children under 24 months of age were measured in lying down position (supine). Children over 24 months of age have their heights measured while standing. An infantometer is used to measure the recumbent length.

Inclusion criteria

- (i) Mothers of the participants both urban and rural areas who gave consent to participate in the study.
- (ii) Children under 2 years of age who lived in the village for more than six months.

Exclusion criteria

- (iii) Children who had no parents/caregivers at the time of the survey.
- (iv) Children who were very ill/sick while study had been carried out.
- (v) Research participants who were not available even after three visits.

Statistical analysis

Analysis was done in Statistical Package for the Social Sciences version 21. Data management tools were utilized to avoid duplication and error in data entry. The quantitative data were presented in the form of frequency and proportions. Z-test and Chi-square test was used to test the significance. Z-score was used

to determine underweight, stunting, and wasting based on WHO Growth Standard-2006 using WHO Anthro 2005 software.

Results

Table 1 shows that out of 504 studied under-fives, in urban areas, 233 (92.5%) were started on breast feeding within 1 hr of birth as compared to 145 (57.5%) of rural under-five children. Nineteen (7.5%) in urban areas were started on breast feeding after 1 hr of birth as compared to 106 (42.5%) of rural under-five children. Out of the those 19 (7.5%) of under-five children in urban areas, 4.7%, 2.4%, and 0.4% were provided breast feeding within 1st, 2nd, and 3rd days, respectively, as compared to out of 106 (42.5%) of rural under-five children, 19.4%, 15%, and 8% were provided breast feeding within 1st, 2nd, and 3rd days, respectively. Overall, 305 (60.5%) of newborns were given pre-lacteal feeds out of 504 studied under-fives. In the urban areas, 142 (56.4%) of newborns were given pre-lacteal feeds compared to 163 (64.7%) of the rural area which is statistically significant, whereas 110 (43.6%) of newborns were not given pre-lacteal feeds in urban area compared to 89 (35.3%) in rural areas.

In the studied urban area, colostrums was discarded among 62 (24.6%) of under-five children compared to 88 (32.1%) in the rural area, whereas it was given among 190 (75.4%) in urban areas compared to 171 (67.9%) in rural areas. It shows that overall out of total 504 studied under-fives 388 (76.9%) practiced exclusive breastfeeding. Two hundred and eight (82.5%) of the mothers in urban areas practiced exclusive breast feeding compared to

Table 1: Information regarding breastfeeding of underfives in urban and rural areas of Ahmedabad district

Parameter	Urban	Rural	Total	P value
Breast feeding started within 1 hr				$\chi^2=81.037$
Yes	233 (92.5)	145 (57.5)	378 (75.0)	$P<0.00001$ (S)
No	19 (07.50)	106 (42.5)	125 (25.0)	df=1
Initiation of breast feeding				$\chi^2=83.39$
Immediate	233 (92.5)	145 (57.5)	378 (75.0)	$P<0.00001$ (S),
1 st day	12 (04.70)	49 (19.40)	61 (12.00)	df=3
2 nd day	06 (02.40)	38 (15.00)	44 (08.70)	
3 rd day	01 (00.40)	20 (08.00)	21 (04.20)	
Any pre-lacteal feed given				$\chi^2=92.26$
Yes	142 (56.4)	163 (64.7)	305 (60.5)	$P<0.00001$ (S)
No	110 (43.6)	89 (35.30)	199 (39.5)	df=1
Colostrums				$\chi^2=3.52$
Given	190 (75.4)	171 (67.9)	361 (71.6)	$P=0.06$ (NS),
Discarded	62 (24.60)	81 (32.10)	143 (28.4)	df=1
Type of breastfeeding				$\chi^2=8.7792$
Exclusive-yes	208 (82.5)	180 (71.4)	388 (76.9)	$P=0.00304$ (S)
Exclusive-no	44 (17.50)	72 (28.60)	116 (23.1)	df=1
Age when complementary feeding started				$\chi^2=7.82$
4-6 month	42 (16.7)	47 (18.60)	89 (17.60)	$P<0.01998$ (S)
6-12 month	189 (75.1)	165 (65.5)	354 (70.2)	df=2
>12 month	21 (08.20)	40 (15.80)	61 (12.20)	
Duration of breastfeed >2 years				$\chi^2=121.28$
Less than	61 (24.2)	179 (71)	240 (47.6)	$P<0.00001$ (S)
Upto	174 (69)	54 (23.4)	228 (45.2)	df=2
Continue	17 (6.70)	19 (7.50)	36 (07.20)	

