



Perception of Infant Feeding among Urban Educated Women

Ahsan Kabir Masoom¹, Md. Shameem², Jesmin Jahan³, A. N. M. Nurul Haque Bhuiyan⁴,
Md. Tariqul Islam⁵, Nabila Zohra Khan⁶, Syed Ahsan Tauhid⁷, Lutfor Rahman⁸

Article information

Received: 06-06-2023

Accepted: 06-09-2023

Cite this article:

Masoom AK, Shameem M, Jahan J, Bhuiyan ANMNH, Islam MT, Khan NZ et al. Perception of Infant Feeding among Urban Educated Women. *Sir Salimullah Med Coll J* 2023; 31: 86-93.

Key words:

Infant feeding, Urban, educated women

Abstract:

Introduction: *Despite of high prevalence of breast feeding practices among mothers, infant feeding pattern is not ideal in our country. Short duration of exclusive breast feeding and inappropriate feeding for newborn and infant are common in both urban and rural areas of Bangladesh.*

Objectives: *To explore the perceptions on breastmilk, pre lacteal feeding, complementary feeding and infant feeding among medical and non-medical female students of urban area and to compare their perceptions.*

Materials and Methods: *This cross sectional study was done at Bangladesh Medical College (BMC), Dhanmondi, Dhaka and Hazrat Shah Ali Women University College (HSAWUC), Mirpur, Dhaka from December 2015 to May 2016 and study populations were 100 of which 50 from female medical students of BMC and 50 from female non-medical students of HSAWUC. Data were collected by random sampling as per inclusion and exclusion criteria. Data was compiled manually and analyzed by statistical package for social sciences (SPSS) version 22.*

Results: *Majority of study population were unmarried (88%), most of them were in 21-25 years age group (77%) and a high number among them had crossed higher secondary school level (84%). Comparison of perceptions between medical and non-medical students of both institutions regarding knowledge of first feed of a newborn, pre lacteal feeds and its importance; time of initiation of breast feeding and harmful effect of bottle feeding showed differences which were statistically significant ($P < 0.05$). The female medical students had relatively better perceptions regarding infant feeding.*

Conclusions: *Although perceptions on infant feeding were more correct among medical students, incorrect perceptions on infant feeding still present in both medical and non-medical students which is alarming.*

Introduction:

Breast milk is the best food for newborn and infant and it cannot be substituted. Breast milk is of two types: Colostrum which is the initial yellowish and sticky milk produced from mother's breasts from

37 weeks of gestation to about seven days after delivery. Mature milk is whitish in color and is effectively produced from about 10th day following delivery.¹ Colostrum is important for the baby as it contains more protein (10% compared to 1% in

1. Assistant Professor, Department of Pediatrics, Bangladesh Medical College, Dhaka.
2. Associate Professor, Department of Neonatology, Sir Salimullah Medical College, Dhaka.
3. Junior Consultant (Obstetrics and Gynaecology), Upazila Health Complex, Tongibari, Munshiganj.
4. Assistant Professor, Department of Neonatology, Sir Salimullah Medical College, Dhaka.
5. Assistant Professor, Department of Neonatology, Sir Salimullah Medical College, Dhaka.
6. Registrar, Department of Pediatrics, Bangladesh Medical College, Dhaka.
7. Assistant Professor, Department of Pediatrics, Sir Salimullah Medical College, Dhaka.
8. Assistant Professor, Department Pediatric Hematology & Oncology, Sir Salimullah Medical College, Dhaka.

Address of Correspondence: Dr. Ahsan Kabir Masoom, Assistant Professor, Department of Pediatrics, Bangladesh Medical College, Dhaka, Bangladesh, Cell:01912995655, E-mail: akmasoom20@gmail.com ORCID : 0009-0008-2160-9209

mature milk), immunoglobulins (IgA), lactoferrin, white blood cells, vitamin A, zinc and less fat. These are important for immune defenses of the baby during the initial days of life.¹

Exclusive breast feeding (EBF) is recommended as the best feeding alternative for infants up to six months and has a protective effect against mortality and morbidity. EBF is the practice of feeding the infant for the first six months of life on breast milk only, without any other type of food, not even water. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond. To enable mothers to establish and sustain exclusive breastfeeding for 6 months, WHO and UNICEF has recommended²:

- (1) Initiation of breastfeeding within the first hour of life.
- (2) Exclusive breastfeeding – that is the infant only receives breast milk without any additional food or drink, not even water.
- (3) Breastfeeding on demand – that is as often as the child wants, day and night.
- (4) No use of bottles, teats or pacifiers.

