

Colostrum feeding status in a selected rural area of Bangladesh

Abstract

Background: Colostrums feeding status was still poor in Bangladesh due to ignorance of family members. Thereafter growth faltering is a commonly observed phenomenon in developing countries after about 3 months of age.

Objective: The aim of this study was to assess colostrums feeding status in selected rural area.

Methods: It was a cross sectional observational study. A total of 400 subjects were estimated and mothers having child aged between 0-6 months of age were included in the study purposively. A pretested questionnaire was used to collect data.

Results: The mean (\pm SD) age of the respondents was 24.4 years. Majority (63%) of the mothers had given colostrums to their child and 37% refused it. About 66.1% mothers whose had first baby practiced colostrums more than being second time mother also had statistically significant association ($p < 0.05$). Majority 69.4% of mothers took health care services from public hospital given colostrums more than the mothers taken from private hospital and 73.7% non Muslims mothers practiced colostrums. Those variables had an association with colostrums feeding ($p < 0.05$).

Conclusion: Tradition with cultural belief among mothers and elder family members has an impact on colostrums feeding as well as maintenance of optimal breastfeeding practices.

Keywords: colostrum feeding, rural tradition, belief, ignorance

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Introduction

Colostrums, sometimes named first milk secreted immediately after parturition, is full of high nutrition, rich in proteins, carbohydrates, vitamin A and sodium chloride etc. Not only those, it also contain lower amounts of lipid and potassium than normal milk¹⁻³ ultimately it is helpful for physical and mental growth. In addition, another advantages to take colostrums is its laxative effect, which encourages passage of baby's first stool, meconium. This helps to prevent jaundice by clearing excess bilirubin which is produced in large quantities at birth. Moreover, it contains various immunoglobulin's like IgA (reactive to Escherichia coli virulence associated proteins)⁴ IgG and IgM.³ Lactoferrin, lysozyme, lactoperoxidase, complement and proline-rich peptide (PRP) are other immune components of colostrum. In a word it acts as a natural vaccine and ultimately reduces one of the leading causes of death in our country like diarrhoea and Acute Respiratory Infections (ARI).⁵

Despite of its high nutritious value, due to ignorance, this valuable resource is neglected and discarded. An in-depth interview conducted in Bangladesh in 2009, showed that main barrier for feeding Colostrum were that "it looked bad" including "grandmother advised not to give colostrum for infants". However, grandmothers were the major providers of information (28%) about proper infant feeding practices followed by doctors (24%) and other health personnel (17%).⁶ Many of mothers and also their family members have fear about yellow milk (colostrum). Not only that they also thought after discarding colostrums main milk is come out which should be given to baby as baby's feeding. On the contrary a study in Bangladesh revealed out of total 125 mothers as respondents 120 (96%) mothers fed their child colostrum while only 5(4%) mother didn't fed colostrums to their children.⁷ However, the time of colostrums giving in some area

of Bangladesh was higher (90%) than report from South Asia.⁸ This scenario also persist in Africa like Northern Ethiopia and majority refuse it.⁹ A study in India revealed that mothers were unaware about the time of initiation of breastfeeding and colostrum feeding.¹⁰ The aim of this study was to assess colostrum feeding status in selected rural area of Bangladesh.

Methodology

Study design: A cross sectional study was undertaken.

Study period: The study period was one year duration from July 2012 to June 2013 I appreciate it, but this was my academic research and I forgot to published. The study was started with protocol preparations and finished with final report submission.

Study population: Mothers having child aged between 0-6 months of age.

Study area: The study area was selected purposively. The study was conducted in a rural Nawabgonj Upazila located in the south-western outskirts of Dhaka districts which is the biggest than a located about 45kilometer away from city, approximately 3,18811 population size and total area is 60,493acres or 94.52sq mile. Most families obtained their income from job in abroad. There was a government primary health care centre, which offers antenatal care, immunization and pediatric out-patient services. Majority of the people got health care facilities from private hospital. While most deliveries occurred in private clinic, some deliveries occur at home attended by traditional birth attendant. Most different expanded programme of immunization EPI centre were selected for data collection. The informed consent of the subjects was obtained before data collection.

Sample size: A total of 400 subjects were estimated.

Sampling technique: Purposive sampling of total of 400 mothers was selected from the three union of Nawabgonj Upazilla in Dhaka district.

Data collection techniques: Face to face interview was used for data collection.

Data processing & analysis: All interviewed forms were reviewed and individual questionnaire were checked and cleaned to avoid any possible mistakes. After checking the completeness, coding was done. Data entry, incorrect and inappropriate data was removed [cleaning] editing and final analysis was done in SPSS version 15.0.

