

## ORIGINAL ARTICLE

# Cross Sectional Study on Breast Feeding Practices among Infants Aged Up to 6 Months in Rural Population

MUHAMMAD AZAM<sup>1</sup>, AHSAN AYUB<sup>2</sup>, MUHAMMAD ASLAM SHAIKH<sup>3</sup>, HAMMAD UR REHMAN BHATTI<sup>4</sup>, AFTAB RABBANI<sup>5</sup>

<sup>1</sup>Assistant Professor of Medicine, M. Islam Medical and Dental College Gujranwala

<sup>2,4</sup>Associate Professor of Medicine, Islam Medical and Dental College Sialkot

<sup>3</sup>Demonstrator, Hazrat Bari Sarkar (H.B.S) Medical & Dental College, Islamabad

<sup>5</sup>MBBS MRCP, Associate Professor, Department of Medicine, Sharif Medical College, Lahore

Corresponding author: Dr Muhammad Azam, Email: [azam5411@hotmail.com](mailto:azam5411@hotmail.com), Mobile: 0336 3302525

## ABSTRACT

**Background & Objectives:** According to the Global Public Health Recommendation, infants should only be breastfed for the first six months of life for optimal growth, development and health. The WHO recommends that breastfeeding must be started early (i.e., within one hour of birth). Early breastfeeding within 1 hour and exclusive breastfeeding for the first 6 months are key interventions to reduce malnutrition and infant mortality. Therefore, this study was conducted to investigate the prevalence of breastfeeding practices including onset time, colostrum feeding, pre-lactation and only breastfeeding (EBF) in infants (up to 6 months) in rural populations.

**Methodology:** A cross-sectional population study was conducted in the rural areas of Lahore division for six-months duration from July 2021 to December 2021. 360 children were selected for the interview, but only the mothers of 320 children gave consent. The study was conducted on a door-to-door basis using a partially structured, predefined and pre-tested questionnaire with informed consent.

**Results:** The study included 320 infants up to 6 months of age, mainly boys 170 (53.1%). The mothers of the 152 infants (47.5%) who participated in the study were 25-39 years old, followed by 168 (52.5%) infants' mothers in the 20-24 age group. The results show that 72 (22.5%) mothers are illiterate. According to occupation, the most of the mothers were housewives (75.9%). 54(16.9%) infants started breastfeeding early (i.e., within 1 hour after birth). 298 infants received a form of pre-lacteal feeding than colostrum, contrary to the concept of exclusive breastfeeding, and surprisingly, Honey (previous documented information indicates that Ghutti was the most common (40.1%), followed by tea (30.2%). Only 113 (35.3%) children received colostrum and only 43(13.4%) were fed exclusively on their mother's milk.

**Conclusion:** Early onset and exclusive breastfeeding, colostrum and pre-lactation feeding are not being applied to the desired level; We want to promote it through maternity institutions by providing the mother with appropriate counselling during prenatal visits, educating health professionals and the environment.

**Key words:** colostrum, Pre lacteal feed and exclusive breast feeding (EBF).

## INTRODUCTION

According to a group of articles on child survival published on LANCET, exclusive breastfeeding in the first 6 months of life has been identified as one of the key interventions to reduce child mortality<sup>1-2</sup>. Optimal Nutrition Practices for Infants and Toddlers (IYCF) are essential for nutritional status, growth, development and health<sup>3</sup>. Breast milk is an important source of energy for infants and provides resistance to disease and a reduction in mortality. Exclusive breast milk for six months is an essential component of the growth and development of the baby<sup>4-5</sup>. The World Health Organization (WHO) recommends starting breastfeeding early (i.e., within the first hour after birth). Early breastfeeding within 1 hour and exclusive breastfeeding for the first 6 months are key interventions to reduce malnutrition and infant mortality<sup>6</sup>. To focus the attention of planners, policymakers, administrators, social and health scientists on a variety of issues, WHO proposed a World Health Day theme in 2003: "Healthy Environment for Children" and "Make every mother and child count" in 2005. NFHS-III data shows that breastfeeding initiation within 1 hour is only 24.5%, while the exclusive breastfeeding rate for children under 6 months of age is only 46.4%<sup>7-8</sup>. Breastfeeding is one of the most important factors for a baby's survival, the birthing interval and the prevention of childhood infections. Many studies have

emphasized the importance of breastfeeding. The importance of feeding exclusively with mother's milk and the immunological and nutritional values of mother's milk were revealed<sup>9-10</sup>. Therefore, this study was conducted to investigate the prevalence of breastfeeding practices including onset time, colostrum feeding, pre-lactation and Exclusive breastfeeding (EBF) in infants (up to 6 months) in rural populations.

