

Morbidity Pattern between Exclusive and Non Exclusive Breast Feeding Infants

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Abstract

Exclusive breastfeeding in the early months of life is correlated strongly with increased child survival and reduced risk of morbidity. This comparative cross sectional study was conducted to find out the morbidity pattern between Exclusive and Non Exclusive breast feeding infants aged up to 6 months as well as their mother's perception about the Exclusive breast feeding practice. Findings revealed that 90.3% Exclusive breast feeding infant's mothers and 46.9% Non-Exclusive breast feeding infants' mothers had proper knowledge on the concept of Exclusive breast feeding. 96% Exclusive breast feeding infants' mothers agreed that feeding of only breast milk is exclusive breast feeding practice. 38.7% Non-Exclusive breast feeding infants' mothers did not breastfed their babies within one hour after birth due to refusal of neonates to suck breast milk just after birth. 72% Non-Exclusive breast feeding mothers did not breast fed their babies exclusively up to one month of age. 22.7% of them did not get any support from their family for continuation of breast feeding. 20% Exclusive breast feeding mother's infant and 58.7% Non-Exclusive breast feeding group infants had history of cough within 24 hours. 40% of them had the history of cough from the last two weeks. 10.7% mothers of Exclusive breast feeding group and 13.3% mothers of Non Exclusive breast feeding group told that their babies had history of difficult breathing within 24 hours. 16% Non-Exclusive breast feeding infants' mothers revealed that their infants were suffering from difficult breathing from the last two weeks. 17.3% Exclusive breast feeding infants were suffering from fever within 24 hours and 18.7% Non-Exclusive breast feeding infants had history of fever within 24 hours. The duration of which was more than 1 week in 5.9% Exclusive breast feeding group whereas 29.3% in Non Exclusive breast feeding group. 13.3% of Exclusive breast feeding infants and 37.3% of Non-Exclusive breast feeding group infants had history of running nose within 24 hours. 18.7% of Exclusive breast feeding group's infant and 40% of Non-Exclusive breast feeding group's infants had history of running nose throughout the last two weeks. 8% Exclusive breast feeding group' infant and 17.3% Non-Exclusive breast feeding group infants had history of Diarrhea within 24 hours. The duration of which was more than 1 day in 40 % Non-Exclusive breast feeding group whereas 27.6% in Exclusive breast feeding group. 44.2% of Non-Exclusive breast feeding group infants were found wasted, 46.0% were found stunted and 66.4% were underweight during the study. Social and public health interventions are strongly recommended to ensure good feeding practice so that infantile morbidities could be prevented.

Key Words: Morbidity, Exclusive breast feeding, No Exclusive breast feeding

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Introduction

Breast milk is the natural prime food for babies, it provides all the energy and nutrients that the infant needs for the first 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 (*Kramer M et al, 2001*).

Breast milk provides the infants with immunological protection, and is generally free from contamination. Infant feeding practices have lots of implication for infant survival and growth (BBF, 2004 & ACC/SCN-IFPRI, 2000). Breastfeeding is a biological & cultural system. While breastfeeding is a natural act, it is also a learned behavior. An extensive body of research has demonstrated that mothers and other caregivers require active support for establishing and sustaining appropriate breastfeeding practices. In developed countries the percentage of mothers who are breastfeeding for different duration after delivery & the average duration of breastfeeding, both are declining. Exclusive breastfeeding means that the baby should be given only breast milk & nothing else, not even water. Infant formula is by all means inferior & incomparable to breast milk. Bottle feeding with infant formula is too dangerous to spread infection to infants (Aker H, 1992). Artificially-fed children have an increased risk of long term diseases with an immunological basis. Artificial feeding is also associated with a greater risk of childhood various illness.

Many studies, both in rural & urban Bangladesh have shown widespread improper breastfeeding practice. Pre-lacteal feeds such as honey, mustard oil & sugar water are almost-universally given to the new born babies, often using a finger or a cloth dipper in the feed, thus exposing the newborn to the risk of infantile diseases such as Diarrhea, Fever, ARI etc. (Talukder, 1997).