Breast milk is the natural first food for babies, it provides all the energy and nutrients that the infant needs for the first six months of life and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year and up to one-third during the second year of life. Breast milk promotes sensory and cognitive development and protects the infant against infectious and chronic diseases. Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhea or pneumonia and helps for a quicker recovery during illness.² Breast milk contains the right combination of vitamins and easily absorbed iron that is sufficient until baby begins eating iron-rich cereals at 6 months of age. Breast milk is an ideal food for healthy growth and development of infants as it strengthens emotional bond between mother and child and is the most economical way of feeding the child^{3,4}. Importantly, breast milk protects against infections through specific and non-specific immune factors and has long-term consequences in the prevention of metabolic diseases in later stages of life⁵. Breastfed infants have improved neuro-development and a lower incidence of

infections compared to formula-fed infants.^{6,7,8,9} Results of a study in Hungary on comparison of human milk with different types of infant food in the nutrition of full term neonates showed higher levels of serum calcium and protein in breast-fed infants compared to those receiving infant formula¹⁰. Breastfed infants also have better feed-tolerance and less physiological gastro esophageal reflux than formula-fed infants¹¹.

Despite the high prevalence of breast-feeding in young infants, the breast-feeding pattern is not ideal in Bangladesh.¹² Short duration of exclusive breast-feeding and inappropriate feeding for newborn and infant are common in both urban and rural areas of Bangladesh^{13,14}. Nationwide surveillance of breast-feeding situation conducted by the Bangladesh Breastfeeding Foundation (BBF) showed a continued low prevalence of exclusive breast-feeding during the first six months of life¹⁴. Regardless of evidence of the benefits of breast-feeding, many women still use breast milk substitutes (BMS) and often acquire milk powder, infant formula, and cow's milk from the market. Several studies have shown low levels of awareness of mothers regarding appropriate breast-feeding practices in Bangladesh.^{15,16,17}

As the baby grows bigger and plays more there is increasing need of calories and micro-nutrients. The mother's milk is no longer enough from 6 months of child's age. The WHO recommends that infants should start receiving complementary foods (semisolid food) at 6 months of age in addition to breast milk, initially 2-3 times a day between 6-8 months, increasing to 3-4 times daily between 9-11 months and at 12-24 months with additional nutritious snacks should be offered 1-2 times per day, as desired to meet the need for extra calories at these age. These solid foods are best prepared from family foods.^{18,19}

Commercial foods contain many unnecessary harmful chemicals. These are used to make these foods unnecessarily sweetened, flavored, tasty, looking attractive, instantly miscible, and stable using preservatives. Many become obese at an early age by these commercial foods. Some may be constipated due to lack of fibers.

An infant feeding bottle is known as a baby killer. Ideally feeding bottles should be disposable. But due to high cost and lack of knowledge, mothers use

these bottles several times for a longer duration of period and making it contaminated which is harmful for her baby's health.

Incorrect perception may lead to incorrect feeding practices which has a devastating, detrimental and an adverse impact on the health of a newborn and infant. This study was done to explore and compare the perceptions of giving breastmilk, pre-lacteal feeding, complementary feeding and infant feeding among urban medical and non-medical female students. A better understanding of these perceptions may help us to plan appropriate interventions to improve infant feeding practices.

Objectives:

To explore the perceptions on breastmilk, pre-lacteal feeding, complementary feeding and infant feeding among medical and non-medical female students of urban area and to compare their perceptions.

Materials and methods:

This cross sectional descriptive study was done at Bangladesh Medical College (BMC), Dhanmondi, Dhaka and Hazrat Shah Ali Women University College (HSAWUC), Mirpur, Dhaka over a period of 6 months from December 2015 to May 2016 and study populations were 100 of which 50 from female medical students of BMC and 50 from female non-medical students of HSAWUC. No clue or instruction was given to study population. Cases were selected by random sampling who met the inclusion and exclusion criteria. A structured

questionnaire was used to collect the data. Data was compiled manually and analyzed thoroughly by statistical package for social sciences (SPSS) version 22. In addition to descriptive statistics such as frequency, statistical analysis was limited to comparisons of proportions with the χ^2 test or Fisher's exact test for categorical data.