## MATERIAL AND METHODS

A cross-sectional population study was conducted in the rural areas of Lahore division for six-months duration from July 2021 to December 2021. 360 children were selected for the interview, but only the mothers of 320 children gave consent. After obtaining approval from the institutional ethics committee, all these infants were selected for an interview. The study was conducted door-to-door among <6 months of age children using a pre-tested, predefined, semi-structured questionnaire. To avoid bias regarding the history of breastfeeding practices, we included infants up to 6 months of age. The terms and definitions related to the nutritional practices of infants and young children follow the National Guidelines for the Nutrition of Infants and Toddlers, 2nd Edition (2006) and the IMNCI. Children over 6 months of age and mothers of the remaining children who did not consent were excluded from the study. The data

was entered into MS Excel 2007 and the results were analysed as a percentage.

## RESULTS

The study included 320 infants up to 6 months of age, mainly boys 170 (53.1%). The mothers of the 152 infants (47.5%) who participated in the study were 25-39 years old, followed by 168 (52.5%) infants' mothers in the 20-24 age group.

Table 1: Dispersion of the studied infants conferring to time of start of breast feeding

S. N.	Initiation of breast feeding	No. of infants (%)
1	Within 1 hr	54(16.9%)
2	1-6 hrs	141(44.1%)
3	>6 hrs	125(39.0%)
Total		320(100%)

The results show that 72 (22.5%) mothers are illiterate. According to occupation, the scenario was dominated by housewives (75.9%). An interview schedule comprising different socio-economic aspects was devised in order to determine the socio-economic status; 58 infants (18.1%) were in class I, 46 (14.4%) in class II, 79 (24.7%) in class III, class IV 68 (21.3%) and 69 (21.5%) were in class V.

Table 1 shows that 54(16.9%) infants started breastfeeding early (i.e., within 1 hour after birth). pre-lacteal feeding was used in 74.7% of infants (Table 2).

Table 2: Dispersion of the studied infants conferring to practice of giving pre-lacteal feeds

S. N.	Pre-lacteal feeds	No. of infants (%)
1	Yes	239(74.7%)
2	No	81(25.3%)
Total		320(100%)

Table 3 presents some striking observations regarding pre-lacteal feeding. 298 infants received a form of pre-lacteal feeding than colostrum, contrary to the concept of exclusive breastfeeding, and surprisingly, Honey (previous documented information indicates that Ghutti was the most common (40.1%), followed by tea (30.2%).

Table 3: Dispersion of the studied infants conferring to type of pre-lacteal feed given

S. N.	Type of pre-lacteal feed	No. of infants (%)
1	Honey	121(40.1%)
2	Curd	49(16.4%)
3	Tea	90(30.2%)
4	Ghutti	28(9.4%)
5	Water	10(3.4%)
Total		298(100%)

Only 113 (35.3%) children received colostrum (Table 4).

Table 4: Dispersion of the studied infants conferring to infants based on Colostrums feed

S. N.	Colostrums feed	No. of infants (%)
1	Yes	113(35.3%)
2	No	207(64.7%)
Total		320(100%)

Table 5 shows the distribution of infants in the study by exclusive breastfeeding. The majority of infants, 231 (72.2%) who questioned the concept of EBF, received some form of improved nutrition even in the first 6 months. Only 43(13.4%) were fed exclusively on their mother's milk.

