

# Infant and young child feeding (IYCF) practices and their determinants in two Urban districts of India

Satvik C. Bansal<sup>1</sup>, Rahul Odedra<sup>2</sup>, Kandarp Talati<sup>3</sup>, Vallaree A. Morgaonkar<sup>4</sup>, Mayur Shinde<sup>5</sup>, Somashekhar M. Nimbalkar<sup>6</sup>

<sup>1</sup>Department of Pediatrics, Gajra Raja Medical College, Gwalior, Madhya Pradesh, <sup>2</sup>Medical Officer, Department of Paediatrics, Pramukhswami Medical College, Bhaikaka University, Karamsad, Gujarat, <sup>3</sup>Department of Interdisciplinary Research, Foundation for Diffusion of Innovations, Vadodara, Gujarat, <sup>4</sup>Department of Pediatrics, Dinanath Manguehkar Hospital, Pune, Maharashtra, <sup>5</sup>Central Research Services, Bhaikaka University, Karamsad, Anand, Gujarat, <sup>6</sup>Professor and Head, Department of Paediatrics, Pramukhswami Medical College, Bhaikaka University, Karamsad, Gujarat, India

## ABSTRACT

**Introduction:** It is essential to maintain optimal nutrition during the early years of life when the growth rate is maximum. **Aims and Objectives:** Our study investigated the prevalence of various feeding practices. We also explored their association with different sociodemographic, biomedical variables, and childhood morbidity. **Methodology:** This was a cross-sectional community-based study. Data were collected through a questionnaire-based survey of mothers of school-going children aged 2–6 years in the districts of Anand and Vadodara, Gujarat. **Results:** A total of 367 mothers participated in the study. About 78% of the mothers did early initiation of breastfeeding within 1 h of birth, and 68% gave colostrum to the newborn. Around 30% of the mothers practiced bottle feeding, and 25% gave prelacteal feeds. Most mothers received good family support for breastfeeding (93.73%). On univariate analysis, we found the following associations of feeding practices—breastfeeding initiation with the gender of the baby ( $P$  value—0.006) and type of delivery ( $P$  value < 0.001); the duration of exclusive breastfeeding with the time difference between two deliveries ( $P$  value—0.027) and maternal age ( $P$  value—0.004); prelacteal feeds with the type of delivery ( $P$  value—0.034); feeding difficulty with the time difference between two deliveries ( $P$  value < 0.001) and breastfeeding at night with maternal education ( $P$  value—0.002). The time of the initiation of breastfeeding was associated with cough and cold episodes. No other association was found between breastfeeding variables and health indicators. **Conclusion:** Maternal age, maternal education, the time difference between two deliveries, the type of delivery, and gender of the baby were significantly associated with different Infant and Young Child Feeding (IYCF) practices. Identifying these factors might help in the development of strategies for optimizing feeding practices.

**Keywords:** Breastfeeding, India, infant and young child feeding, malnutrition

## Introduction

The early years of life when the growth rate is maximum is a very vulnerable time. Optimal nutrition practices during infancy

and early childhood can lay the foundation for children to achieve their total growth and development potential. However, early malnutrition can lead to long-lasting detrimental effects. Malnutrition is considered to be associated with nearly half of under-five mortality worldwide.<sup>[1]</sup>

The World Health Organisation (WHO) recognizes this considerable impact of early nutrition. It recommends exclusive breastfeeding for the first 6 months of life and the addition of

**Address for correspondence:** Dr. Satvik C. Bansal, Assistant Professor, Department of Pediatrics, Gajra Raja Medical College, Gwalior - 474 012, Madhya Pradesh, India. E-mail: drsatvikbansal@gmail.com

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complementary feeds from 6 months onward, with continued, breastfeeds till at least 2 years of age.<sup>[2]</sup> There is also stress given on the time of introduction, content, and consistency of complementary feeds, as all are critical for optimal early nutrition.