Ethical considerations

- Ethical guidance's of Diabetic Association of Bangladesh (BADAS) were followed throughout the study.
- Informed written consent was taken from every respondent after full explanation of the nature, purpose of the study.
- Voluntary participation, respondents and subjects were free to withdraw from the study at time they liked to do.

Results

Socio demographic characteristics of mothers are summarized in Table 1. The mean (\pm SD) age of the mothers was 24.4years. Majority (75.3 %) of the respondent were Muslim. Most (35%) of the respondents had good income 15000-25000 BDT per month. Level of education of mothers in percentages which correspond 23.5% at higher secondary level but majority (39.5%) of the mother had secondary level. Most (83.8%) of the respondents were housewives and a small portion (11.0%) were service holder. Many (63%) of the mothers had given colostrums to their child and 37% refused it. Among them 13.8% mothers reported that they tried to breastfeed to their child but there was no milk followed by caesarean section delivery (11.3%) was another cause to not to practiced colostrums (Table 2). Table 3 showed more 72 (66.1%) practiced colostrums whose age was in between 25-34years compare to mothers age group in 17-25years. 170 (66.1%) mothers whose had first baby practiced colostrums more than being second time mother also had statistically significant association ($p < 0.05$). Majority 75 (69.4%) of mothers took health care services from public hospital given colostrums more than the mothers taken from private hospital and 70 (73.7%) non Muslims mothers practiced colostrums. Those variables had an association with colostrums feeding ($p < 0.05$).

Table 1 Socio-demographic characteristics of respondents (n=400)

Variables	Percentage (%)
Age (year)	
Mean \pm SD	24.44 \pm 4.93
Religion	
Muslim	75.3
Hindu	23.8
Monthly family income in BDT	
15,000	33.3
15,000-25,000	
More than 25,000	35.0

Table continued...

Variables	Percentage (%)
Education	31.8
No formal education	1.0
Primary	20.0
SSC	46.5
HSC	23.8
Graduate and above	8.8
Occupation	
Housewife	84.0
Service	11.0
Others	5.0

Table 2 Distribution of colostrums feeding status (n=400)

Characters	Number	%
Colostrums giving		
Yes	252	63.0
No	148	37.0
Reasons for not practicing colostrums		
Try to breastfeed but there was no milk	55	13.8
Caesarean section	45	11.3
A lot of visitors were present	26	6.5
Didn't know to practices	10	2.5
Didn't move due to pain	10	2.5
Delayed umbilical cord removal	5	1.3

Table 3 Association of colostrum feeding with socio demographic variables

Variables	Colostrums feeding practice		χ^2 value	P value
	yes	No		
Age				
17-25	159 (59.3%)	109 (40.7%)	8.88	0.03
26-34	72 (66.1%)	37 (33.9%)		
35-43	8 (38.1%)	13 (61.9%)		
Birth order				
First mother	170 (66.1%)	87 (33.9%)	12.23	0.00
Second time	69 (48.3%)	74 (51.7%)		
Health care facilities				
Public hospital	75 (69.4%)	33 (30.6%)	5.78	0.01
Private hospital	164 (56.2%)	128 (43.8%)		
Religion				
Muslim	165 (54.8%)	136 (45.2%)	12.3	0.00
Hindu	70 (73.7%)	25 (26.3%)		

Discussion

Majority of mothers practice colostrums but significant percentage rejected it in this study which is also alarming. However a study revealed many of mothers rejected colostrums due to cultural belief.¹¹ On the contrary another study conducted by Joshi et al. (2012) among Nepalese woman to find out knowledge, attitude towards

breastfeeding had shown majority (74%) of the women knew about the colostrums and its nutritious effect.¹² But other study in Nepal focused that the importance of colostrum was known to limited population.¹³ There were still many people who believed that colostrum was a harmful substance which should be discarded. It was thought to be an unwanted substance related with ill health. Thereafter 63% of the participant gave colostrums to their baby reported in this study. Meanwhile, the use of pre-lacteal feeds rather than colostrums has been reported to higher at community level in Bangladesh especially in infants born at home. On the contrary, another study in Bangladesh revealed regarding feeding status most 284(88.8%) of respondents got colostrums.¹⁴ However, trend of giving colostrums reached a tremendous condition that is 96.5% (330/342) a study done in Dhaka slum in Bangladesh.¹⁵

Factors associated with cessation of colostrums

There are certain barriers perverting the feeding of colostrum to the new born babies^{16,17} mainly—lack of knowledge. In this study most of the respondents focused in one point that they tried to feed colostrums but there were no milk so ultimately received another practice. Some mothers felt shyness due to lots of visitors. Not only that many of mothers even discard it with the advice of mother in-laws. However, many 208(65%) mothers were encouraged by doctors to practice weaning food, other study in Bangladesh showed.¹⁸ Caesarean section delivery which made women uneasy for sometimes was another factor for not giving colostrums it in this study. However, delivery at private hospital is another key for not practicing colostrums. In this study age of the respondents [age between 26 and 34] birth order and religion have significant association with colostrums feeding practices ($p < 0.05$).^{16,17}