180 (71.4%) in rural areas. Majority of the mothers, 189 (75.1%) in urban areas and 165 (65.5%) in rural areas, started giving complementary feeds to child after 6 months of age. Overall, 89 (17.6%) of mothers started complementary feeding before 6 months of age of which 42 (16.7%) were in urban areas compared to 47 (18.6%) in rural areas. No difference is observed here. Twenty one (8.2%) of mothers started complementary feeding after 12 months of age in urban areas compared to 40 (15.8%) in rural areas.

Out of 504 studied under-fives, 240 (47.6%) were breast fed for less than 2 years of which 61 (24.2%) were in urban areas compared to 179 (71%) in rural areas. Two hundred twenty-eight (45.2%) were breast fed up to 2 years of which 174 (69%) were in urban areas compared to 54 (23.4%) in rural areas. Overall 36 (7.2%) were continued even after 2 years of which 17 (6.7%) were in urban areas compared to 19 (7.5%) in rural areas.

Figure 1 shows that half of the under five children were provided jaggery as pre lacteal feed both in urban (45%) and rural (53%) areas followed by honey 26% in urban and 20% in rural area, patasa water 19% in urban and 23% in rural area, and other milk 10% in urban and 4% in rural area.

Figure 2 shows that among urban areas the most common reason in the present study for providing pre-lacteal feeds was due to family customs (55%) followed by their belief that it leads us to help in removal of meconium from gut (22%) followed by as advised from their relatives (23%) as compared to in rural area was their belief that it leads us to help in removal of meconium from gut (52%) followed by family customs (31%) and advise from relatives (17%).

Figure 3 shows that in urban areas the most common reason for late initiation of breast feeding was mother not well (42%) followed by delivery by cesarean section (32%), less or no milk secretion (7%), baby in NICU (5%), and due to family restrictions (4%), respectively. In rural areas the most common reason for late initiation of breast feeding was delivery by cesarean section (43%), followed by due to family restrictions and various customs (24%), baby in NICU (17%), mother not well (14%), and less or no milk secretion (2%), respectively.

Table 2 shows that in urban areas 222 (88.1%) under-five children were hospitalized and 29 (11.5%) were never hospitalized as compared to in rural areas 108 (42.8%) were hospitalized and 143 (56.7%) were never hospitalized ($P < 0.05$). In urban areas out of the total 222 children ever hospitalized, 158 (71.3%) were hospitalized due to infection followed by 37 (16.8%) under gone surgery and 27 (11.9%) due to injury compared to rural areas where out of 108, almost the same number was hospitalized due to infection 42 (38.9%) and surgery 42 (38.8%) followed by injury 24 (22.3%) ($P < 0.05$).

In urban areas, out of the total 222 under-five children ever hospitalized, 99 (39.3%) had treatment in Government hospitals,

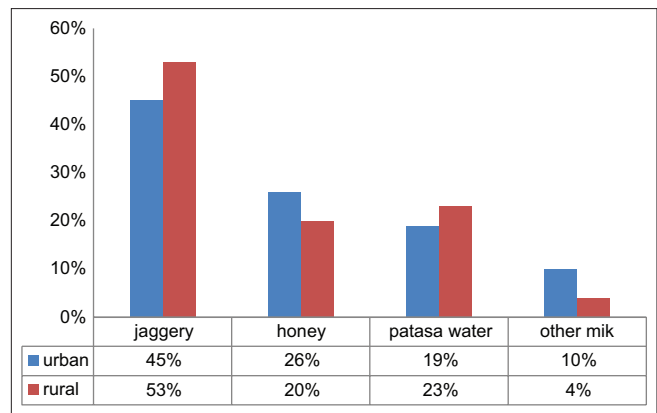


Figure 1: Distribution of studied under-fives according to the type of pre lacteal feed given in urban and rural area of Ahmedabad district