In the UK, a study on 'Optimal duration of exclusive breastfeeding' concluded that infants who are exclusively breastfed for 6 months experience less morbidity from gastrointestinal infection than those who are mixed breastfed as of 3 or 4 months, and no deficits have been demonstrated in growth among infants from either developing or developed countries who are exclusively breastfed for 6 months or longer. Moreover, the mothers of such infants have more prolonged lactation amenorrhea (Koniak-Griffin, 2000). A large number of children in developing countries are still suffering from malnutrition. About 43.6% of under five children in South Asia are underweight (ACC/SCN, 2000).

The benefits of breastfeeding for child and mothers in terms of nutrition, immunological protection, anti-infective, biochemical, anti-allergic, anti-cancer and contraceptive effects and emotional satisfaction have been recognized by public health experts and communities. Exclusive Breast feeding is enough for the baby up to six months of life and no other food is necessary during this time (Rant JP, 2008).

More frequent breast feedings 8-12 times per day during the first week of life are associated with greater overall milk intake and greater weight gain at 15 days and six weeks of age of the

baby. Mothers also get benefit from early suckling because it stimulates breast milk production and facilitates the release of oxytocin, which helps the contraction of the uterus and reduces postpartum blood loss. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from diseases. Early initiation of breastfeeding also encourages bonding between the mother and her newborn. Colostrum is the secretion of breast following child birth for the first 2-3 days build antibody of the body (Hussain MA, 1976).

Breast feed infants have enhanced immune response and reduced risk for chronic illness such as Asthma, Diabetes and Inflammatory Bowel Disease. Breast feeding may also have a protective effect against childhood obesity. Furthermore, breastfeeding improves maternal health, minimizes post-partum bleeding and reduces the risk of ovarian cancer and breast cancer. Milk starts to be produced in larger amounts between 2 and 4 days after delivery, making the breasts feel full; the milk is then said to have 'come in'. On the third day, an infant is normally taking about 300–400 ml per 24 hours, and on the fifth day 500–800 ml from day 7 to 14, the milk is called transitional, and after 2 weeks it is called mature milk (WHO, 2009).

Prelacteal feeding is widely practiced in Bangladesh. More than 62% newborns practice breastfeeding in our country. Overall, 43 percent of children start breastfeeding within one hour after birth and 89 percent within one day after delivery. Prelacteal feeds are given to newborns before breastfeeding or before breast milk 'comes in,' usually on the first day of life. Prelacteal feeding is the practice of giving other liquids to a child during the first three days of life (Hoque N, 2004). Prelacteals include honey, ghee (clarified butter), and juice, ORS, cow milk and infant formula. The choice of prelacteals may be specific to a caste or family (WHO, 2008).

It was also found that 85% mothers in rural Bangladesh feed their child prelacteal food and only 10% fed breast milk (BDHS, 2007). Breast milk contains all the nutrients that an infant needs in the first 6 months of life, including fat, carbohydrates, proteins, vitamins, minerals and water. It is easily digested and efficiently used. Breast milk also contains bioactive factors that augment the infant's immature immune system providing protection against infection and other factors that help digestion and absorption of nutrients. Despite the propagation of clear benefits of breastfeeding, worldwide breastfeeding rates continue to decline. Exclusive breastfeeding is even less common (Rant JP, 2008). Less than optimal breast-feeding practices have negative impact on child health and family (Rasheed S, 2002).

Exclusive breastfeeding is still vital in developing countries where water, sanitation & child rearing remain in an unsatisfactory condition in terms of infective agent (Vani Sethi, 2003). The longer post introduction of additional food, the lesser will be their chances in contracting morbidity & growth faltering.

Objective of the study

To find out the pattern of morbidity between Exclusive and Non Exclusive breast feeding infants in some selected maternity hospitals of Dhaka City.

