

# KNOWLEDGE, ATTITUDE AND PRACTICES OF MOTHERS REGARDING INFANT & YOUNG CHILD FEEDING PRACTICES (IYCF) IN A TERTIARY CARE HOSPITAL

ARA E<sup>1</sup>, SHAMSAD IA<sup>2</sup>, SULTANA A<sup>3</sup>, SARMIN ZU<sup>4</sup>, AZIZ A<sup>5</sup>, HASNAT F<sup>6</sup>

## Abstract

**Background:** Young Child Feeding Practices (IYCF) includes breast feeding and complementary feeding. Proper feeding practices are essential for proper nutrition, growth, development and survival of infant and young children. Maternal knowledge and feeding attitude has been shown to be a stronger predictor of breast feeding initiation and complementary feeding practice.

**Objectives:** To evaluate the knowledge, attitude and practices of mothers regarding infant and young child feeding.

**Material and Methods:** This cross sectional study was done in Dhaka Medical College Hospital, Dhaka from June 2017 to November 2017. A total number of 218 mothers having children between 0-23 months were included. Modified Iowa Infant Feeding Attitude Scale (IIFAS) and 5 point Likert scale was applied to assess maternal attitude towards infant and young children feeding. The relationship between infant feeding knowledge, attitude and practices and socio-demographic variables was tested by using Chi-square test. Relationship among mothers knowledge, attitude and practices regarding IYCF was showed by Spearman's correlation.

**Results:** The study result showed that, 83.5% mothers had good knowledge about IYCF but only half of them had good practice. Almost everyone (99.1%) agreed that breast milk is best for new born baby. Most of the mother (94%) knew that exclusive breast feeding should be given for six months but only half of them (51.1%) practiced EBF. Though 72.5% mothers had positive attitude towards breast feeding but about two third (63.6%) of them gave formula milk within 6 completed months. About two third of mothers (60.2%) used bottle for feeding their child. Most of the mother (94%) had knowledge about complementary feeding but only 55.7% mother provide complementary feeding accurately with atleast four different types of food. This study showed that educational background has significant relationship with KAP of mothers regarding IYCF.

**Conclusion:** The study concluded that, majority of the mothers had good knowledge and a positive attitude towards breastfeeding and complementary feeding but they did not practice this properly. There is a strong association between mother's educational background and KAP (Knowledge, attitude & practice) regarding IYCF.

**Keyword:** Knowledge, Attitude and Practices, EBF, IYCF.

DOI: <https://doi.org/10.3329/jdmc.v30i1.56902>

J Dhaka Med Coll. 2021; 30(1): 43-51

## Introduction:

Appropriate feeding practices are essential for proper nutrition, growth, development and survival of infant and young children. It has been indicated in many studies all over the world that the infant and young child feeding practices are the subjects strongly influenced

by customs, beliefs, superstitions, religion, cultural pattern, mother's education and socioeconomic status of the family.<sup>1-2</sup> In Bangladesh the initiation of breastfeeding is often delayed, with one in two infants (50.8%) put to the breast within an hour of birth.<sup>3</sup> Complementary feeding can also begin too late;

1. Dr. Effat Ara, Assistant Surgeon (Paediatrics), Kurmitola General Hospital, [effat0007@gmail.com](mailto:effat0007@gmail.com) 01793591251

2. Professor Iffat Ara Samsad, Professor & Head of Department of Paediatrics, Dhaka Medical College Hospital

3. Dr. Afroza Sultana, Register, Paediatrics, Dhaka Medical College Hospital

4. Dr. Zannat-Ul-Sarmin, Register, Paediatrics, Dhaka Medical College Hospital

5. Dr. Afrin Aziz, Consultant, Paediatrics, Central Basabo General Hospital

6. Dr. Ferdousi Hasnat, Assistant Professor, Paediatrics, Kurmitola General Hospital

**Correspondence:** Dr. Effat Ara, Assistant Surgeon (Paediatrics), Kurmitola General Hospital, E-mail: [effat0007@gmail.com](mailto:effat0007@gmail.com)  
Mobile: 01793591251

