CHAPTER 4

RESULT OF THE STUDY

Since the estimated sample size was 100 infants, 50 in exclusive breast feeding and 50 in non exclusive breast feeding groups and drop out rate was set at 30% for this study. So 65 subjects in each group were recruited for data collection. However, 30 mothers were excluded or lost from the study.

Six mothers started supplementary foods after 1st month of life among exclusive breast feeding group. Four mothers and six mothers among exclusive and non exclusive breast feeding groups respectively went to visit their parent's home. The mothers moved out with their husband to work in other districts were three and four among exclusive and non exclusive breast feeding groups respectively. The mothers, who moved out to go husband's house after temporarily residing with their parents or renting rooms for a short period were two and five among exclusive and non exclusive breast feeding respectively. Finally 100 mothers were included for data analysis.

These two groups were compared for parental socio-economic status, education between exclusive and non exclusive breast feeding groups.

Table 4.1 Number distribution and comparison of demographic and socio-economic variables between exclusive and non exclusive breast feeding groups:

Table 4.1.1. Age of mothers.

Age of mother (Year)	EBF		NEBF	
	No.	%	No.	%
17 - 21	20	40	15	30
22 - 26	10	20	17	34
27 - 31	13	26	8	16
32 - 36	7	14	9	18
37 - 40	0	0	1	2
Total	50	100	50	100
Range	17 - 34		17 - 40	
Mean ± SD	22.9±4.2		23.9±5.2	
T Test	1.02			
p value	0.311			

When comparing the mothers' age between EBF and NEBF groups, it was found that the majority of mothers' mean age were 22.9 with the range of 17 to 34 years old in EBF and 23.9 years old with the range of 17 to 40 years old in NEBF. Most of them 40% were 17 to 21 years old in EBF and 34% were 22 to 26 years old in NEBF groups. There was no statistically significant difference in mothers' age between both groups.

Table 4.1.2. Number of children.

No of children	EBF		NEBF	
	No.	%	No.	%
1 - 2	40	80	43	86
3 - 4	9	18	7	14
5 - 6	1	2	0	0
Total	50	100	50	100
Range	1 - 5		1 - 4	
Mean±SD	1.84±0.95		1.74±0.85	
T value	0.55			
p value	0.582			

When comparing the number of children between two groups, it was found that the majority of mothers in EBF group had mean 1 to 2 children with the range of 1 to 5 and the majority of mothers in NEBF groups had mean 1 to 2 children with the range of 1 to 4. There was no statistically significant difference in the mean number of children between two groups.

Table 4.1.3. Education of mothers.

Educate. of mother (Year)	EBF		NEBF	
	Number	%	Number	%
None	27	54	23	46
1 - 5	3	6	5	10
6 - 10	10	20	16	32
11 - 16	10	20	6	12
Total	50	100	50	100
Range	0 - 12		0 - 12	
Mean±SD	4.48±5.09		4.64±4.69	
T value	- 0.16			
p value	0.871			

when comparing the mothers' education between both groups, it was found that the majority of mothers mean year of education were 6 to 10 years (secondary education) with the range of 0 to 12 years of education among exclusive and non exclusive breast feeding groups respectively. There was no statistically significance difference in the education of mothers between two groups.

Table 4.1.4. Education of fathers.

Educate. of father (Year)	EBF		NEBF	
	Number	%	Number	%
None	14	28	12	24
1 - 5	8	16	5	10
6 - 10	9	18	19	38
11 - 16	19	38	14	28
Total	50	100	50	100
Range	0 - 12		0 - 12	
Mean±SD	6.68±4.93		7.10±4.55	
T value	- 0.44			
p value	0.659			

When comparing the fathers's education between EBF and NEBF groups, it was found that the majority of fathers finished the mean year of education were 11 to 16 in EBF group with the range of 0 to 12 and 6 to 10 in NEBF group respectively. There was no statistically significance difference in fathers' education between two groups.

Table 4.1.5. Occupation of fathers.

Occupation of father	EBF		NEBF	
	Number	%	Number	%
Govt. service	14	28	4	8
Business	12	24	15	30
Labor	8	16	3	6
Farmer	7	14	9	18
Others	9	18	19	38
Total	50	100	50	100
Chi square	11.98			
p value	0.017			

As shown in table 4.1.5 the fathers(28%) worked as government workers was higher in exclusive breast feeding group than non exclusive breast feeding group father(8%). About 38% of fathers in non exclusive breast feeding group were painter, carpenter, driver, tailor, rickshawala etc. could be classified as daily paid workers and were higher than those exclusive breast feeding group(18%). There was statistical significance difference in occupation of fathers between exclusive and non exclusive breast feeding group($p < 0.05$).

Table 4.1.6. Income of fathers.