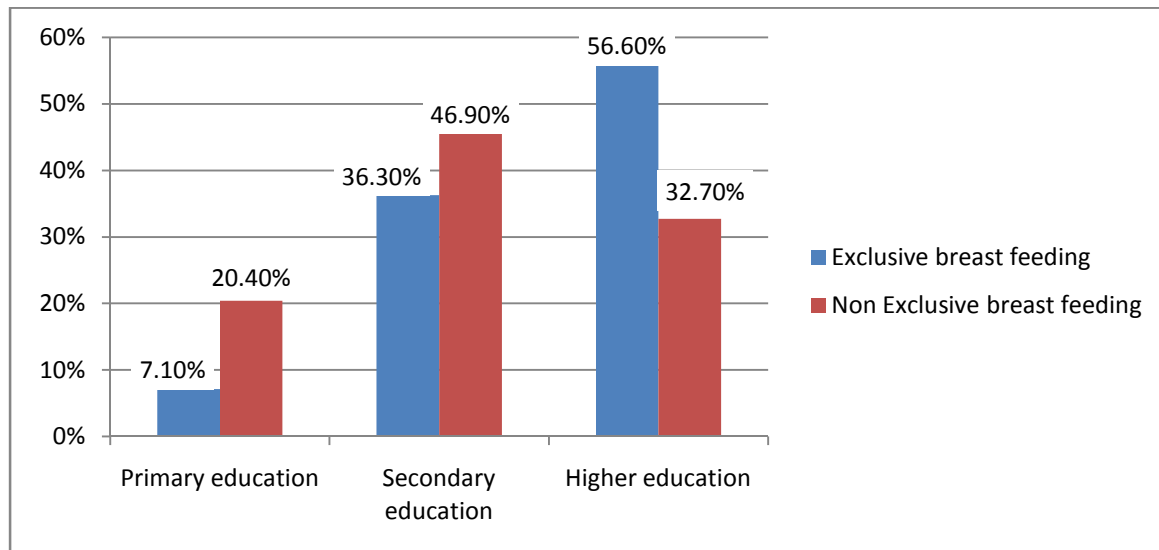
Materials and Methods

This study was descriptive in nature. It was carried out in Mohammadpur fertility services and MCH hospital, Azimpur maternity hospital and Radda MCH & FPcentre. In total, 150 infants of 6 months and their mothers attending those maternity hospitals were selected purposively. The study was based on the basis of primary data. A pre-tested semi structured questionnaire was used to accomplish the purpose. A morbidity check list and Height-Weight machine was also used as data collection instruments. Voluntary participation of the respondents as well as the confidentiality of their information was strictly maintained. Informal oral consent from each of the respondents was obtained. Data were analyzed by statistical package programme (SPSS 17 version). Findings were presented in narrative form with tables and graphs.

Results

Out of 150 respondents, 75 (50%) respondents were in Exclusive breast feeding group and 75 (50%) respondents were in Non Exclusive breast feeding group. 67.3% Exclusive breast feeding infant's mothers and 70.8% Non-Exclusive breast feeding infant's mothers had monthly family income up to Tk.20,000/- Only 4.4% and 6.2% mothers of Exclusive and Non Exclusive breast feeding group respectively had monthly family income Tk. 35,000/- and above. 7.1% mothers of Exclusive breast feeding infants and 20.4% mothers of Non Exclusive breast feeding infants got primary education. 56.6% Exclusive breast feeding and 32.7% Non-Exclusive breast feeding infant's mothers were highly educated.

Figure 1: Comparison between Exclusive and Non Exclusive breast feeding group by the education level of mothers



In Exclusive breast feeding group, 71% mothers were housewife. In contrast 80% Non Exclusive breast feeding group's mothers were housewife. On the other hand 16% mothers from the Exclusive and 10.7% mother from Non Exclusive breast feeding group were service holder.

Table 1: Comparison between Exclusive and Non Exclusive breast feeding group by occupation of mothers

Occupation of the mothers	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Housewife	53	71.0	60	80.0	113	75.4
Service holder	12	16.0	8	10.7	20	13.3
handiwork	10	13.0	7	9.3	17	11.3
Total	75	100.0	75	100.0	150	100.0