**Received:** 04-03-2021

**Revision:** 10-04-2021

**Accepted:** 13-04-2021

almost one-third (32%) of children aged 6-9 months do not receive any solid or semi-solid foods.<sup>3</sup> Proper breast feeding and complementary feeding practices can prevent under 5 mortality by 19%.<sup>4</sup> Inadequate knowledge about appropriate food and feeding practices is often a greater determinant of malnutrition than the lack of food. By assessing the knowledge, attitude and practices of mothers regarding their child’s feeding, an overview can be obtained about the areas which need modifications and hence specific intervention strategies can be made. Besides, this study would enable governments and other concerned bodies to design appropriate nutritional education program and awareness among mothers to improve the nutritional status, growth and development, health and child survival through optimal IYCF practices.

**Materials & Methods:**

This cross sectional study was done in Dhaka Medical College Hospital, Dhaka from June 2017 to November 2017. A total number of 218 mothers having children between 0-23 months were included. Mothers of Child with major illness like Child with congenital anomaly, congenital heart disease, twin / triplet, preterm baby, adopted child were excluded. Purposive convenient sampling was done. Modified Iowa Infant Feeding Attitude Scale (IIFAS) and 5 point Likert scale was applied to assess maternal attitude towards infant and young children feeding. Data analysis was done by computer aided statistical software SPSS 19 (statistical package for social sciences). The relationship between infant feeding knowledge, attitude and practices and socio-demographic variables was tested by using Chi-square test. Relationship among mothers knowledge, attitude and practices regarding IYCF was showed by Spearman’s correlation.

**Results:**

In this study a total of 218 mother’s who had 0-23 months old child interviewed with a preformed questionnaire. The mean age of children in this study was 12.68 months. The most of the child (35%) was aged between 7-12 months. The most of the mother (61%) lived in urban area and 28.4% lived in semi urban area. Less than 10% lived in rural. About half (47.2%) of mother who had primary education (Table I). Among 218 mothers,

almost everyone (99.1%) answered correctly that breast milk is best for new born baby. Most of them (94%) mother had the knowledge about the timing of initiation of breast feeding after birth. Most of the mother defined exclusive breast feeding (89.9%) and accurate time duration of EBF (94%). Most of the mother (94%) defined complementary food correctly and 98.2% knew the exact timing of initiation of complementary food. About two-third of the mothers (67%) had the knowledge about the proper amount and timing of complementary food serving (Table II). Most of the mother (83%) had good knowledge about IYCF practices (Table II). Most of the mothers (96.3%) believed that breast feeding is easier than formula feeding and 93.6% mothers strongly disagreed that formula feeding help the baby to be well shaped. Most of them (94.5%) preferred breast feeding rather than infant formula during sleeping at night. Almost all of the mothers (98.6%) thought breast milk has more nutrition value than formula milk. But most of them (92%) believed that after 2-3 months of baby breast milk become decreased. Most of them (91.8%) had positive attitude towards colostrum and 89% of them believed that breast feeding should be continued along with complementary food (Table 4). 72.5 % of the mother showed positive attitude towards IYCF practices (Table-V). 14.28% of mother gave pre-lacteal feeding to their 0-6 months old baby. 100% of them provided colostrum and 80.95% started breast feeding within an hour after birth. Only 40.47% provided exclusive breast feeding to 0-6 month old baby and 45.24% mother gave formula milk within 6 completed months (Table VI).

There is a significant relation of mothers’ knowledge, attitude and practice of IYCF with educational back ground of mothers (Table VII).