To promote global commitment and optimal feeding practices, the WHO, in association with the UNICEF, prepared a strategy called Infant and Young Child Feeding (IYCF), along with population-based indicators to assess the practices.<sup>[2]</sup>

The infant mortality and under-five mortality rates of India have reduced in the past decade. However, they are still high, with infant mortality being 41 and under-five mortality being 50 per 1,000 live births.<sup>[3]</sup> To further improve infant and child mortality in the country, it is essential to improve the feeding practices.<sup>[4-6]</sup> According to the recent National Family Health Survey (NFHS)-4 data, optimal feeding practices remain poor in the Indian population, with only 41.6% of the infants breastfed within 1 h of birth, 54.9% of the infants under 6 months exclusively breastfed, and a meager 9.6% of the children receiving adequate diet between 6 months and 2 years of age.<sup>[3]</sup>

There is a need for more data from India on nutrition practices and their associations. It will enable the primary caregivers to provide support and counseling to the parents in an effective manner. Still, it may also lead to region/country-specific modifications in the current feeding guidelines. In this study, we looked at the prevalence of various feeding practices in two urban districts of India. We further studied their association with various sociodemographic, biomedical variables, and childhood morbidity.

## Methodology

### Study design

This was a community-based cross-sectional observational descriptive study. The study was approved by the Institutional Ethics Committee of the Shree Krishna Hospital, a tertiary-care teaching hospital.

### Study setting

This study was conducted in two districts of Vadodara and Anand, in Gujarat, between April and October 2016. These districts are administratively subdivided into 12 and 8 talukas, respectively, with a total population of around 20 lakhs.

The schools catering to the primarily middle socioeconomic populations were selected. Both English medium and Gujarati medium schools were considered. Permission was first taken from the school authorities to question the mothers of children aged 2–6 years. The mothers were asked to complete a questionnaire-based survey of their feeding practices. All children with known non-nutritional congenital or acquired reasons (e.g., congenital heart diseases, cerebral palsy, genetic disorders, and tuberculosis) of failure to thrive were excluded.

### Study tool

The survey was designed to assess feeding practices during the first 2 years of life. We also collected information on specific baseline indicators and childhood morbidity. The data collected can be subdivided into four groups:

- (a) Sociodemographic variables: including maternal age, religion, maternal education, parity;
- (b) Biomedical variables: including single birth or twin birth, type of delivery, birth weight, the interval between the birth of two children;
- (c) Feeding practices: including early initiation of breastfeeding (within 1 h after birth), duration of exclusive breastfeeding, bottle feeding, prelacteal feeds during the first 3 days, night feeds, the child's last breastfeed;
- (d) Child health indicators including frequency of diarrhea and respiratory infections, their treatment taken, and frequency of hospital admissions.

### Sampling methodology

We used a bilingual (Gujarati and English languages) paper-based self-administered questionnaire. On the first day, the mothers were briefed about the study and were asked to return the filled response sheet the next day. Reminder calls were given to the mothers to ensure their response. Informed consent was taken from the participants.

### Analysis

Descriptive analysis was conducted for most variables such as frequency, percentage, or proportion. Univariate analysis was done to find any association between the observed feeding practices with childhood morbidity. We also analyzed the association between various sociodemographic variables and feeding practices. Significance was considered at a *P* value <0.05.

## Results

### Sociodemographic and biomedical variables

A total of 367 mothers participated in the study. The mean age of the mothers was found to be 30.16 (SD ± 3.99 years), and the mean age of the children was 44.79 months (SD ± 18.29 months). Most of the mothers were Hindu by religion (92.10%) and had received higher education than primary schooling (91.55%). Almost all the children were singleton pregnancies (97.51%), with more than half born through normal vaginal route (63.48%). The male:female ratio was 1.55:1. For details, refer to Table 1.