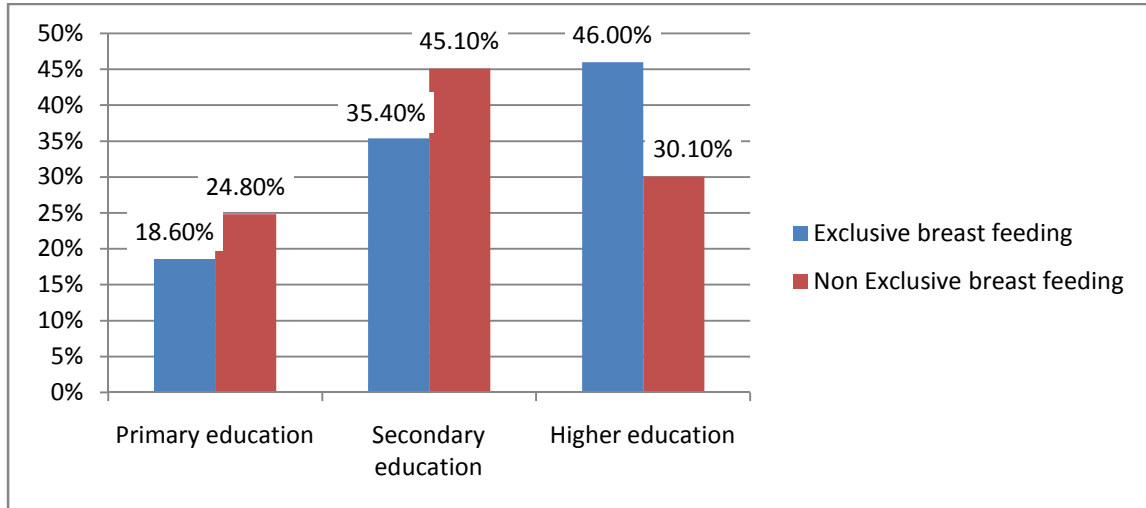
Duration of work outside home in case of service holder and handicraft worker mothers from Exclusive and Non Exclusive breast feeding mothers was 13.7% and 33.3% respectively.

Table 2: Comparison between Exclusive and Non Exclusive breast feeding group by duration of work outside home

Duration of work outside home	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Less than 6 hours	19	86.3	10	66.7	30	81.1
More than 6 hours	3	13.7	5	33.3	7	18.9
Total	22	100.0	15	100.0	37	100.0

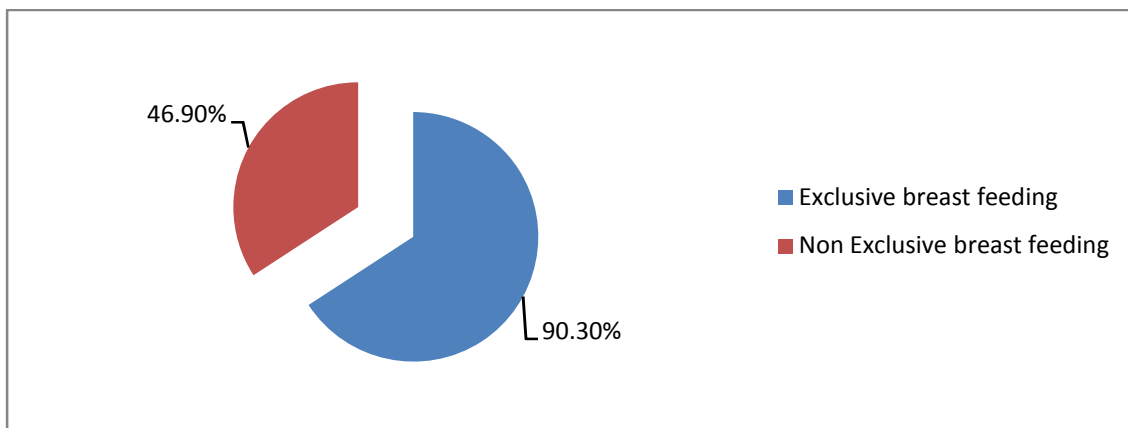
Regarding father's education, 18.6% Exclusive breast feeding infant's fathers and 24.8% Non-Exclusive breast feeding infant's fathers obtained primary education. 35.4% and 45.1% father got secondary education from Exclusive breast feeding group and Non Exclusive breast feeding group respectively. 46.0% Exclusive breast feeding infant's fathers and 30.1% Non-Exclusive breast feeding infant's fathers were highly educated.