**Table-I**

*Children’s age ( N= 218)*

Children age in months	Frequency	Percentage
0-6 months	42	19.3
7-12 months	77	35.3
13-18 months	51	23.4
19-23 months	48	22.0
Total	218	100.0

**Table-II**  
*Knowledge of Mothers regarding IYCF practices (B Test) (N=218)*

Answer of question regarding knowledge	Yes N %	No N %	Not sure N %
B1. Breast milk is best for new born babies	99.1%	0.0%	0.9%
B2. Within an hour after birth breast feeding should be started	94.0%	3.7%	2.3%
B3. Colostrum is the first breast milk	97.2%	0%	2.8%
B4. Pre-lacteal food like honey, sugar water is needed to give	20.6%	72.5%	6.9%
B5. EBF is, giving breast milk with no their food except medication	89.0%	6.0%	5.0%
B6. Exclusive breast milk should be given up to first 6 completed months (181 days)	94.0%	3.7%	2.3%
B7. Breast feeding should be continued up to 2 years	99.1%	0%	0.9%
B8. 6-8 times urination/day is enough for the baby during EBF	83.0%	0.9%	16.1%
B9. Breast milk with other semisolid food is called Complementary feed	94.0%	0%	6.0%
B10. Complementary feeding should be started after 6 months of age	98.2%	0.5%	1.4%
B11. Extra feeding should be given during recovery from illness	95.9%	1.4%	2.8%
B12. Khichuri is the ideal Complementary food	97.2%	0%	2.8%
B13. Feeding a child of completed 6-8 months, half bowl (250ml), two times per day depending on the child's appetite and 1-2 nutritious snacks along with breast feeding.	67.0%	2.8%	30.3%
B14. Feeding a child of 9-11 completed months, half bowl (250ml), three times per day depending on the child's appetite and 1-2 nutritious snacks along with breast feeding.	54.1%	1.8%	44.0%
B15. Feeding a child of 12-23 completed months, full bowl (250ml), three times per day depending on the child's appetite and 1-2 nutritious snacks along with breast feeding.	52.3%	0.9%	46.8%

**Table-III**  
*Mother's knowledge score for IYCF (B Test); (N= 218)*

Poor (0-5)	2 (0.9%)
Fair (6-10)	34 (15.6%)
Good (11-15)	183 (83.5%)
Total	218 (100%)

**Table IV**  
*Attitude of Mothers regarding IYCF practices (C Test); (N= 218)*

Answer of attitude of mothers regarding IYCF (C Test)	Strongly agreed N %	Agreed N %	No statement N %	Disagree N %	Strongly disagree N %
C1. Breast feeding being easier than infant formula	83.9%	12.4%	0.0%	2.8%	0.9%
C2. Infant formula keep the baby well shaped	0.0%	2.3%	4.1%	28.9%	64.7%
C3. Infant formula at night is helpful for mother's sleep	1.8%	3.7%	0.0%	16.1%	78.4%
C4. Breast milk and formula milk has same nutritive value	0.0%	0.5%	0.9%	10.1%	88.5%
C5. After 2-3 months of baby, breast milk become decreased	14.7%	27.5%	2.8%	25.7%	29.4%
C6. Babies fed breast milk are healthier than babies who are fed formula	59.6%	19.3%	3.2%	12.4%	5.5%
C7. Mother should not feed the child when she has engorged breast/breast disease	27.1%	13.3%	21.1%	20.2%	18.3%
C8. Colostrum is a bad secretion of the body so it should be discarded	0.0%	4.1%	4.1%	13.8%	78.0%
C9. Mother should stop BF when baby get diarrhoea	3.7%	2.8%	4.6%	15.1%	73.9%
C10. Mother should not stop BF CF when start	85.8%	12.8%	0.5%	0.9%	0.0%
C11. Drinking water can be given during EBF	16.5%	17.9%	4.6%	35.3%	25.7%
C12. Costly food is necessary for mothers for milk production	11.5%	19.3%	1.8%	27.5%	39.9%
C13. Consistency of food should be thin as it is easy to digest	22.5%	28.0%	7.3%	35.8%	6.4%
C14. Fruits and vegetables should be given most of the days	28.4%	61.9%	1.4%	6.0%	2.3%
C15. Oils/ghee/butter is heavy for child to digest	43.1%	27.1%	9.6%	14.7%	5.5%