Conclusion and recommendation

Though the rate of giving colostrums has risen in Bangladesh and ultimately practices of pre lacteal feeding is reduced but still there have area to work. Motivation to mothers including other family members about positive impact of colostrum to the child health, may change graph of the feeding status. Another key determinant is caesarian section delivery at private hospitals, make the mother especially first time mother in unpleasant condition. Moreover, inspiration of family members, hospital staffs and health care provider to take artificial milk as baby's first milk is other vital determinant. Proper education of giving colostrums rather than pre-lacteal feeding to maintain exclusive breastfeeding by health workers through antenatal and post natal care will have major impact. Not only that including strong restrictions and bindings of promotion and marketing of breast milk substitutes at hospitals through health care provider may be effective to maintain optimum colostrums feeding as well as exclusive breastfeeding.

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None.

Conflicts of interest

The authors declare that there is no conflict of interest.

References

- Ghai OP, Paul VK, Bagga A. Textbook of Paediatrics. 7th ed. New Delhi: CBC Publisher and Distributors, 2009:768.
- Heather Fisher Senior Thesis Project. Colostrum: Properties, Functions, and Importance: The Relationship between the Immunoglobulin Concentration in Holstein Colostrum and the Total Senlm Protein in Holstein Heifer Calves. 2000.
- Science Daily (homepage on the internet). Colostrum.
- Loureiro I, Frankel G, Adu-Bobie J, et al. Human Colostrum Contains IgA Antibodies Reactive to Enteropathogenic Escherichia coli Virulence-Associated Proteins: Intimin, BfpA, EspA, and EspB. *Journal of Pediatric Gastroenterology & Nutrition*. 1998;27(2):166–171.
- Arifeen S, Black RE, Antelman G, et al. Exclusive breastfeeding reduces acute respiratory infection and diarrhoea deaths among infants in Dhaka slums. *Pediatrics*. 2001;108(4):e67.
- Haider R, Rasheed S, Sanghvi TG, et al. Breastfeeding in infancy: identifying the program-relevant issues in Bangladesh. *Int Breastfeed J*. 2010;5:21.
- Feeding Pattern and Nutritional Status of Under Two Years Slum Children, Akhtar K, Haque ME, Islam MZ, editors. *Med Coll*. 2012;4(1):3–6.
- Holman DJ, Grimes MA. Colostrum feeding behaviour and initiation of breastfeeding in rural Bangladesh. *Journal of Biosocial Science*. 2001;33:139–154.
- Rogers NL, Abdi J, Moore D, et al. Colostrum avoidance, pre-lacteal feeding and late breast-feeding initiation in rural Northern Ethiopia. *Public Health Nutr*. 2011;14(11):2029–2036.
- Ekambaram M, Bhat VB, Ahamed. MAP Knowledge, attitude and practice of breastfeeding among postnatal mothers. *Current Pediatric Research Medical Journal*. 2000;2.
- McCann MF, Bender DE. Perceived insufficient milk as a barrier to optimal infant feeding: example from Bolivia. *Journal of Biosocial Science*. 2006;38(03):341–364.
- The struggle of weaning: Factors determining breastfeeding duration in East BHUTAN. *Social Science and Medicine*. 1996;43(12):1805–1815.
- Ulak M, Chandyo RK, Mellander L, et al. Infant feeding practices in Bhaktapur, Nepal: a cross-sectional, health facility based survey. *International Breastfeeding Journal*. 2012;7:1.
- Farah S, Karim M. Characteristics of Feeding Practices and Nutritional Status of Infants in Selected Villages at Dhamrai. *Bangladesh Med Res Counc Bull*. 2015;41(3):108–113.
- Khatun H, Comins CA, Shah R, et al. Uncovering the barriers to exclusive breastfeeding for mothers living in Dhaka's slums: a mixed method study. *International Breastfeeding Journal*. 2018;13:44.
- Baqui AH, Paljor N, Nahar Q, et al. Infant and child feeding practices in Dhaka urban slum. Dhaka: ICDDR, 1993. p. 29.
- Mangasaryan N, Martin L, Brownlee A, et al. Breastfeeding Promotion, Support and Protection: Review of Six Country Programmes. *Nutrients*. 2012;4(8):990–1014.
- Tarannum S, Hyder S. Pre-lacteal feeding practices in a rural area of Bangladesh. Bangladesh: BRAC-ICDDR, B Joint Research Project Dhaka. 1998.