Figure 2: Comparison between Exclusive and Non Exclusive breast feeding group by educational level of father



1.8% Exclusive breast feeding infant's father and 6.2% Non-Exclusive breast feeding infant's father were unemployed. 16.8% Exclusive breast feeding infants and 22.1% Non-Exclusive breast feeding infant's father were self-worker. 40.7% Exclusive breast feeding infants and 42.5% of Non-Exclusive breast feeding infants father were service holder. Business was the occupation for 40.7% Exclusive breast feeding infant's father and 29.2% Non-Exclusive breast feeding infant's father. 90.3% Exclusive breast feeding infant's mothers and 46.9% Non-Exclusive breast feeding infant's mothers had proper knowledge on the concept of exclusive breast feeding. 9.7% and 53.1% mothers from Exclusive and Non Exclusive breast feeding group (respectively) had no concept on exclusive breast feeding.

Figure 3: Comparison between Exclusive and Non Exclusive breast feeding group by knowledge on exclusive breast feeding



93.3% Exclusive breast feeding and 61.3% Non-Exclusive breast feeding infants mothers breastfed their babies within one hour after birth. 6.7% and 38.7% Exclusive breast feeding and Non-Exclusive breast feeding infants mothers did not breastfed their babies within one hour after birth.

Table 3: Comparison between Exclusive and Non Exclusive breast feeding group by status of breastfeeding within one hour of birth

Breastfeeding within one hour of birth	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	70	93.3	46	61.3	116	77.3
No	5	6.7	29	38.7	34	22.7
Total	75	100.0	75	100.0	150	100.0

40% Exclusive breast feeding group's mothers and 41.4% Non Exclusive breast feeding group's mothers informed that refusal of sucking breast milk was the reason of non initiating breastfeeding just after birth. 20% and 13.8% mothers from Exclusive breast feeding and Non Exclusive breast feeding group informed that due to their sickness they could not give breast milk just after birth.

Table 4: Comparison between Exclusive and Non Exclusive breast feeding group by reason for not giving breast milk just after birth

Reason for not giving breast milk just after birth	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Refusal to feed	2	40.0	12	41.4	14	41.2
Mother's sickness	1	20.0	4	13.8	5	14.7
No milk in breast	2	40.0	13	44.8	15	44.1
Total	5	100.0	29	100.0	34	100.0

2.7% Exclusive breast feeding infants mothers knew Water and breast milk as exclusive breast feeding. On the other hand it was 34.7% in case of Non Exclusive breast feeding group. Next common understanding was Suzie breast milk as exclusive breast feeding in 8% Non-Exclusive breast feeding group. 1.3% Exclusive breast feeding group's mothers

knew infant formula breast milk as exclusive breast feeding whereas 6.6% Non-Exclusive breast feeding group's mothers knew infant formula breast milk as exclusive breast feeding. 96% Exclusive breast feeding infants' mothers knew only breast milk as exclusive breast feeding whereas only 50.7% Non-Exclusive breast feeding infant's mothers knew only breast milk as exclusive breast feeding.

Table 5: Comparison between Exclusive and Non Exclusive breast feeding group by meaning of exclusive breastfeeding

Meaning of exclusive breastfeeding	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Water + breast milk	2	2.7	26	34.7	28	18.7
Suzie + breast milk	0	0.0	6	8.0	6	4.0
Infant formula + breast milk	1	1.3	5	6.6	6	4.0
Only breast milk	72	96	38	50.7	110	73.3
Total	75	100.0	75	100.0	150	100.0

96% Exclusive breast feeding group's mothers and 28% Non-Exclusive breast feeding group mothers continued breast feeding exclusively up to one month of age. Only 4% Exclusive breast feeding mothers and 72% Non-Exclusive breast feeding mothers did not breast feed their babies exclusively up to one month of age.

Table 6: Comparison between Exclusive and Non Exclusive breast feeding group by status of breastfeeding exclusively by one month of age

Breastfeeding exclusively by one month of age	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	72	96.0	21	28.0	93	62.0
No	3	4.0	54	72.0	57	38.0
Total	75	100.0	75	100.0	150	100.0

93.3% Exclusive breast feeding groups mothers got support from their family during breast feeding whereas 77.3% Non-Exclusive breast feeding group's mothers got support from their family. 22.7% mothers of Non Exclusive breast feeding group did not get any support from their family for breast feeding.