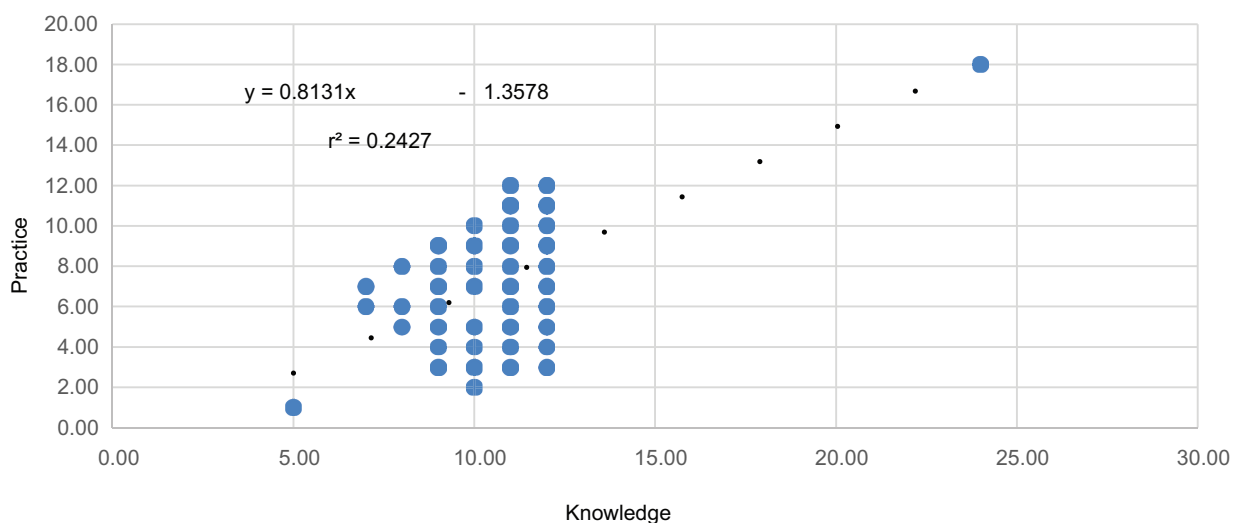
**Table-VI**  
*Practices of mothers regarding IYCF (0-6 months, N=42)*

Answer of mother regarding practices of IYCF (0-6 months)	Done (%)	Not Done (%)
D1. Gave pre-lacteal feeding	14.28	85.71
D2. Gave colostrum	100	0.00
D3. Started BF within an hour after birth	80.95	19.05
D4. Exclusive breast feeding (Gave only breast milk, no other food or water during 1st six months)	40.47	59.52
D5. Continued breast feeding during illness	95.23	4.76
D6. Gave formula milk within 6 completed months	54.76	45.24