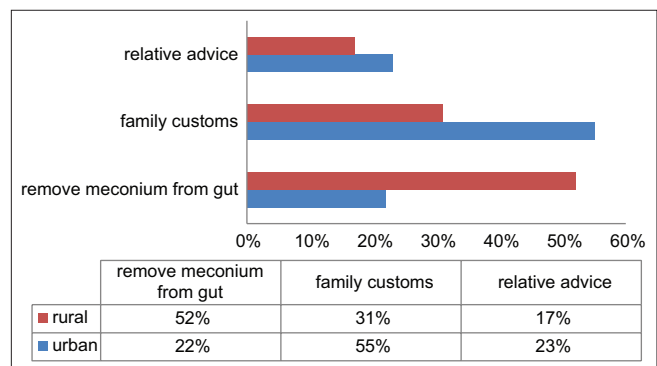


Figure 2: Distribution of studied under-fives according to the reason for pre lacteal feed practices among urban and rural area of Ahmedabad district

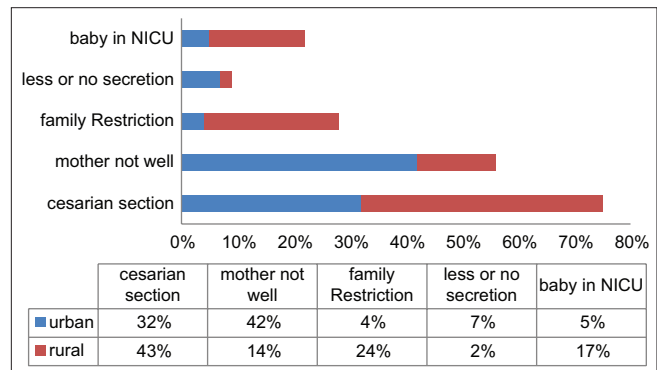


Figure 3: Distribution of studied under-fives according to the reason for late initiation of breast feeding among urban and rural area of Ahmedabad district

146 (57.9%) in private hospitals, 5 (1.9%) in trust, and 2 (0.8%) had taken no treatment compared to rural area where out of 108 under-five children ever hospitalized, 208 (82.54%) had treatment in Government hospitals, 30 (11.9%) in private hospitals, 1 (0.4%) in trust, and 13 (5.16%) had taken no treatment ($P < 0.00001$).

In urban areas, 165 (65.4%) preferred allopathic treatment followed by 45 (17.86%) household and 40 (15.8%) homeopathic/

Table 2: Information regarding illness among under-fives in urban and rural areas of Ahmedabad district

	Urban [n=252]	Rural [n=252]	P
Is child ever hospitalized			$\chi^2=114.94$, $P<0.0001$ (S), df=1
Yes	222 (88.1)	108 (42.8)	
No	29 (11.50)	143 (56.7)	
Cause of hospitalization	Out of 222	Out of 108	
Infection	158 (71.3)	42 (38.9)	$\chi^2=32.2384$, $P<0.0001$ (S), df=2
Injury	27 (11.90)	24 (22.3)	
Surgery	37 (16.80)	42 (38.8)	
Duration of hospitalization	Out of 222	Out of 108	$\chi^2=59.7536$, $P<0.0001$ (S), df=2
<3 days	79 (35.6)	08 (7.40)	
3-7 days	67 (30.2)	68 (62.9)	
>7 days	12 (5.40)	32 (29.7)	
Place where treatment taken	[n=252]	[n=252]	$\chi^2=125.888$, $P<0.0001$ (S), df=3
Government	99 (39.30)	208 (82.5)	
Private	146 (57.9)	30 (11.9)	
Trust	05 (1.90)	01 (0.40)	
Not taken treatment	02 (0.80)	13 (5.16)	
Type of treatment preferred	[n=252]	[n=252]	$\chi^2=7.67$, $P=0.0215$ (S), df=2
Household	45 (17.86)	71 (28.17)	
Allopathic	165 (65.4)	150 (59.5)	
Homeopathic/aryurvedic	40 (15.80)	31 (12.3)	

*Figures in parenthesis denote percentages

Table 3: Acute illness among studied under-fives in urban and rural area of Ahmedabad district

	Urban [n=252]	Rural [n=252]	P
Acute illness			$\chi^2=42.2726$, $P<0.00001$ (S), df=1
Present	166 (66.7)	228 (90.5)	
Absent	83 (33.30)	24 (9.500)	
Continue treatment	Out of 166	Out of 228	$\chi^2=111.79$, $P<0.00001$ (S), df=1
Yes	84 (50.60)	219 (96.1)	
No	82 (49.40)	09 (3.900)	

*Figures in parenthesis denote percentages

aryurvedic as compared to rural areas 150 (59.5%) preferred allopathic treatment followed by 71 (28.17%) household and 31 (12.3%) homeopathic/aryurvedic treatment ($P < 0.05$).