Table 7: Comparison between Exclusive and Non Exclusive breast feeding group by having support from the family for breast feeding

Having support from the family for breast feeding	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	70	93.3	58	77.3	128	85.3
No	5	6.7	17	22.7	22	14.7
Total	75	100.0	75	100.0	150	100.0

All Exclusive breast feeding infant's mothers and 76% Non-Exclusive breast feeding infant's mothers were practicing breast feeding. 24% Non-Exclusive breast feeding infants' mothers were not practicing breast feeding during the study period.

Table 8: Comparison between Exclusive and Non Exclusive breast feeding group by practicing breast feeding till now

Practicing breast feeding	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	75	100.0	57	76.0	132	88.0
No	0	0.0	18	24.0	18	12.0
Total	75	100.0	75	100.0	150	100.0

98.7% Exclusive breast feeding infant's mothers and 69.3% Non-Exclusive breast feeding infant's mothers showed positive attitude to continue breast feeding up to six month of age.

Table 9: Comparison between Exclusive and Non Exclusive breast feeding group by attitude to continue breast feeding up to six months

Attitude to continue breast feeding up to six months	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	74	98.7	52	69.3	126	84.0
No	1	1.3	23	30.7	24	16.0
Total	75	100.0	75	100.0	150	100.0

13.3% Exclusive breast feeding infants and 37.3% Non-Exclusive breast feeding group's infants had history of running nose within 24 hours. 18.7% Exclusive breast feeding group's infants and 40% Non-Exclusive breast feeding group's infants had history of running nose during last two weeks. The duration of which was more than 1 week in 21.5% Exclusive breast feeding group whereas 20% in Non Exclusive breast feeding group.

Table 10: Comparison between Exclusive and Non Exclusive breast feeding group by pattern of morbidity (Running nose)

Running nose within 24 hours	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	10	13.3	28	37.3	38	25.3
No	65	86.7	47	62.7	112	74.7
Total	75	100.0	75	100.0	150	100.0

Running nose during last two weeks	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	14	18.7	30	40.0	44	29.3
No	61	81.3	45	60.0	106	70.7
Total	75	100.0	75	100.0	150	100.0

10.7% mothers of Exclusive breast feeding group and 13.3% mothers of Non Exclusive breast feeding group told that their babies had history of difficulty during breathing within 24 hours. 14.7% Exclusive breast feeding infant's mothers informed the history of difficulty during breathing in last two weeks and 16% Non-Exclusive breast feeding infant's mothers revealed the same.

Table 11: Comparison between Exclusive and Non Exclusive breast feeding group by pattern of morbidity (Difficulty during breathing)

Difficult breathing within 24 hours	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	8	10.7	10	13.3	18	12.0
No	67	89.3	65	86.7	132	88.0
Total	75	100.0	75	100.0	150	100.0

Difficult breathing during last two weeks	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	11	14.7	12	16.0	23	15.3
No	64	85.3	63	84.0	127	84.7
Total	75	100.0	75	100.0	150	100.0

17.3% Exclusive breast feeding infants were suffering from fever within 24 hours and 18.7% Non-Exclusive breast feeding infants had history of fever within 24 hours. 16% Exclusive breast feeding infants and 34.7% Non-Exclusive breast feeding infants had history of fever throughout last two weeks. The duration of which was more than 1 week in 5.9% Exclusive breast feeding group whereas 29.3% in Non Exclusive breast feeding group.

Table 12: Comparison between Exclusive and Non Exclusive breast feeding group by pattern of morbidity (Fever)

Fever within 24 hours	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	13	17.3	14	18.7	27	18.0
No	62	82.7	61	81.3	123	82.0
Total	75	100.0	75	100.0	150	100.0

Fever during last two weeks	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	12	16.0	26	34.7	38	25.3
No	63	84.0	49	65.3	112	74.7
Total	75	100.0	75	100.0	150	100.0

20% Exclusive breast feeding mother's infants and 58.7% Non-Exclusive breast feeding mother's infants had history of cough within 24 hours. 22.3% mothers from Exclusive breast feeding group informed that their babies were suffering from cough during last two weeks whereas 40% mothers of Non Exclusive breast feeding group gave the history of cough from the last two weeks. The duration of which was more than 1 week for 37.5% Exclusive breast feeding infants and 39.1% for Non Exclusive breast feeding infants.