**Table-VII**  
*Association of KAP with educational status of mothers (N= 218)*

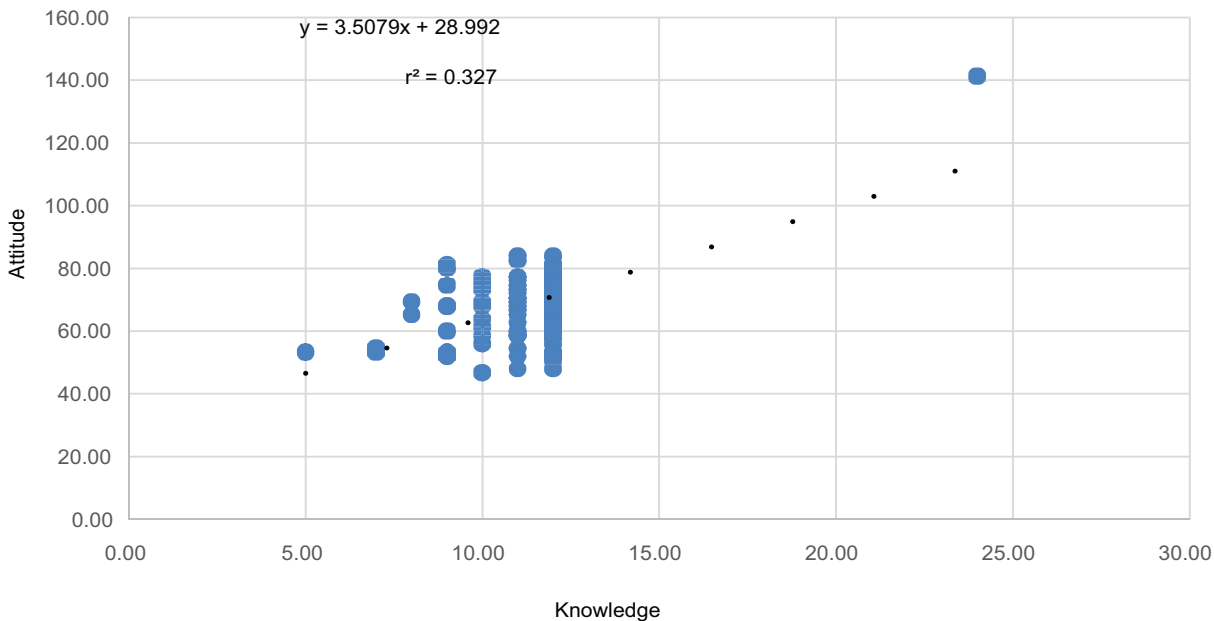
Categories	Educational status of mother					Total N (N%)	Statistics
	Up to primary school certification	Up to secondary school certification	Up to higher secondary school certification	Graduate or above bachelor degree	No institutional education		
<b>Knowledge</b>							
Poor (0-5)	2	0	0	0	0	2 (1.41%)	Chi square =42.617 Df = 8 P value <0.001 <sup>s</sup>
Fair (6-10)	15	9	0	0	10	34 (15.59%)	
Good (11-15)	86	54	16	22	4	182 (83 %)	
<b>Attitude</b>							
Negative(15-36)	0	0	0	0	0	0 (0%)	Chi square =10.398 Df =4 P value <0.05 <sup>s</sup>
Neutral (37-55)	35	18	0	3	4	60 (27.52%)	
Positive (56-75)	68	45	16	19	10	158 (72.48%)	
<b>Practice</b>							
Poor (0-4)	9	6	0	0	2	17 (7.79%)	Chi square =33.925 Df =8 P value <0.0001 <sup>s</sup>
Fair (5-8)	61	25	0	7	6	99 (45.41%)	
Good (9-12)	33	32	16	15	6	102 (46.78%)	

Scatter diagram showing significant positive Spearman’s correlation ( $r=0.492$ ;  $p= 0.0001$ ) between mothers knowledge and practice of mothers regarding IYCF (Fig-1).