Results:

Total 100 female students were enrolled in the study, 50 medical students were from BMC and 50 non-medical students were from HSAWUC. Majority of students were unmarried (88%), 77% of students belongs to 21-25 years age group and rest were in 16-20 years of age group, Majority of students has crossed higher secondary school (84%) and rest were at higher secondary school level.

Table-I shows 87% of students have correct perception (Colostrum/ Breast milk) and 13% have incorrect perception about ideal first feed of a newborn. 98% of medical students and 76% of non-medical students have correct perception. 2% of medical students and 14% of non-medical students have incorrect perception. 6% of the students prefer only water, 5% of the students prefer water and colostrum, 1% prefers sugar or glucose as the ideal first feed of a newborn and 1% of student has no idea about it. The difference of perceptions between medical and non-medical group was statistically significant. $\{\chi^2(df=1) = 81.293(b), P=0.000$ (Fisher's Exact Test)}.

Table-I: Comparison of Perception of medical students and non-medical students regarding ideal first feed of a newborn after birth

Ideal first feed of newborn after birth	Medical students n (%)	Non-medical students n (%)	Total students n (%)	P value
Water	00(00)	06(12)	06(06)	0.000
Water +Colostrum	00(00)	05(10)	05(05)	
Colostrum/ Breast milk	49(98)	38(76)	87(87)	
Sugar/ Glucose	01(02)	00(00)	01(01)	
Honey	00(00)	00(00)	00(00)	
Don't know	00(00)	01(02)	01(01)	
Total	50(100)	50(100)	100(100)	

Table-II shows 55% of students have correct perception ('No' response to pre lacteal feeding) and 45% have incorrect perception about pre lacteal feeding. This is alarming. 98% of medical students and 12% of non- medical students have correct perception. 2% of medical students and 88% of non-medical students have incorrect perception. The difference of perceptions between medical and non-medical group was statistically significant. $\{x^2(df=1) = 81.293(b), P=0.000$ (Fisher's Exact Test)}.

Table III shows all students have correct perception and nobody has incorrect perception about beneficial effect of colostrum on neonates. This is very encouraging. The difference of perceptions between

medical and non-medical group was not statistically significant. $\{x^2(df=2) = 2.041(b), P= .247$ (Fisher's Exact Test)}.

Table-IV shows 78% of students has correct perception and 22% have incorrect perception about the timing of initiation of feeding of a newborn. 92% of medical students and 64% of non- medical students have correct perception. 8% of medical students and 36% of non- medical students have incorrect perception. The difference of perceptions between medical and non-medical group was statistically significant. $\{x^2(df=1) = 11.095(b), P= .001$ (Fisher's Exact Test)}.

Table-II: Comparison of perceptions of medical students and non-medical students regarding pre lacteal feeding

Need of pre lacteal feeding	Medical students n (%)	Non-medical students n (%)	Total students n(%)	P value
No	49(98)	06(12)	55(55)	0.000
Yes	01(02)	44(88)	45(45)	
Total	50(100)	50(100)	100(100)	

Table-III: Comparison of perceptions between medical students and non -medical students regarding beneficial effect of colostrum

Beneficial effect of colostrum	Medical students n (%)	Non-medical students n (%)	Total students n (%)	P value
No	00(00)	00(00)	00(00)	.247
Yes	50 (100)	50 (100)	100(100)	
Total	50(100)	50(100)	100(100)	

Table-IV: Comparison of perceptions between medical students and non- medical students regarding initiation of feeding in neonates after birth

Initiation of feeding after birth	Medical students n (%)	Non-medical students n (%)	Total students n (%)	P value
Within 60 minutes of birth	46 (92)	32 (64)	78 (78)	.001
After 60 minutes of birth	04 (08)	18 (36)	22 (22)	
Total	50(100)	50(100)	100(100)	

Table-V shows 62% students of both institution has correct perception and rest 38% have incorrect perception about the frequency of breast feeding. No significant difference was found in outcome between medical and non-medical students. $\{\chi^2(df=1) = .000(b), P= 0.582\}$.

Table-VI shows 70% of medical students and 42% of non- medical students have correct perception regarding use of bottle feeding as their answer was-

'not to be given'. 30% of medical students and 58% of non- medical students mentioned it as optional which was incorrect. Nobody mentioned it as essential. The difference in outcome in these two groups was significant. $\{\chi^2(df=2) = 8.679(a), P= .013\}$.