### Infant and young child feeding variables

A high percentage of mothers were found to initiate breastfeeding within 1 h of birth (77.67%; *n* = 285), of which 251 mothers (88.07%) gave colostrum to the newborn. Most of the mothers refused to give any prelacteal feeds in the first 3 days of life (75.75%) and bottle

Table 1: Sample demographic characteristics

Variables	n	Categories	Frequency (%)
Group	367	Karamsad	181 (49.32)
		Baroda	186 (50.68)
Religion	367	Hindu	338 (92.10)
		Muslim	15 (4.09)
		Christian	10 (2.72)
		Others	4 (1.09)
Education	367	Nursery	1 (0.27)
		Primary school	30 (8.17)
		Secondary school	77 (20.98)
		Higher secondary school	86 (23.43)
		Graduate	101 (27.52)
		Post graduate	60 (16.35)
		Others	12 (3.27)
Rest of children alive	338	Yes	332 (98.22)
		No	6 (1.78)
Gender	363	Male (boy)	221 (60.88)
		Female (girl)	142 (39.12)
Type of delivery	367	Normal	211 (57.49)
		Delivered with the help of tools	22 (5.99)
		Delivered through operation	134 (36.51)
Birth	361	Single	352 (97.51)
		Twins	9 (2.49)
Time difference between two deliveries	325	No previous child	128 (39.38)
		9-14 months	20 (6.15)
		15-24 months	25 (7.69)
		>24 months	152 (46.77)

feeds (69.48%). In the study group, most of the mothers received good family support for breastfeeding (93.73%). Only 45 mothers (12.26%) experienced some difficulty during feeds—for which more than half of them consulted a pediatrician (59.38%), followed by non-MBBS doctors (25.00%). For details, refer to Table 2.

### Association of feeding practices with biomedical and sociodemographic variables

The feeding practices that were considered included the initiation of breastfeeding, bottle feeds, giving colostrum, pre-lacteal feeds, exclusive breastfeeding, and difficulty during breastfeeding. We considered biomedical and sociodemographic variables with supposed impact on feeding practices—maternal age, maternal education, gender of the baby, type of delivery, and the time difference between two deliveries. On univariate analysis, we found that the breastfeeding initiation was significantly associated with the gender of the baby ( $P$  value=0.006) and type of delivery ( $P$  value < 0.001). We also observed that the duration of exclusive breastfeeding was associated with the time difference between the two deliveries ( $P$  value=0.027) and maternal age ( $P$  value=0.004). Other variables found associated with the feeding practices include the use of pre-lacteal feeds with the type of delivery, feeding difficulty with the time difference between two deliveries ( $P$  value < 0.001), and breastfeeding at night with the level of maternal education ( $P$  value=0.002).

### Association of feeding practices with childhood morbidity

Univariate analysis was done between the feeding practices and indicators of childhood morbidity. For feeding practices the following indicators were included—breastfeeding in the first hour, colostrum, initiation of breastfeeding, bottle feeds, pre-lacteal feeds, and exclusive breastfeeding. Similarly, episodes of diarrhea, cough/cold, fever, and hospital admissions were included as indicators of childhood mortality. We only found a significant association between the time of initiation of breastfeeding and cough/cold episodes ( $P$  value=0.039).

## Discussion

According to the recent National Family Health Survey-4 (NFHS) data, the percentage of children who were breastfed within 1 h of birth were 49.9 and 41.6% for the state of Gujarat and India.<sup>[3,7]</sup> The previous studies have also found less than ideal breastfeeding initiation rates in different parts of the country.<sup>[8,9]</sup> The higher percentage (77.66%) found in our study can be attributed to the demographic variations in the study population. However, it can also reflect an actual improvement in breastfeeding practices.