Income of Father (Rupees /month)	EBF		NEBF	
	Number	%	Number	%
1500-2500 2600-5000 5100-10000	23 23 4	46 46 8	22 23 5	44 46 10
Total	50	100	50	100
Range	900-10000		1000-10000	
Mean±SD	2724±2029		2446±1993	
T value	0.69			
p value	0.491			

A similar distribution of the fathers' income was observed among exclusive and non exclusive breast feeding groups. The majority of fathers' mean income were 2600 to 5000 Rs per month with the range of 900 to 10000 Rs per month. There was no statistically difference in fathers' income between two groups.

Table 4.1.7. Birth weight of infants.

Birth weight (Kg.)	EBF		NEBF	
	No.	%	No.	%
2.5 - 3.0	27	54	30	60
3.1 - 3.8	23	46	20	40
Total	50	100	50	100
Range	2.5 - 3.8		2.5 - 3.8	
Mean±SD	3.26±0.376		3.026±0.446	
T value	1.21			
p value	0.228			

When comparing the infants' birth weight between two groups, it was found that the majority of infants' mean birth weights were 2.5 to 3.0 kilogram with the range of 2.5 to 3.8 kilogram at birth. There was no statistically difference in birth weight of infants between both groups.

Table 4.2 colostrum feeding in non exclusive breast fed infants:

Colostrum	Number of mothers(50)	
	Number	%
Given	46	92
Not given	4	8
Total	50	100

The percentage of the use of colostrum feeding in non exclusive breast feeding group was shown in Table 4.2. Only

8 % of the non exclusive breast fed infants had not received colostrum during the first 24 hours of life. 6% of infants received cow milk and 2% of them received glucose mixed water.

Table 4.3 Supplementary foods among non exclusive breast feeding:

Supplementary foods		
Nature of feeds	Number	%
Cow milk	26	52
Powdered milk	8	16
Litto	5	10
Cow milk + litto	4	8
Others	7	14
Total	50	100

Existing supplementary foods were cow milk, powdered milk, litto, rice water, barley, biscuits mixed milk or water. About 52 % of non exclusive breast fed infants was first introduced with cow milk. About 16 % of infants were first introduced with powdered milk and 10 % of infants received litto. About 8 % of infants received both cow's milk and litto as well as 14% infants received others foods as shown in table 4.3.

Non exclusive breast feeding mothers provided their baby breast milk including supplementary foods after the first 24 hours of life. Bottle feeding was the mode of feeding.

Therefore any liquid or semi liquid was given in a bottle using nipple or teat. But some mothers gave supplement foods using spoon and hands.

Table 4.4 Mean score of infants' weight (kg) by age and sex between EBF and NEBF groups:

Mon	Male(N=50)		Female(N=50)	
	EBF(N=25)	NEBF(N=25)	EBF(N=25)	NEBF(N=25)
0	3.140±0.399	3.056±0.457	3.112±0.358	2.996±0.442
1	4.081±0.484	3.896±0.530	4.096±0.445	3.896±0.610
2	5.000±0.565	4.680±0.597	4.969±0.578	4.644±0.727
3	5.659±0.606	5.172±0.652	5.472±0.524	5.017±0.708
4	6.258±0.660	5.610±0.690	6.098±0.649	5.522±0.795

As shown in table 4.4 the weight at birth were 3.140 ± 0.399 and 3.056 ± 0.457 among male exclusive and non exclusive breast fed infants respectively. The weight of 4 months were 6.258 ± 0.660 and 5.610 ± 0.690 among male exclusive and non exclusive breast fed infants respectively. The weight at birth were 3.112 ± 0.358 and 2.996 ± 0.442 among female exclusive and non exclusive breast fed infants respectively. The weight of 4 months were 6.098 ± 0.649 and 5.522 ± 0.795 among female exclusive and non exclusive breast fed infants.

Table 4.5 Weight gained(kg) from 0 to 4 months of infants:

Age of infants	Gained weights(kg) N=100
0 - 1	0.917 ± 0.153
1 - 2	0.831 ± 0.219
2 - 3	0.507 ± 0.028
3 - 4	0.542 ± 0.243

Table 4.6 ANOVA for weight gained of first month by breast feeding groups and sex of infants:

Source of variation	SS	DF	MS	F	Sign of F(p)
Main effects	0.280	2	0.140	6.619	0.002
GROUP	0.213	1	0.213	10.091	0.002
SEX	0.067	1	0.067	3.147	0.079
2-way interaction					
GROUP SEX	0.002	1	0.002	0.076	0.784
Residual	2.031	96	0.021		
Total	2.312	99	0.23		

ANOVA = Analysis of Variance

Table 4.7 ANOVA for weight gained of second month by breast feeding groups and sex of infants :