Table-VII shows correct perception regarding starting of Complementary feeds at 6 months was 83%. comparison of outcome between medical and non-medical students was not significant. $\{\chi^2(df=4) = .013, P= .456\}$

Table-V: Comparison of perceptions between medical students and non-medical students regarding frequency of breast feeding

Frequency of breast feeding	Medical students n (%)	Non-medical students n (%)	Total n (%)	P value
On demand	31 (62)	31 (62)	62 (62)	0.582
Scheduled Fixed Feeding using clock	19 (38)	19 (38)	38 (38)	
Total	50(100)	50(100)	100(100)	

Table-VI: Comparison of perceptions between medical students and non-medical students regarding importance of bottle feeding in infant feeding practices

Importance of bottle feeding in infant feeding practices	Medical students n (%)	Non-medical students n (%)	Total n (%)	P value
Essential	00(00)	00(00)	00(00)	.013
Optional	15 (30)	29 (58)	44 (44)	
Not to be given	35 (70)	21 (42)	56(56)	
Total	50(100)	50(100)	100(100)	

Table-VII: Comparison of perceptions between medical students and non-medical students regarding starting of complementary feeds

Starting of complementary feeds from-	Medical students n (%)	Non-medical students n (%)	Total students n (%)	P value
4 months	00(00)	01 (02)	01 (01)	.456
5 months	06 (12)	09 (18)	15 (15)	
6 months	43 (86)	40 (80)	83 (83)	
Do not know	01 (02)	00 (00)	01 (01)	
Total	50(100)	50(100)	100(100)	

Table-VIII shows 39% of students wanted to give feed on demand which is the correct perception but majority of students (71%) had incorrect perception as they wanted to give schedule fixed feeding. Comparison of perception between medical and non-medical students were found insignificant. $\{\chi^2(df=1) = 2.060(b), P= .109$ (Fisher's Exact Test).

Table-IX shows correct perception regarding duration of continuation of breast feeding for 24 months was in 68% of both groups. Comparison of

outcome between medical and non-medical students was not significant. $\{\chi^2(df=4) = .013, P= .450\}$.

Table-X shows 88% of the students have correct perception regarding harmful effects of bottle feeding. Among them 100% of medical students and 76% of non- medical students have correct perception regarding harmful effects of bottle feeding. Only 24% of non- medical students have incorrect perception. Comparison of outcome between medical and non-medical students was significant $\{\chi^2(df=1) = 13.636(b), P= .000$ (Fisher's Exact Test);

Table-VIII: Comparison of perceptions between medical students and non-medical students regarding frequency of complementary feeds

Frequency of complementary feeds	Medical students n (%)	Non-medical students n (%)	Total students n (%)	P value
On demand	23(46)	16(32)	39(39)	.109
Schedule Fixed Feeding using clock	27(54)	34(68)	71(71)	
Total	50(100)	50(100)	100(100)	

Table-IX: Comparison of perceptions between medical students and non-medical students regarding continuation duration of breast feeding

Duration of continuation of breast feeding	Medical students n (%)	Non-medical students n (%)	Total students n (%)	P value
6months	03(06)	00(00)	03(03)	.450
12months	00(00)	01(2)	01(01)	
18months	05(10)	08(16)	13(13)	
24months	34(68)	34(68)	68(68)	
>24months	07(14)	07(14)	14(14)	
Don't know	01(2)	00(00)	01(1)	
Total	50(100)	50(100)	100(100)	

Table-X: Comparison of perceptions between medical students and non-medical students regarding harmful effects of bottle feeding

Harmful effects of bottle feeding	Medical students n (%)	Non-medical students n (%)	Total Students n (%)	P value
Not harmful	00(00)	12(24)	12(12)	.000
Harmful	50(100)	38(76)	88(88)	
Total	50(100)	50(100)	100(100)	

Discussion:

Colostrum should be given to a newborn as the ideal first feed without any pre-lacteal feed. In our study 87% of students have correct perception (Colostrum/Breast milk) and only 13% have incorrect perception about ideal first feed of a newborn. 98% of medical students and 76% of non- medical students have correct perception. A study done in Delhi, India by Kapil U et al. on female teachers showed 94% of them knew that colostrum should be given as first feed²⁰. Similarity in both study may be due to their higher educational background. Our study also showed 2% of medical students and 14% of non-medical students have incorrect perception which showed areas of concern and demands our immediate attention.