Table 3 shows that in urban areas, acute illness was present among 166 (66.7%) under five children at the time of study compared to 228 (90.5%) in rural area ($P < 0.00001$). Out of those having acute illness in urban (n = 166), 84 (50.6%) were continued on treatment followed by 82 (49.4%) not on treatment compared to rural area (=228), and 219 (96.1%) were continued on treatment followed by 9 (3.9%) not on treatment ($P < 0.05$).

Table 4 shows that in urban areas chronic illness was present among 129 (51.2%) under-five children, out of which 100 (77.5%) were undernourished compared to rural area, 166 (65.8%) were chronic ill, and out of which 128 (77.1%) were undernourished. Chronic illness was absent among 123 (48.8%) in urban areas and 86 (34.2%) in rural areas ($P < 0.05$). Out of those with chronic illness (n = 129) in urban areas, 105 (81.4%) were continued on treatment and 24 (18.6%) not on treatment. In rural areas, out of those with chronic illness (n = 166), 154 (92.7%) were continued on treatment and 12 (7.3%) not on treatment ($P < 0.05$). Out of

those with chronic illness (n = 129) in urban areas, 53 (41.1%) had fever, 46 (35.6%) had common cold, 15 (11.6%) had cough, 9 (6.9%) diarrhea, and 6 (4.6%) headache. Out of those with chronic illness (n = 166) in rural areas, 65 (39.2%) had fever, 56 (33.7%) had common cold, 20 (12.1%) had cough, 13 (7.8%) diarrhea, and 12 (7.2%) headache.

Discussion

According to NFHS-5 report (2019-2021),^[2] 57% of the newborns received pre-lacteal feed. The result was similar to the present study [Table 1] in the urban area 56.4%. In rural areas, it is 64.7% which is more than NFHS-5 report and mothers in both urban and rural areas require awareness and constant motivation of mothers by anganwadi workers. In the present study [Table 1], it was observed that out of 504 studied under-fives, in urban 92.5% were started breast feeding within 1 hr of birth as compared to 57.5% in rural area. 7.5% under-fives in urban area were started on breast feeding after 1 hr of birth as compared to 42.5% of rural under-five children. According to IYCF (2016)^[6] guidelines, Government of India recommends that initiation of breast feeding should begin immediately after birth, preferably within one hour. As per the data in NFHS-5^[8] report, breast feeding was initiated within one hour in 30.3% in urban region of India. Colostrum was given among 75.4% of under-fives in urban areas compared to 67.9% of under-fives in rural areas. 82.5% of the mothers in urban areas practiced exclusive breast feeding compared to 71.4% of mothers in rural areas. Majority of the mothers 75.1% in urban areas and 65.5% in rural areas started giving complementary feeds to child after 6 months of age. Out of 504 studied under-fives, 47.6% were breast fed for less than 2 years of which 24.2% were in urban areas compared to 71% in rural areas. One hundred twelve lactating mothers

Table 4: Chronic illness among studied under-fives in urban and rural area of Ahmedabad district

	Urban [n=252]		Rural [n=252]		P
Chronic illness					$\chi^2=11.19$
Present	129 (51.2)		166 (65.8)		$P=0.00082$ (S)
	Under-N	Normal	Under-N	Normal	df=1
	100 (77.5)	29 (22.4)	128 (77.1)	38 (22.9)	
Absent	123 (48.8)		86 (34.2)		
Continue Treatment	Out of 129		Out of 166		
Yes	105 (81.4)		154 (92.7)		$\chi^2=8.7675$
No	24 (18.60)		12 (7.30)		$P=0.003066$ (S)
Type of illness					df=1
Fever	53 (41.1)		65 (39.2)		$\chi^2=1.0176$
Common cold	46 (35.6)		56 (33.7)		$P=0.907$ (NS),
Cough	15 (11.6)		20 (12.1)		df=4
Diarrhea	09 (6.90)		13 (7.80)		
Headache	06 (4.60)		12 (7.20)		