Table 5: Dispersion of the studied infants conferring to infants based on exclusive breast feed

S. N.	Exclusive breast feed	No. of infants (%)
1	Yes	43(13.4%)
2	No	277(86.6%)
Total		320(100%)

## DISCUSSION

The Government of Pakistan recommends that you start breastfeeding as soon as you are born, preferably within an hour<sup>11-12</sup>. In this study, only 16.9% were breastfed immediately after birth, which is close to the NFHS- data. However, in the NFHS-3 data from Pakistan, the onset of lactation within 1 hour in the urban area is 30.3%<sup>13-14</sup>. In a study by Kumar, breastfeeding within 1 hour was only 6.3%. In another Chatterjee study, 14.54% of new-borns started breastfeeding within 1 hour<sup>15</sup>. These differences may be due to the timing of the test, regional differences and sampling techniques. Ideally, nothing should be given to a baby until the age of 6 months, but pre-milk feeding is fine for a new-born due to misconceptions and culture<sup>16-17</sup>. It is one of the causes of infection in new-borns. Here, 93.1% of new-borns were fed before milking; this is higher compared to the NFHS data<sup>18</sup>. Colostrum is a natural protection of a child against childhood infections, especially in the first year of life. Due to people's misconception that it is contagious, they throw away the most valuable ingredient in breast milk. Indeed, all infants should receive colostrum, but here only 35.3% of infants received colostrum and 64.7% didn't receive it<sup>19-20</sup>. Similar results were observed by Devang R, in whom 63.1% of the mother excreted colostrum<sup>21</sup>. The Chatterjee study found that 96.4% of infants received colostrum with mixed results. In fact, an infant should be exclusively breastfed until the age of 6 months. In this study, only 43 (13.4%) of the 320 infants received only breast milk. Bela SD et al. showed that 59.1% of infants were exclusively breastfed<sup>22</sup>. Another study by Thakura N found that 32.5% of babies were exclusively breastfed<sup>23</sup>.

## CONCLUSION

Our study found that starting feeding early and feeding only breast milk, administering colostrum, and avoiding pre-lactation nutrition were not at the desired level; We want to promote it through maternity institutions by providing the mother with appropriate counselling during prenatal visits, educating health professionals and the environment. In resource-poor environments, prenatal breastfeeding education, along with other elements of primary neonatal care, can be provided by selected, highly qualified healthcare professionals.

## REFERENCES

1. Randhawa A, Chaudhary N, Gill BS, Singh A, Garg V, Balgir RS. A population-based cross-sectional study to determine the practices of breastfeeding among the lactating mothers