According to WHO and UNICEF, infant should only receive breast milk without any additional food or drink, not even water in first six month of life. A study done by Haider R et al. in Dhaka city showed 92% mother gave one or more traditional prelacteals.¹⁴ In our study, Only 45% have incorrect perception about pre lacteal feeding. Magnitude of the problem is slightly less in our study than the study finding done by Haider R et al. Much efforts is needed to reduce this misconception. Our study also showed 98% of medical students and 12% of non- medical students have correct perception. 2% of medical students and 88% of non- medical students have incorrect perception regarding prelacteal feeding. Medical students have better perception than non-medical students regarding pre lacteal feeding.

In our study all students have correct perception and nobody has incorrect perception about beneficial effect of colostrum in neonates. This is very encouraging. This is probably due to advertisements of electronic, print media and NGO's.

According to Admond KM et al. 22% of neonatal deaths could be prevented if breastfeeding started within the first hour.²² In our study, 78% of students has correct perception and 22% have incorrect perception about the timing of initiation of feeding of a newborn. 92% of medical students and 64% of non- medical students have correct perception. 8% of medical students and 36% of non- medical students have incorrect perception. Much efforts is needed to improve the situation.

Breastfeeding should be on demand and schedule fixed feeding should be avoided. A strictly timed newborn feeding schedule may also deprive one's baby of high-fat hind milk²⁴. In our study, 62% respondents support demand feeding. Demand feeding is best for growth spurts, although the timing varies among individuals, babies typically experience growth spurts at around 1-3 weeks, 6-8 weeks, 3 months and 6 months of age²⁴. During these times, breastfeeding babies want to nurse more frequently. More frequent feedings stimulate the breasts to step up milk production and meet their babies increasing energy requirements. When mothers breastfeed on demand, they help ensure that milk production keeps up with their babies' changing needs. Frequent breastfeeds increase a mother's prolactin levels, and high prolactin levels are needed to establish an adequate milk supply. The timed-interval newborn feeding schedule as a practice is "clearly harmful or ineffective."²⁴ In our study 38% students support schedule fixed feeding which raises our concern.

The World Health Organization recommends exclusive breastfeeding until 6 calendar months of age and continued breastfeeding for at least 2 years, along with the timely introduction of adequate amounts of complementary foods of suitable nutritional and microbiological quality²⁵. In our study majority (83%) of students want to start complementary feeds at the end of 6 months, but another study showed practically only 35.3% population could start complementary feeds at 6 months²³.

In our study, only 68% has the correct perception regarding duration of continuation of breast feeding for 24 months. Another study in Bangladesh showed, 89% mothers give her baby breast milk up to the age two years.²³ These variation in finding could be due to different study population.

Using bottle in infant feeding is harmful for the baby. A study done in Delhi, India by Kapil U et al. on female teachers showed all 62 subjects were aware that unhygienic bottle feeding caused diarrhea and almost 37% felt that bottle feeding should be entirely avoided.²⁰ In our study, majority of the students (88%) also have correct perception regarding harmful effects of bottle feeding. Among

them all of medical students and 76% of non-medical students have correct perception regarding harmful effects of bottle feeding. Only 24% of non-medical students have incorrect perception. Similarity in both study may be due to intensive campaigning by national and international agencies on harmful effects of bottle feeding.

Conclusion:

Incorrect perception regarding breast feeding and infant feeding exist in female medical and non-medical students of urban area. Situation is much worse in non-medical students. The magnitude of this alarming situation demands our immediate attention.