*Figures in parenthesis denote percentage

were included in the study.^[9] Majority of subjects 86 (76.7%) were in the age group 21-30 years. About 43 (38.4%) lactating mother initiated breast feeding practices within 1 hour after the delivery. 63.4% of the infants received exclusive breast feeding. Lactation failure 40% and unsatisfactory growth of baby 50% were the main reasons for early weaning. The most common cause of delay in initiation in breast was caesarian section and delivery complication (53.12% and 21.88%, respectively). Only 27 (24.1%) babies were given pre-lacteal feed.^[10]

The present study [Figure 1] shows that half of the under five children were provided jaggery as pre lacteal feed both in urban (45%) and rural (53%) followed by honey 26% in urban and 20% in rural area, patasa water 19% in urban, and 23% in rural area. In our study, other milk was given in 10% of urban under-fives compared to 4% in under-fives of rural areas [Figure 1] which was less than the study conducted by Kumar D *et al.* (2006),^[10-12] in which 40% of the newborns were given pre-lacteal feed and majority 64.85% had been given cow's milk. 78.28% show initiation of breastfeeding within 6 hours of delivery. 51.51% mothers breastfeed child whenever they cry and 35.35% breastfeed every 2 hourly. Exclusive breastfeeding was practiced by 58.58% mothers and 64.15% mothers gave first breast milk to their newborns.^[12]

The present study [Figure 2] shows that in urban areas the most common reason for providing pre-lacteal feeds was due to family customs (55%) followed by their belief that it leads us to help in removal of meconium from gut (22%) followed by as advised from their relatives (23%) as compared to in rural areas where there was belief that it leads to help in removal of meconium from gut (52%) followed by family customs (31%) and advise from relatives (17%).

In the present study, out of the total 222 children ever hospitalized, 39.3% had treatment in Government hospitals, 57.9% in private hospitals, 1.9% in trust, and 2 (0.8%) had taken no treatment in urban area [Table 2] compared to rural

area where out of 108, 82.54% had treatment in Government hospitals, 11.9% in private hospitals, 0.4% in trust, and 5.16% had taken no treatment. In urban areas, 65.4% preferred allopathic treatment compared to rural area where 59.5% preferred allopathic treatment which was less in rural areas. Study by Singh A, *et al*^[12,13] found preference for allopathic treatment to be 78.1%. In the present study, in urban areas, acute illness was present among 66.7% under five children at the time of study compared to 90.5% in rural areas. Out of those having acute illness in urban areas, 50.6% were continued on treatment compared to rural area where 96.1% were continued on treatment [Table 3]. Age of the child, birth weight, timely feeding, and episodes of diarrheal illnesses had a statistically significant effect on monthly weight gain. Feeding breast milk only proved advantageous for males.^[11,14,15]

In the present study, in urban areas, chronic illness was present among 51.2% under-five children, out of which 77.5% were undernourished in urban areas compared to rural areas in whom chronic illness was present among 65.8% children, out of which 77.1% were undernourished. Out of those with chronic illness in urban areas, 81.4% were continued on treatment compared to rural areas in which 92.7% were continued on treatment. Out of those with chronic illness in urban areas, 41.1% had fever, 35.6% had common cold, 11.6% had cough, 6.9% diarrhoea, and 4.6% headache compared to in rural areas, 39.2% had fever, 33.7% had common cold, 12.1% had cough, 7.8% diarrhoea, and 7.2% headache^[16-18] [Table 4]. This may be due to the reason that majority of under-fives belong to low socioeconomic groups. So occurrence of chronic illness was more in both urban and rural areas. It may be one of the important reasons for finding under nutrition among urban and rural under-fives. Under nutrition and illness has a vicious cycle. One initiates the other and vice-versa.