Multiple associations of early initiation of breastfeeding have been observed previously, common being—higher socioeconomic status, higher maternal education, maternal occupation, vaginal deliveries, and hospital deliveries.<sup>[10,11]</sup> In this study sample, we

**Table 2: Infant and young child feeding practices**

Variables	n	Categories	Frequency (%)
BF initiated within 1 h	367	Yes	285 (77.66)
		No	76 (20.71)
		I don't know	6 (1.63)
Colostrum given	285	Yes	251 (88.07)
		No	26 (9.12)
		I don't know	8 (2.81)
When was BF initiated?	76	Within 6 h	25 (32.89)
		7-12 h	16 (21.05)
		13-24 h	9 (11.84)
		24-48 h	10 (13.16)
		After 48 h	13 (17.11)
		Don't know	3 (3.95)
Was the child ever breastfed?	122	Yes	113 (92.62)
		No	9 (7.38)
Reasons of failure to initiate BF within 1 h	72	Doctors' advice	22 (30.56)
		Maternal ill health	26 (36.11)
		Childs ill health	11 (15.28)
		Others	13 (18.06)
Bottle feeding practiced	367	Yes	111 (30.25)
		No	255 (69.48)
		Don't know	1 (0.27)
Any fluid given in the first 3 days?	367	Yes	88 (23.98)
		No	278 (75.75)
		Don't know	1 (0.27)
Frequency of BF	117	6 times or less	26 (22.22)
		6-8 times	48 (41.03)
		8 times or more	43 (36.75)
Any difficulty during feeding?	367	Yes	45 (12.26)
		No	322 (87.74)
Whom did you contact?	32	Relatives	3 (9.38)
		Non-MBBS doctors	8 (25.00)
		Pediatrician	16 (50.00)
		SKH pediatrician	3 (9.38)
		Others	2 (6.25)
Family support during BF	367	Yes	344 (93.73)
		No	23 (6.27)
At what age did you stop BF at night?	367	Before 6 months	40 (10.90)
		During 6-12 months	140 (38.15)
		After 1 year (during 13-24 months)	126 (34.33)
		After 2 years	48 (13.08)
		Still	13 (3.54)

observed that breastfeeding initiation was associated with the type of delivery and gender of the baby. Cesarean section is one of the commonest reasons for delayed initiation of breastfeeding worldwide.<sup>[12,13]</sup> As after cesarean section, mothers may need to be monitored for several hours, usually separated from the baby. Interestingly, we observed that breastfeeding was initiated later than the first 6 h of life, predominantly more in the male babies. In our society, where there is still a preference for a male child, such a finding reflecting better care of female babies looks out of context. This finding can be specific to the region studied. Moreover, it can be a reflection of a large discrepancy in the number of males and females in the study sample. Further, there is some evidence that delayed initiation of breastfeeding is

associated with prelacteal feeds.<sup>[12]</sup> We also observed that giving of prelacteal feeds was more common following operative delivery.

A recent national survey data suggest low rates of exclusive breastfeeding in India and Gujarat (54.9 and 55.8%, respectively).<sup>[3,7]</sup> These numbers have improved in the past decade; however, they are still far from ideal. The previous Indian studies have shown wide variations in the rates of exclusive breastfeeding ranging from 16.5 to 85.6%.<sup>[14-19]</sup> In the present study, we observed that most of the mothers refused to give any prelacteal feeds (75.75%). Such wide variations can be explained by regional, cultural, educational, and socioeconomic differences between different study populations. Studies have shown that

socioeconomic status, maternal age, maternal education, and occupation, family size, gender of the baby, parity, proper antenatal care, hospital delivery, and breastfeeding counseling are to be associated with exclusive breastfeeding.<sup>[20,21]</sup>

We observed that older mothers (>30 years) are less likely to exclusively breastfeed than the younger ones (<30 years). This finding is supported by recent studies from Japan and Italy.<sup>[22,23]</sup> However, there are also studies suggesting that younger maternal age is associated with early cessation of exclusive breastfeeding<sup>[24,25]</sup> and favor older age for initiation of exclusive breastfeeding.<sup>[26,27]</sup> It is difficult to conclude the effect of maternal age on exclusive breastfeeding with different studies using different cut-offs for old maternal age. Moreover, the findings can be specific to the population studied.