Table 13: Comparison between Exclusive and Non Exclusive breast feeding group by pattern of morbidity (Cough)

Cough within 24 hours	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	15	20.0	44	58.7	59	39.3
No	60	80.0	31	41.3	91	60.7
Total	75	100.0	75	100.0	150	100.0

Cough during last two weeks	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	16	21.3	30	40.0	46	30.7
No	59	78.7	45	60.0	104	69.3
Total	75	100.0	75	100.0	150	100.0

8% of Exclusive breast feeding group' infants and 17.3% of Non-Exclusive breast feeding groups infants had history of Diarrhea within 24 hours. 14.7% of Exclusive breast feeding group's infant and 24% of Non-Exclusive breast feeding group's infants had history of Diarrhea during last two weeks. The duration of which was more than 1 day in 40 % Non-Exclusive breast feeding group whereas 27.6% in Exclusive breast feeding group.

Table 14: Comparison between Exclusive and Non Exclusive breast feeding group by pattern of morbidity (Diarrhoea)

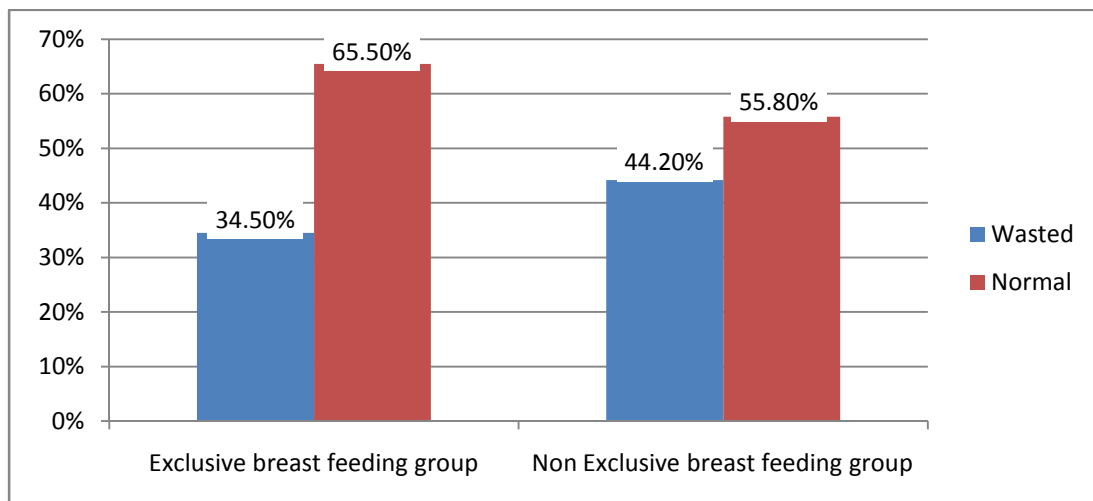
Diarrhoea within 24 hours	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	6	8.0	13	17.3	19	12.7
No	69	92.0	62	82.7	131	87.3
Total	75	100.0	75	100.0	150	100.0