Conclusion and Recommendation

This study based on available literature shows that the Practices of breast-feeding is almost universal in India. However, many

of the breast-feeding and weaning practices being followed are not conducive to the proper growth of the child. This study shows that initiation of breast-feeding is generally delayed and that colostrum is discarded and the mode of pre-lactation feeding is generally unhygienic due to which the most common cause of hospitalization among under-fives is infection. Late initiation of breast feeding, giving pre-lacteal feeds, and delaying of complementary feeds which should ideally be started around 6 months of age is significantly associated with acute and chronic illness among studied under-fives. This is more significant in rural areas compared to urban areas.

This shows the need of constant motivation and awareness among studied under-five mothers to discourage pre-lacteal feeding practices.

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Conflicts of interest

There are no conflicts of interest.

References

1. Cacayan EB, Alingog MT, Mangaoil RM. Satisfaction level among obstetric clients to the delivery of Basic Emergency Obstetric and Newborn Care Services. *Health Notions*. 2020;4:324-32. doi: 10.33846/hn41003.
2. WHO. Planning Guide for national implementation of the Global Strategy for Infant and Young Child Feeding. WHO; 2007. p. 1-46.
3. Health P, Alemu A, Eshete A. Newborn care practices and associated factors among lactating mothers at home in the rural districts of Gedeo zone, Southern Ethiopia. *Pediatric Health Med Ther* 2020;11:47-54.
4. Mesman J, Basweti N, Misati J. Sensitive infant caregiving among the rural Gusii in Kenya. *Attach Hum Dev* 2021;23:124-33.
5. Owor MO, Matovu JKB, Murokora D, Wanyenze RK, Waiswa P. Factors associated with adoption of beneficial newborn care practices in rural Eastern Uganda: A cross-sectional study. *BMC Pregnancy Childbirth* 2016;16:83.
6. Improving Child Nutrition. The achievable imperative for global progress. New York: United Nations Children's Fund (UNICEF); 2013. Available from: www.unicef.org/.
7. Federal ministry of health FHD. National Strategy for Child Survival in Ethiopia 2015/16-2019/20 Maternal. *Magzine Artic* 2016; (June 2015):1-74.
8. National Family Health Survey 5, India (2019-21); Demographic and Health Surveys (2019) Nigeria Standard DHS Survey.
9. Rathaur VK, Pathania M, Pannu C, Jain A, Dhar M, Pathania N, *et al*. Prevalent infant feeding practices among the mothers presenting at a tertiary care hospital in Garhwal Himalayan region, Uttarakhand, India. *J Family Med Prim Care* 2018;7:45-52.
10. Kulkarni RR, Anjenaya S, Gujarv R. Breastfeeding practices in an urban community of Kalamboli, Navi Mumbai. *Indian J Community Med* 2004;29:179-80.
11. Naaraayan SA, Priyadharishini D, Geetha R, Vengatesan A. Socioeconomic determinants of breastfeeding practices in South India-A hospital-based cross-sectional study. *Indian J Child Health* 2018;5:50-3.
12. Kumar D, Agarwal N, Swami H.M. Socio-demographic correlates of breastfeeding in urban slums of Chandigarh. *Indian J Med Sci* 2006;60:461-6.
13. Singh A, Arora AK. The changing profile of pregnant women and quality of antenatal care in rural North India. *Indian J Community Med* 2017;32:135-6.
14. UNICEF. Infant and young child feeding data. Available from: <https://data.unicef.org/topic/nutrition/infant-andyoung-child-feeding>. [Last accessed on 2021 Aug 21].
15. Tiwari S, Bharadva K, Yadav B, Malik S, Gangal P, Banapurmath CR, *et al*. Infant and young child feeding guidelines, 2016. *Indian Pediatr* 2016;53:703-13.
16. Mise PJ, Mise AJ, Mise SJ, Siddappa M. Study of breastfeeding practices and problems among postnatal mothers: A hospital based study. *Int J Reprod Contracept Obstet Gynecol* 2017;6:3343-6.
17. Junaid M, Patil S. Breastfeeding practices among lactating mothers of a rural area of central India: A cross-sectional study. *Int J Community Med Public Health* 2018;5:5242-5.
18. Lahiri A, Chakraborty A. Predictors of weight velocity in the first 6 months of life in a Rural block of West Bengal: A longitudinal study. *Indian J Community Med* 2019;44:92-6.