On univariate analysis, we observed that the time difference between two deliveries was found to be significantly associated with exclusive breastfeeding and difficulty in breastfeeding. We observed better feeding practices when the duration was between 9 and 12 months. This finding reflects the gain in experience, knowledge, and confidence of the mothers in the subsequent deliveries. It is well-known that the gap between the two pregnancies lowers the risks in the latter pregnancy. Our study adds that it can also lead to better feeding practices.

Feeding bottles are the source of infection and interfere with breastfeeding, which further decreases the innate immunity of the baby. Common associations of bottle feeds include higher socioeconomic status, maternal employment, higher maternal education, urban residence, and higher media exposure.<sup>[28]</sup> The rate of bottle feeds in our study was 30.52% which is higher than that from the previous studies of the urban population.<sup>[19,29]</sup> This reflects an increasing prevalence of bottle feeds, probably secondary to its easy availability, ease of use, and lack of community awareness about its various harmful effects.

Some previous studies from the Southeast Asian region have found maternal education to be associated with appropriate feeding practices.<sup>[30,31]</sup> The data from India are more variable. Although many of the trials have shown a positive association between maternal education and breastfeeding practices, there are some data suggesting maternal education to be negatively associated with exclusive breastfeeding.<sup>[32]</sup> In our study, we found it negatively associated with nighttime feeds. This may again be a region-specific finding.

Family members and husbands can provide strong emotional and physical support to the new mother. Studies have shown a positive impact of supportive families on breastfeeding practices.<sup>[33-35]</sup> In our study, we observed that almost all the mothers felt supported by their families. The high rate of exclusive breastfeeding found in this study cohort can reflect it. However, the authors cannot rule out bias as this was a cross-sectional interview-based study.

It is well-established that optimal breastfeeding practices improve childhood morbidity and mortality.<sup>[36,37]</sup> However, we only observed a significant association between the time of initiation of breastfeeding and cough and cold episodes. This can be a reflection of the recall bias or a result of a small sample size.

## Conclusion

There are wide cultural, economic, and regional variations in the feeding practices. Maternal age, maternal education, the time difference between two deliveries, type of delivery, and gender of the baby were found to be significantly associated with some of the feeding practices in the two urban districts. Studies from different geographical regions and socioeconomic clusters are needed to help the policymakers formulate behavior change strategies and make region/country-specific modifications to the existing guidelines.

## Authors' contribution

Satvik Bansal designed the study, collected the data, wrote the paper, and approved the final manuscript. Somashekhar Nimbalkar conceived the study, designed the study, wrote the paper, and approved the final manuscript. Rahul Odedra collected data, wrote the first draft, gave inputs to the paper, and approved the final manuscript. Kandarp Talati designed the study, collected data, analyzed the data, wrote the first draft, and approved the final manuscript. Mayur Shinde designed the study, analyzed and interpreted the data, and approved the final manuscript. Vallaree Morgaonkar designed the study, gave important intellectual inputs to the manuscript and approved the final manuscript. Satvik Bansal will be the guarantor for the paper.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

## References

1. United Nations Children's Fund (UNICEF). Malnutrition. Available from: <https://data.unicef.org/topic/nutrition/malnutrition/>. [Last accessed on 2019 Aug 10].
2. World Health Organisation. Infant and Young Child Feeding. Model chapter for textbooks for medical students and allied health professionals. Available from: [https://apps.who.int/iris/bitstream/handle/10665/44117/9789241597494\\_eng](https://apps.who.int/iris/bitstream/handle/10665/44117/9789241597494_eng).