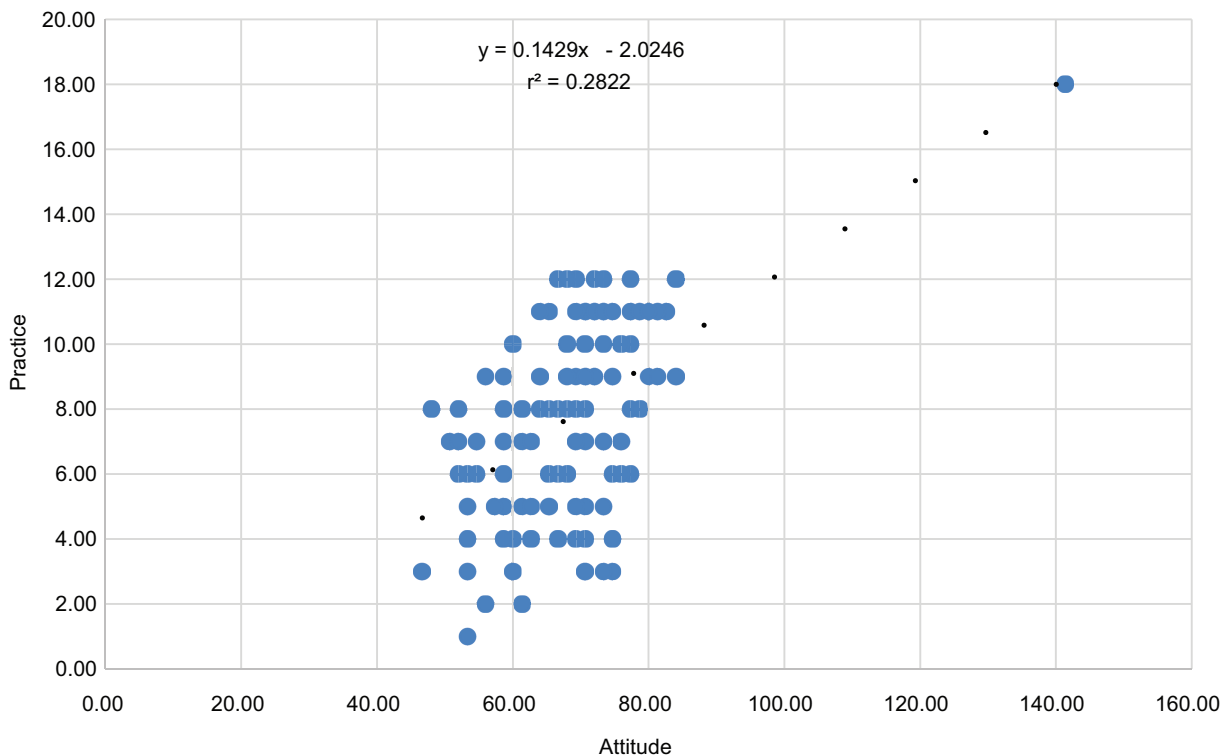
**Fig.-1:** Relationship between knowledge and practice of mothers

Spearman's correlation ( $r=0.571$ ;  $p=0.0001$ ) between knowledge and attitude of mothers regarding IYCF (Fig-2).



**Fig 2:** Relationship between knowledge and attitude

Spearman's correlation ( $r=0.531$ ;  $p=0.0001$ ) between attitude and practice of mothers regarding IYCF (Fig-3).



**Fig 3:** Relationship between attitude and practice of mothers regarding IYCF

### Discussion:

This study revealed that majority of the mothers had good knowledge and a positive attitude towards breastfeeding. 99.1% mothers agreed that breast milk is best for new born baby and 94% mother agreed that within an hour after birth breast feeding should be started. Azeem et al<sup>5</sup> supported our results. Their study showed that 83.9% mothers knew breast milk as the best diet for newborn and 81% had the knowledge of initiation of breastfeeding within an hour after birth.

In this current study, 72.5% mother knew that any pre-lacteal feeding is not required. Only 14.28% mother who had 0-6 month old baby practiced that and for 7-23 months old baby 25.6% mother practiced that. Similar findings found in a study in the Middle East showed that 18.5% mother gave their newborn pre-lacteal food<sup>34</sup>. 94% mother agreed that exclusive breast feeding (EBF) should be given for first six months. But only half of them practiced that (EBF 40.47% for 0-6 months children and 51.1% for 7-23 months old children. BDHS report (2014)<sup>3</sup> showed that EBF rate in Bangladesh was 55%. In India this rate was 46.3% (NFHS-3)<sup>6</sup> and in a study by Khan et al<sup>7</sup> this rate was 37% which also supported our study.

In this study, 97.2% mother had knowledge about colostrum and 91.8% had positive attitude towards colostrum feeding and 93.7% mother gave colostrum. In 2005 survey<sup>8</sup> colostrum feeding rate was 87% in Bangladesh.

Ninety four percent mother had knowledge about complementary feeding and 98.2% knew initiation time of complementary feeding. These results are in line with the results found by Manju et al<sup>9</sup> where 85.2% knew the timing of CF.