References:

- Brown KH, Dewey KG, Allen LH. Complementary Feeding of Young Children in Developing Countries: A review of current scientific knowledge. WHO/UNICEF 1998.
- Kramer MS, Chalmers B, Hodnett ED, Sevkovskaya Z, Dzikovich I, Shapiro S et al. Promotion of Breastfeeding Intervention Trial (PROBIT): A randomized trial in the Republic of Belarus. *JAMA*. 2001; 285 (4): 413-20.
- Klaus M, Kennell J. Parent to infant bonding: setting the record straight. *J Pediatr*. 1983; 102(4): 575-6.
- Ball TM, Bennett DM. The economic impact of breastfeeding. *Pediatr Clin North Am*. 2001; 48(1): 253-62.
- Oddy WH. Breastfeeding protects against illness and infection in infants and children: a review of the evidence. *Breastfeed Rev*. 2001; 9(2): 11-8.
- Rogers B. Feeding in infancy and later ability and attainment: a longitudinal study. *Dev Med Child Neurol* 1978; 20(4): 421-6.
- Morrow-Tlucak M, Haude RH, Ernhart CB. Breastfeeding and cognitive development in the first 2 years of life. *Soc Sci Med* 1988; 26(6): 635-9.
- Lucas A, Morley R, Cole T, Lister G, Leeson-Payne C. Breast milk and subsequent intelligence quotient in children born preterm. *Lancet*. 1992; 339: 261-4.
- Howie PW, Forsyth JS, Ogston SA, Clark A, Florey CD. Protective effect of breast feeding against infection. *BMJ*. 1990; 300: 11-6.
- Decsi T, Volker V, Szasz M, Ezer E, Mehes K. Comparison of human milk with 3 different types of infant food in the nutrition of full-term neonates. *Orv Hetil*. 1992; 133(33): 2087-91.
- Heacock HJ, Jeffery HE, Baker JL, Page M. Influence of breast versus formula milk on physiological gastroesophageal reflux in healthy, newborn infants. *J Pediatr Gastroenterol Nutr*. 1996; 14(1): 41-6.
- Huffman SL, Chowdhury AKMA, Chakraborty J Simpson NK. Breast-feeding patterns in rural Bangladesh. *Am J Clin Nutr*. 1980; 33(1): 144-54.
- Das DK, Talukder MQ-K, Sella GE. Infant feeding practices in rural Bangladesh. *Indian J Pediatr*. 1992; 59: 573-7.
- Bangladesh Breastfeeding Foundation. Research Sub-Committee. Surveillance on breastfeeding and weaning situation and child and mother health in Bangladesh: 6th round survey. Dhaka: Bangladesh Breastfeeding Foundation. 2001: 13-5.
- Haider R, Kabir I, Ashworth A. Are breastfeeding promotion messages influencing mothers in Bangladesh? Results from an urban survey in Dhaka, Bangladesh. *J Trop Pediatr*. 1999; 45(5): 315-8.
- Zeitlyn S, Rowshan R. Privileged knowledge and mothers' "perceptions": the case of breast-feeding and insufficient milk in Bangladesh. *Med Anthropol Q*. 1997; 11(1): 56-68.
- Das DK, Ahmed S. Knowledge and attitude of the Bangladeshi rural mothers regarding breastfeeding and weaning. *Indian J Pediatr* 1995; 62: 213-17.
- World Health Organization. Indicators for assessing breast-feeding practice; report of an informal meeting, Geneva, 11-12 June 1991. Geneva: Division of Diarrhoeal and Acute Respiratory Disease Control, World Health Organization. 1991. p.15.
- World Health Organization. International code of marketing of breast-milk substitutes: report of the Thirty-fourth World Health Assembly. Geneva: World Health Organization; 1981. p. 8-9.
- Kapil U, Bhasin S. Perception towards breast feeding amongst working women teachers of a public school in Delhi. *Indian Pediatr*. 1992; 29(6): 753-6.
- Baqui AH, Paljor N, Nahar Q, Silimperi DR. Infant and child feeding practices in Dhaka urban slum. Dhaka: International Centre for Diarrhoeal Disease Research, Bangladesh; 1993. p. 29.
- 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(3): 380-86.
- Breastfeeding Surveillance Study. Report for WB & BINP. 2001; 72.
- Breastfeeding and the Use of Human Milk. *Pediatrics*. 1997; 100(6): 1035-39.
- World Health Organization (WHO 1998), La Leche League, and the American Academy of Pediatrics. Work Group on Breastfeeding 1997
- Li R, Rock VJ, Grummer-Strawn L. Changes in public attitudes toward breastfeeding in the United States, 1999-2003. *J Am Diet Assoc*. 2007; 107(1): 122-7.
- FeigeLman IS. The First Year. In: Kliegman RM, Behrman RE, Jenson HB, Stanton BF, editors. *Nelson Textbook of Pediatrics*. 18thed. Philadelphia: Saunders; 2008. p. 43-8.