- pdf?ua=1. [Last accessed on 2019 Aug 10].
3. National Family Health Survey. India fact sheet. Available from: <http://rchiips.org/nfhs/pdf/NFHS4/India.pdf>. [Last accessed on 2019 Aug 11].
  4. Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M, Ezzati M, *et al.* Maternal and child undernutrition: Global and regional exposures and health consequences. *Lancet* 2008;371:243-60.
  5. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS. How many child deaths can we prevent this year? *Lancet* 2003;362:65-71.
  6. Edmond KM, Zandoh C, Quigley MA, Amenga-Etego S, Owusu-Agyei S, Kirkwood BR. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics* 2006;117:380-6.
  7. National Family Health Survey. Gujarat fact sheet. Available from: [http://rchiips.org/nfhs/pdf/NFHS4/GJ\\_FactSheet.pdf](http://rchiips.org/nfhs/pdf/NFHS4/GJ_FactSheet.pdf). [Last accessed on 2019 Aug 11].
  8. Kumar D, Goel NK, Mittal PC, Misra P. Influence of infant-feeding practices on nutritional status of under-five children. *Indian J Pediatr* 2006;73:417-21.
  9. Meshram II, Kodavanti MR, Chitty GR, Manchala R, Kumar S, Kakani SK. Influence of feeding practices and associated factors on the nutritional status of infants in rural areas of Madhya Pradesh state, India. *Asia Pac J Public Health* 2015;27:NP1345-61.
  10. Sultania P, Agrawal NR, Rani A, Dharel D, Charles R, Dudani R. Breastfeeding knowledge and behavior among women visiting a tertiary care center in India: A cross-sectional survey. *Ann Glob Health* 2019;85:64.
  11. Senanayake P, O'Connor E, Ogbo FA. National and rural-urban prevalence and determinants of early initiation of breastfeeding in India. *BMC Public Health* 2019;19:896.
  12. Patel A, Banerjee A, Kaletwad A. Factors associated with prelacteal feeding and timely initiation of breastfeeding in hospital-delivered infants in India. *J Hum Lact* 2013;29:572-78.
  13. Rowe-Murray HJ, Fisher JRW. Baby friendly hospital practices: Cesarean section is a persistent barrier to early initiation of breastfeeding. *Birth* 2002;29:124-31.
  14. Aggarwal A, Verma S, Faridi MMA. Complementary feeding—reasons for inappropriateness in timing, quantity and consistency. *Indian J Pediatr* 2008;75:49-53.
  15. Sethi V, Kashyap S, Seth V. Effect of nutrition education of mothers on infant feeding practices. *Indian J Pediatr* 2003;70:463-6.
  16. Banapurmath R, Nagaraj MC, Banapurmath S, Kesaree N. Breastfeeding practices in villages of Central Karnataka. *Indian Pediatr* 1996;33:477-9.
  17. Das N, Chattopadhyay D, Chakraborty S, Dasgupta A. Infant and young child feeding perceptions and practices among mothers in a rural area of West Bengal, India. *Ann Med Health Sci Res* 2013;3:370-5.
  18. Nimbalkar AS, Shukla VV, Phatak AG, Nimbalkar SM. Newborn care practices and health seeking behavior in urban slums and villages of Anand, Gujarat. *Indian Pediatr* 2013;50:408-10.
  19. Patel DV, Bansal SC, Nimbalkar AS, Phatak AG, Nimbalkar SM, Desai RG. Breastfeeding practices, demographic variables, and their association with morbidities in children. *Adv Prev Med* 2015;2015:892825. doi: 10.1155/2015/892825.
  20. Panigrahi A, Sharma D. Exclusive breast feeding practice and its determinants among mothers of children aged 6-12 months living in slum areas of Bhubaneswar, eastern India. *Clin Epidemiol Glob Health* 2019;7:424-8.