This study revealed that knowledge and practices regarding CF were inappropriate where 67% mother knew about amount of complementary food and frequency depending on child's appetite for 6-8 months old child. For 9-11 months this percentage was 54.1% and for 12-23 months old child this frequency was 52.3%. Half of them (55.7%) provide complementary feeding accurately with at least

four different types of food in most of the day. Whereas Hasnain et al<sup>10</sup> study showed that about 80% of mothers had the correct knowledge regarding frequency of the food according to age of infant by the mother but it was practiced by 62% mothers. In a study of India, 32.6% of children of 6-23 months were having food from 4 and more food groups.<sup>11</sup>

There was no negative attitude found regarding IYCF. 72.5% showed positive attitude regarding IYCF when their answer was analyzed by SPSS (version 19) and neutral attitude has been found for 27.5%. This result is in accordance other studies.<sup>12,13</sup>

For 0-6 completed months old child, 50% mother's score was good for practice regarding IYCF and 45.24% scored fair. For mother of 7-23 completed months old child scored good 46.02% and 45.45% scored fair in regards of their practice of IYCF. There has been strong correlation found ( $P < 0.05$ ) between knowledge, attitude & practice of mother regarding IYCF with mother's educational back ground. Whereas another study of Bangladesh had reported statistically significant association between maternal education and knowledge about complementary feeding ( $P < 0.001$ ).<sup>51</sup> similarly there was a statistically significant difference in feeding practices of educated and uneducated mothers ( $P < 0.0001$ ).<sup>14</sup>

When data has been analyzed, KAP with mother's socio economic status, result was significant ( $P < 0.0001$ ) for mother's attitude and practice regarding IYCF. Khan et al<sup>15</sup> also reported significant association between the economic status of family and CF knowledge of mother's ( $P < 0.001$ ). Result was significant ( $P < 0.01$ ) for mother's attitude, when data was analyzed for age of mothers with KAP. There was no association for knowledge & practice in regard of mother's age. There has not been any association ( $P > 0.05$ ) of KAP with mother's order of pregnancy. When scatter diagram has been plotted with mother's knowledge and practice, diagram shows significant spearman's correlation ( $r = 0.492$ ,  $P = 0.0001$ ). So a strong correlation has been found between mother's knowledge and her practice. A significant correlation ( $r = 0.571$ ,  $P = 0.0001$ ) has been found

between mother's knowledge and attitude. This correlation has been analyzed based on each of mother's knowledge against her attitude and practice regarding IYCF. There has been strong correlation ( $r=0.531$ ,  $p=0.0001$ ) between mother's attitude and practice that indicates that positive attitude towards IYCF leads to positive IYCF practice.

### Conclusion:

Mothers had good knowledge about Infant and Young Child Feeding. There is a strong association in between mother's educational background and KAP (Knowledge, attitude & practice) regarding IYCF. With mother's socio economic status a significant correlation has been found for attitude and practice. The majority of the mothers had good knowledge and a positive attitude towards breastfeeding and complementary feeding but they did not practice this properly.