Source of variation	SS	DF	MS	F	Sigf of F(p)
Main effects	0.467	2	0.233	5.226	0.007
GROUP	0.424	1	0.424	9.491	0.003
SEX	0.043	1	0.043	0.960	0.330
2-way interaction					
GROUP SEX	0.001	1	0.001	0.016	0.899
Residual	4.286	96	0.045		
Total	4.754	99	0.048		

Table 4.8 ANOVA for weight gained of third month by breast feeding groups and sex of infants:

Source of variation	SS	DF	MS	F	Signf of F(p)
Main effects	0.208	2	0.105	7.805	0.001
GROUP	0.194	1	0.194	14.529	0.006
SEX	0.024	1	0.014	1.081	0.301
2-way interactions					
GROUP SEX	0.014	1	0.014	1.081	0.301
Residual	1.179	96	0.013		
Total	1.502	99	0.015		

Table 4.9 ANOVA for weight gained of fourth month by breast feeding groups and sex of infants:

Source of variation	SS	DF	MS	F	Signf of F(p)
Main effects	0.556	2	0.278	5.078	0.008
GROUP	0.500	1	0.500	9.130	0.003
SEX	0.056	1	0.056	1.026	0.314
2-way interactions					
GROUP SEX	0.011	1	0.011	0.194	0.661
Residual	5.256	96	0.055		
Total	5.822	99	0.059		

Tables 4.6, 4.7, 4.8 and 4.9 respectively show that the value of weight gained of first, second, third and fourth months within group and sex and the result of analysis of variance. There are no significant interaction in weight gain between group and sex ($p > 0.05$). The grouping variables can be tested individually, the significant of p value 0.002,

0.003, 0.006 and 0.003(p <0.05) associated with group revealed that the exclusive and non exclusive breast feeding groups effect the weight gain of infants. The non significant of p value 0.079, 0.330, 0.301 and 0.314 (p >0.05)' associated with sex indicated that responses were unaffected by sex.

TABLE 4.10 Comparison of weight increments (kg per month) between exclusive and nonexclusive breast fed infants from 0 to 4 months using unpaired T Test:

Mon	EBF Mean ± SD (N=50)	NEBF Mean ± SD (N=50))	t value	p value
0-1	0.963±0.123	0.870±0.166	3.16	0.002
1-2	0.895±0.198	0.765±0.222	3.10	0.003
2-3	0.580±0.313	0.433±0.222	2.73	0.008
3-4	0.612±0.303	0.471±0.131	3.03	0.003

The ANOVA indicated that there are no significant effect on weight gain by sex. There was no statistical difference among group in respect of gender(p >0.05). Furthermore, the Unpaired T Test indicated that weight gain of exclusive breast fed infants were statistical significant higher than that of non exclusive breast fed infants all the periods(p <0.05).

Table 4.11. Number distribution and comparison of diarrhoea episodes between exclusive and non exclusive breast feeding groups:

Diarrhoea episodes	EBF		NEBF	
	Number	%	Number	%
None	12	24	0	0
1 - 3	38	76	8	16
4 - 6	0	0	39	78
> 6	0	0	3	6
Total	50	100	50	100
Range	0 - 3		2 - 8	
Mean ± SD	1.140±0.833		4.72±1.26	
T value	-16.74			
p value	0.000			

When comparing the episodes of diarrhoea between EBF and NEBF infants, it was found that the majority of infants had occurred 1 to 3 mean episodes of diarrhoea in EBF with the range of 0 to 3 episodes of diarrhoea and had occurred 4 to 6 mean episodes of diarrhoea with the range of 2 to 8 episodes of diarrhoea in NEBF during the past 4 months period respectively. The episodes of diarrhoea was statistically significantly higher among non exclusive breast feeding group than those exclusive breast feeding group($p < 0.05$).

Table 4.12 Number distribution and comparison of ARI episodes between exclusive and non exclusive breast feeding groups:

ARI episodes	EBF		NEBF	
	Number	%	Number	%
None 1 2 3	5 18 22 5	10 36 44 10	1 11 25 13	2 22 50 26
Total	50	100	50	100
Range	0 - 3		0 - 3	
Mean ± SD	1.540±0.813		2.0±0.756	
T value	-2.93			
p value	0.004			

ARI= Acute Respiratory Tract Infection

When comparing the episodes of ARI between EBF and NEBF fed infants, it was found that the majority of EBF infants had occurred 2 mean episodes of ARI with the range of 0 to 3 episodes and the majority of NEBF infants had occurred 2 mean episodes of ARI with the range of 0 to 3 episodes during the past 4 months period respectively. The episodes of ARI was statistically significantly higher among non exclusive breast feeding group than those exclusive breast feeding group($p < 0.05$).