  21. Bhandari DJ, Pandya YP, Sharma DB. Barriers to exclusive breastfeeding in rural community of central Gujarat, India. *J Fam Med Prim Care* 2019;8:54-61.
  22. Colombo L, Crippa BL, Consonni D, Bettinelli ME, Agosti V, Mangino G, *et al.* Breastfeeding determinants in healthy term newborns. *Nutrients* 2018;10:48.
  23. Kitano N, Nomura K, Kido M, Murakami K, Ohkubo T, Ueno M, *et al.* Combined effects of maternal age and parity on successful initiation of exclusive breastfeeding. *Prev Med Rep* 2015;3:121-6.
  24. Ludvigsson, JF, Ludvigsson, J. Socioeconomic determinants, maternal smoking and coffee consumption, and exclusive breastfeeding in 10,205 children. *Acta Paediatr* 2005;94:1310-19.
  25. Amin T, Hablas H, Qader AAI. Determinants of initiation and exclusivity of breastfeeding in Al Hassa, Saudi Arabia. *Breastfeed Med* 2011;6:59-68.
  26. Forde KA, Miller LJ. 2006-07 north metropolitan Perth breastfeeding cohort study: How long are mothers breastfeeding? *Breastfeed Rev* 2010;18:14-24.
  27. Lande B, Andersen LF, Baerug A, Trygg KU, Lund-Larsen K, Veierød MB, *et al.* Infant feeding practices and associated factors in the first six months of life: The Norwegian infant nutrition survey. *Acta paediatr* 2003;92:152-61.
  28. Patel A, Badhoniya N, Khadse S, Senarath U, Agho KE, Dibley MJ, *et al.* Infant and young child feeding indicators and determinants of poor feeding practices in India: Secondary data analysis of National Family Health Survey 2005-2006. *Food Nutr Bull* 2010;31:314-33.
  29. Bhosale NA, Deshpande SG, Zodepy SP, Jog SN, Vasudeo ND. Infant feeding practices in urban population—a clinic based study. *Indian J Med Sci* 1997;51:396-9.
  30. Khan GN, Ariff S, Khan U, Habib A, Umer M, Suhag Z, *et al.* Determinants of infant and young child feeding practices by mothers in two rural districts of Sindh, Pakistan: A cross-sectional survey. *Int Breastfeed J* 2017;12:1-8.
  31. Subedi, N.; Paudel, S.; Rana, T.; Poudyal, A. Infant and young child feeding practices in Chepang communities. *J Nepal Health Res Counc* 2012;10:141-6.
  32. Dhami MV, Ogbo FA, Akombi-Inyang BJ, Torome R, Agho KE. Understanding the enablers and barriers to appropriate infants and young child feeding practices in India: A systematic review. *Nutrients* 2021;13:825. doi: 10.3390/nu13030825.
  33. Martin SL, McCannJK, Gascoigne E, Allotey D, Fundira D, Dickin KL. Mixed-methods systematic review of behavioral interventions in low-and middle-income countries to increase family support for maternal, infant, and young child nutrition during the first 1000 days. *Curr Dev Nutr* 2020;4:nzaa085.
  34. Athavale P, Hoeft K, Dalal RM, Bondre AP, Mukherjee P, Sokal-Gutierrez K. A qualitative assessment of barriers and facilitators to implementing recommended infant nutrition practices in Mumbai, India. *J Health Popul Nutr* 2020;39:1-12.
  35. Ogbo FA, Akombi BJ, Ahmed KY, Rwabilimbo AG, Ogbo AO, Uwaibi NE, *et al.* Breastfeeding in the community—How can partners/fathers help? A systematic review. *Int J Environ Res Public Health* 2020;17:413.
  36. Lamberti LM, Walker CL, Noiman A, Victora C, Black RE.

- Breastfeeding and the risk for diarrhea morbidity and mortality. *BMC Public Health* 2011;11(Suppl 3):S15.
37. Sankar MJ, Sinha B, Chowdhury R, Bhandari N, Taneja S, Martines J, *et al.* Optimal breastfeeding practices and infant and child mortality: A systematic review and meta-analysis *Acta Paediatr* 2015;104:3-13..