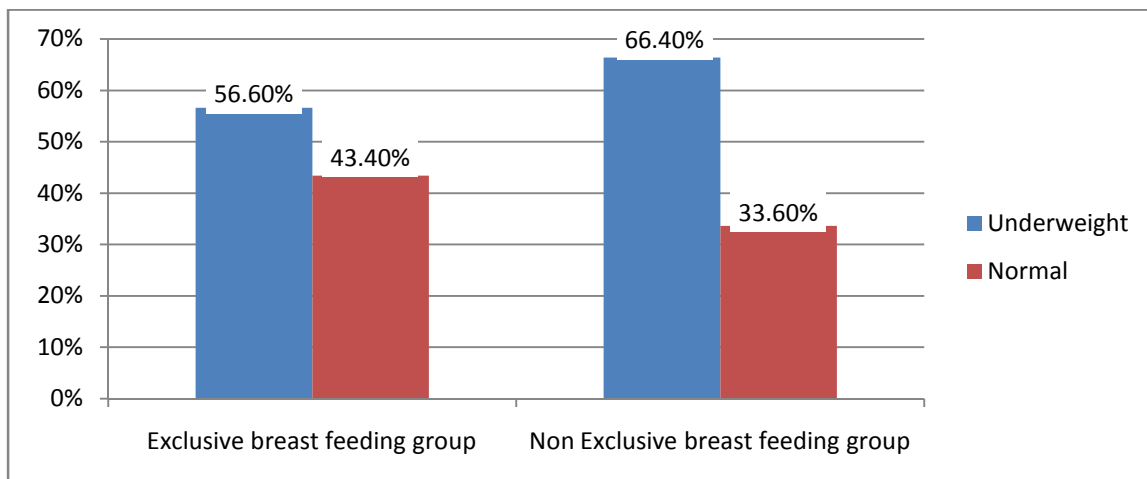
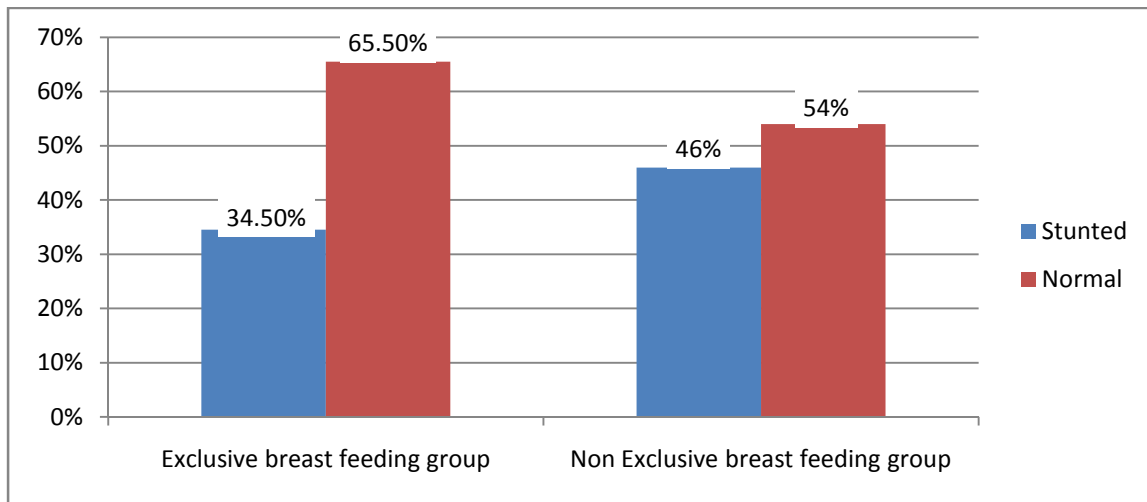
Diarrhoea during last two weeks	Exclusive breast feeding group		Non Exclusive breast feeding group		Total	
	n	%	n	%	n	%
Yes	11	14.7	18	24.0	29	19.3
No	64	85.3	57	76.0	121	80.7
Total	75	100.0	75	100.0	150	100.0

Findings of the check list

According to height for weight 34.5% of Exclusive breast feeding groups infants and 44.2% of Non-Exclusive breast feeding group's infants were **wasted**. According to height for age 34.5% Exclusive breast feeding groups infants and 46.0% Non-Exclusive breast feeding group's infants were **stunted**. According to weight for age 56.6% Non-Exclusive breast feeding group's infants and 66.4% Non-Exclusive breast feeding group's infants were **Underweight**.

Figure 4: Comparison of nutritional status between Exclusive and Non Exclusive breast feeding group





Conclusion and recommendation

Lack of mother's knowledge about the benefit of the initiation of breast milk, lack of proper awareness, inadequate nutrition information are some leading causes of prelacteal feeding which in turn leads to Non Exclusive breast feeding practice. In our country we have limited information on the feeding practice of infants and their morbidity pattern due to this faulty feeding practice. Diarrhea, Acute Respiratory Tract infection (ARI) leads to stunted growth, underweight and wasting. Reduction of infantile morbidity & improvement in nutritional status by exclusive breastfeeding practice should be the major policy issues for the proper growth & health of the infants. Public health practitioners should come forward to plan proper nutrition education programs using appropriate channels of mass media with repeated reinforcement which could bring about improvement in awareness of the mothers about the proper infant feeding practice so that infantile morbidities could easily be prevented.

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