### References

1. Nagra SA, Gilani AH. Variation in infant feeding practices in Pakistan with socioeconomic stratification. *Journal of Tropical Paediatrics* 1987; 33: 103-106.
2. Tiwari R, Mahajan PC, Lahariya C. The Determinants of Exclusive Breast Feeding in Urban Slums: A Community based study. *Journal of Tropical Pediatrics* 2008; 55(1):49-54.
3. National Institute of Population Research and Training (NIPORT). Bangladesh Demographic and Health Survey 2014: Key Indicators. Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, Mitra and Associates, and ICF International March 2015; 30-34.
4. Jones G, Stekette RW, Black RE, Bhutta ZA, Morris SS. How many child's death can we prevent this year? *Lancet* 2003; 362: 65-71.
5. Azeem Z, Qadir U, Afzal MF, Sultan MA. Knowledge, Attitude and Practice of breastfeeding in Urban community of Lahore: A cross sectional study. *ANNALS* 2010;16(4):299-302
6. Arnold F, Parasuraman S, Arokiasamy P, Kothari M. Nutrition in India. National Family Health Survey (NFHS- 3), India, 2005-06. Mumbai. Available from: [hetv.org/india/nfhs/index.html](http://hetv.org/india/nfhs/index.html). Accessed September 15, 2015.
7. Khan GN, Ariff S, Khan U, Habib A, Umer M, Suhag Z, Hussain I, Bhatti Z, Ullah A, Turab A. Determinants of infant and young child feeding practices by mothers in two rural districts of Sindh, Pakistan: a cross-sectional survey. *International Breastfeeding Journal* (2017) 12:40
8. National Strategy for IYCF in Bangladesh, IPHN, DGHS, MOHFW, 2007;April:12.
9. Khatun MA, Banu NA, Khatoon S. Lactating Mother's knowledge and perception towards EBF in Bangladesh. *Sir Salimullah Med Coll J* 2008; 16: 14-20
10. Hasnain S, Majrooh MA, Anjum R. Knowledge and practices of mothers for complementary feeding in babies visiting pediatrics outpatient department of Jinnah hospital, Lahore . *Biomedica* 2013; 29:221-230.
11. Khan AM, Kayina P, Agrawal P, Gupta A, Kannan AT. A study on infant and young child feeding practices among mothers attending an urban health center in East Delhi. *Indian J Public Health* 2012; 56: 301-304.
12. Uchendu UO, Ikefuna AN, Emodi IJ. Exclusive breastfeeding – the relationship between maternal perceptions and practice . *Niger J Clin Pract* 2009; 12 (4) : 403-40
13. Madhu K, Chowdry S, Masthi R. Breast feeding practice and Newborn care in rural areas: A descriptive cross sectional study. *Indian Journal of Community Medicine* 2009; 34(3):243-246.
14. Madhu K, Chowdry S, Masthi R. Breast feeding practice and Newborn care in rural areas: A descriptive cross sectional study. *Indian Journal of Community Medicine* 2009; 34(3):243-246.
15. Khan MAS, Hossain MM, Razzak A, Amin R. Factors of weaning practices by mothers on children: A hospital based study. *The ORION Medical Journal* 2008;30:561-564
16. Singh, B. Knowledge, Attitude and Practice of Breastfeeding –A case study. *European Journal of Scientific Research* 2010; 40(3): 404-422.
17. Shaker NZ, Hussen KA, Al- Azzawi S I. Knowledge, Attitude and Practices (KAP) of Mothers toward Infant and Young Child Feeding in Primary Health Care (PHC) Centers, Erbil City. 2009. Retrieved from <http://www.iasj.net/iasj?func=fulltext&aid=60905>
18. Roy SK, Ireen S, Rahman S. Why Breast feeding is Important? *World Breastfeeding Week 2002*; Bangladesh Breast Feeding Foundation, Dhaka: 4-6.
19. The WHO Global Data Bank on Infant and Young Child Feeding. WHO Nutrition for Health and



- Development, 2009 (Cited 2014 July 21) Available from: <http://www.who.int>.
20. Dennis CL. Breastfeeding initiation and duration: a 1990-2000 literature review. *Journal of Obstetrics, Gynecologic and Neonatal Nursing* 2002; 31:12-32.
  21. In Under -2 Children. *Chattagram Maa-O-Shishu Hospital Medical College Journal* 2014; 13(3) 35-40
  22. Sriram S, Soni P, Thanvi R, Prajapati N, Mehariya KM. Knowledge, Attitude and Practices of Mothers Regarding Infant Feeding Practices. *National Journal of Medical Research* 2013; 3(2):147.
  23. Naseem A, Mazher N. A study to evaluate the knowledge, attitude and practices of exclusive breast feeding among primi mothers of healthy term neonates in a tertiary care hospital and predictors of failure of establishment of exclusive breast feeding in first six months. *International Journal of Contemporary Pediatrics* 2016; 3(3):810-814.