- of Patiala city. *Journal of family medicine and primary care*. 2019 Oct;8(10):3207.
2. Joseph FI, Earland J. A qualitative exploration of the sociocultural determinants of exclusive breastfeeding practices among rural mothers, North West Nigeria. *International breastfeeding journal*. 2019 Dec;14(1):1-1.
  3. Salim YM, Stones W. Determinants of exclusive breastfeeding in infants of six months and below in Malawi: a cross sectional study. *BMC pregnancy and childbirth*. 2020 Dec;20(1):1-8.
  4. Nigatu D, Azage M, Motbainor A. Effect of exclusive breastfeeding cessation time on childhood morbidity and adverse nutritional outcomes in Ethiopia: analysis of the demographic and health surveys. *PLoS One*. 2019 Oct 2;14(10):e0223379.
  5. Chipojola R, Lee GT, Chiu HY, Chang PC, Kuo SY. Determinants of breastfeeding practices among mothers in Malawi: a population-based survey. *International Health*. 2020 Mar;12(2):132-41.
  6. Belachew A. Timely initiation of breastfeeding and associated factors among mothers of infants age 0–6 months old in Bahir Dar City, Northwest, Ethiopia, 2017: a community based cross-sectional study. *International breastfeeding journal*. 2019 Dec;14(1):1-6.
  7. Aldana-Parra F, Vega GO, Fewtrell M. Associations between maternal BMI, breastfeeding practices and infant anthropometric status in Colombia; secondary analysis of ENSIN 2010. *BMC Public Health*. 2020 Dec;20(1):1-5.
  8. Le QN, Phung KL, Nguyen VT, Anders KL, Nguyen MN, Hoang DT, Bui TT, Nguyen VC, Thwaites GE, Simmons C, Baker S. Factors associated with a low prevalence of exclusive breastfeeding during hospital stay in urban and semi-rural areas of southern Vietnam. *International breastfeeding journal*. 2018 Dec;13(1):1-0.
  9. Ihudiebube-Splendor CN, Okafor CB, Anarado AN, Jisieike-Onuigbo NN, Chinweuba AU, Nwaneri AC, Arinze JC, Chikeme PC. Exclusive breastfeeding knowledge, intention to practice and predictors among primiparous women in Enugu South-East, Nigeria. *Journal of pregnancy*. 2019 Jan 3;2019.
  10. Ratnayake HE, Rowel D. Prevalence of exclusive breastfeeding and barriers for its continuation up to six months in Kandy district, Sri Lanka. *International Breastfeeding Journal*. 2018 Dec;13(1):1-8.
  11. Kalaivani A, Garg MD, Rao MS. Cross-sectional study of the breastfeeding practices among women delivering in a tertiary care hospital in Puducherry, India. *Int J Contemp Pediatr*. 2019 May;6(3):945.
  12. Ahmed AE, Salih OA. Determinants of the early initiation of breastfeeding in the Kingdom of Saudi Arabia. *International breastfeeding journal*. 2019 Dec;14(1):1-3.
  13. Rana MM, Islam MR, Karim MR, Islam AZ, Haque MA, Shahiduzzaman M, Hossain MG. Knowledge and practices of exclusive breastfeeding among mothers in rural areas of Rajshahi district in Bangladesh: A community clinic based study. *PLoS One*. 2020 May 8;15(5):e0232027.
  14. Talbert A, Jones C, Mataza C, Berkley JA, Mwangome M. Exclusive breastfeeding in first-time mothers in rural Kenya: a longitudinal observational study of feeding patterns in the first six months of life. *International breastfeeding journal*. 2020 Dec;15(1):1-9.
  15. Tewabe T. Prolactal feeding practices among mothers in Motta town, Northwest Ethiopia: a cross-sectional study. *Ethiopian Journal of Health Sciences*. 2018;28(4).
  16. Dede KS, Bras H. Exclusive breastfeeding patterns in Tanzania: Do individual, household, or community factors matter?. *International breastfeeding journal*. 2020 Dec;15(1):1-1.
  17. Bhandari DJ, Pandya YP, Sharma DB. Barriers to exclusive breastfeeding in rural community of central Gujarat, India. *Journal of family medicine and primary care*. 2019 Jan;8(1):54.
  18. Nkoka O, Ntenda PA, Kanje V, Milanzi EB, Arora A. Determinants of timely initiation of breast milk and exclusive breastfeeding in Malawi: a population-based cross-sectional study. *International breastfeeding journal*. 2019 Dec;14(1):1-9.
  19. Meshram II, Rao KM, Balakrishna N, Harikumar R, Arlappa N, Sreeramakrishna K, Laxmaiah A. Infant and young child feeding practices, sociodemographic factors and their association with nutritional status of children aged < 3 years in India: Findings of the National Nutrition Monitoring Bureau survey, 2011–2012. *Public health nutrition*. 2019 Jan;22(1):104-14.
  20. 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. *Annals of Global Health*. 2019;85(1).
  21. Woldeamanuel BT. Trends and factors associated to early initiation of breastfeeding, exclusive breastfeeding and duration of breastfeeding in Ethiopia: evidence from the Ethiopia demographic and health survey 2016. *International breastfeeding journal*. 2020 Dec;15(1):1-3.
  22. Chen J, Xin T, Gaoshan J, Li Q, Zou K, Tan S, Cheng Y, Liu Y, Chen J, Wang H, Mu Y. The association between work related factors and breastfeeding practices among Chinese working mothers: a mixed-method approach. *International breastfeeding journal*. 2019 Dec;14(1):1-3.
  23. Hossain M, Islam A, Kamarul T, Hossain G. Exclusive breastfeeding practice during first six months of an infant's life in Bangladesh: a country based cross-sectional study. *BMC pediatrics*. 2018 Dec;18(1):1-9.