



BARRIERS OF EXCLUSIVE BREASTFEED AND COMPARE NUTRITIONAL STATUS OF EXCLUSIVE AND NON – EXCLUSIVE BREASTFEED INFANTS

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ABSTRACT

Back ground: Breast milk is the nature's best food for babies. Evaluation of the infant feeding practice mainly exclusive breastfeeding practice and identification of barrier factors are indispensable for public health policy planning. Exclusive breastfeeding practices are of preliminary importance for survival, growth, development, and health of infants.

Methods: This study focuses on assessing the barriers to exclusive breastfeeding and compares nutritional status of exclusive and non-exclusively breastfed infants in a selected hospital, Bhubaneswar, by descriptive survey method. Purposive Sampling Technique was used to select the 250 post-natal mothers and their 1-6 month infants. Data were collected through self-structured interview schedules and nutritional status of the infant was assessed by measuring the weight, by weighing machine & length by measuring tape. Collected data analyzed by using inferential and descriptive statistics.

Result: Out of the 250 sample half numbers of mothers 47% were non-exclusive breastfeeding. The nutritional status (mean weight & length) of exclusive breastfeeding infants (1.5, 2.5, 3.5, 6 months) was more than the non-exclusive breastfeeding infants at z value (weight 3.70, 2.76, 3.20), length- (2.85, 2.12). Chi-square statistic was used to test the null hypothesis. There was a notable association between the age and knowledge, education and knowledge, age and Mother have physical difficulty and problems about breastfeeding and employment status and Mother wants to return job of non-exclusive breastfeeding mother regarding breastfeeding practice at ($\chi^2=35.4, 23.87, 16.75, 35.35$) respectively.

Conclusion: It concludes that exclusive breastfeeding is more essential for 0-6 month baby as the mean weight and length of the infant was more as compared to the non-exclusive breastfed infants. Now a day's also the rate of exclusive breastfeeding is dismally low even if breastfeeding is universal. Several factors influence the breastfeeding practice, mainly the knowledge factor about EBF, maternal employment status, the perception of insufficient breast milk production, baby needs more than breast milk, mother's physical problem.

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INTRODUCTION

Breastfeeding has been practiced since mammals existed on earth¹. WHO recommended that infants should be exclusively breastfed for at least 6 months to achieve growth and development. Exclusive breast-feeding protects against Gastrointestinal infections like diarrhea, and prolongs lactation amenorrhea as well as increasing birth spacing^{1,2}. In India children breast fed within one hour of birth is 40.5%, children exclusively breast fed for at least six month is 46.4%. In Orissa children breast fed within one hour of birth is 74.3% i.e. 74.3% in rural and 74% in urban, children exclusively breast fed for at least six month is 26.6% i.e.

26.2% in rural and 29.1% in urban. If we see the breast feeding statistic of Khordha district children breast fed within 1 hour of birth is 80.9% i.e. 84.6% in rural and 75.1% in urban, and exclusively breast fed for at least six month is 35.1% i.e. 36.3% in rural and 37.5% in urban⁵.

Malnutrition is a major health problem which associated with infant feeding practices in India like developing country. There for investigator should be want to find out the barrier factor to exclusive breast feeding and compare the health status of the exclusive breast feed and non-exclusive breast feed infants, in Bhubaneswar, Odisha. So that to help the government for planning and implementation of new programme or scheme to overcome the barrier of exclusive breast feeding and reduce the less than five mortality and morbidity rate.

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Problem statement

Assess the barriers of exclusive breastfeeding and compare nutritional status of exclusive and non – exclusive breastfeed infants at selected hospital, Bhubaneswar.

Objectives

1. To identify the barrier of exclusive breastfeeding practice.
2. To assess the nutritional status of exclusive and non - exclusively breastfed infants.
3. To compare the nutritional status of exclusive and non – exclusively breastfed infants.
4. To find out the association of non exclusive breastfeeding practice with selected socio-demographic variables of mother.

MATERIAL AND METHODS

A descriptive survey was carried out among postnatal mother and their 1-6 month babies who attended immunization clinic for vaccination at government hospital from the date 23/Jan/2018 to 18/Feb./2018. Total 250 Study participants were selected through a Purposive Sampling Technique, those who met the inclusion criteria like Mother who has 1-6 month baby, Understand odiya, Hindi, & English language, 1-6 month infant and exclusion criteria like infant have chronic or sever illness, preterm baby ,baby who come before & after 15 day of exact immunization day.

A structured questionnaire has been used in this study which consist of two sections; section A include demographic information of mother ad infants. Section B deals with barriers of exclusive breastfeeding practice that’s are knowledge level about breast practices, personal factor associated with breastfeeding practices, social support to mother for breastfeeding practices. This tool validated by 7 experts from the field of pediatric nursing, pediatric medicine, obstetrics and gynecology.

Data were collected through face to face interview schedules and nutritional status of the infant was assessed by measuring the weight, by weighing machine & length by measuring tape. The purpose of the study was explained to the mothers and consent was taken from them, those were willing to become part of the study. After that nutritional status was assessed. For that time taken approximately 15 minutes. The collected data analyzed by using Statistic package in social science statistical software

Ethical consideration

For the research study, the problem statement was approved by the research committee of SUM nursing college, Bhubaneswar. Ethical clearance was taken from ethical committee and written permission was taken from the medical superintendent of IMS & SUM hospital, Bhubaneswar. Informed Consent was taken from mothers. Confidentiality and anonymity of data was maintained.

RESULT AND DISCUSSION

Demographic characteristics mother

Almost half of sample 46% exclusive breast feed and 48% nonexclusive breastfeed mother were from 23-27yr age groups. Considering the educational qualification maximum 42% exclusive breastfeed and 44% nonexclusive breastfeed

mother had graduate. With regard to the marital status of the mother all exclusive and non-exclusive breastfeed mothers were married. With regard to the employment status of mother majority 67% exclusive and 65% non-exclusive mother were unemployed. Considering household income of mother per month maximum 41% exclusive breastfeed and 47% nonexclusive breastfeed mother’s house hold income had 5000-15,000/month. Majority 73% of non-exclusive mother and 66% exclusive mother were prime parity.

Demographic characteristics of infants

Considering age of infants maximum 35% both exclusive and non-exclusive breastfeed babies were 1.5 month. With regard to gender of the infants majority 67% exclusive and 82% non-exclusive breast feed infants were male gender. Considering birth order of the infant’s majority 67% exclusive and 63% non-exclusive breastfeed babies were 1st birth order.

Barriers of exclusive breastfeeding

Barrier factor for exclusive breastfeeding in term of knowledge factor score on breast feeding practices, the highest 65.25% had average knowledge, 26.27 % had good knowledge, and few mothers i.e. 8.47 % had poor knowledge. (Table-1)

Table 1 Frequency and percentage distribution of barriers of exclusive breastfeeding practice data in term of knowledge factors among non-exclusive mother.

n₂=118

Knowle dge factor	Poor		Average		Good	
	frequen cy	Percenta ge (%)	frequen cy	Percenta ge (%)	frequen cy	Percenta ge (%)
	10	8.47	77	65.25	31	26.27

Table 2 Frequency and percentage distribution of barriers of exclusive breastfeeding practice data in term of personal factors.

n₂=118

Personal factor	Disagree		Agree		Strongly Agree	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
1. Mother does not have enough milk.	64	54.2	34	28.8	20	16.9
2. Mother has physical difficulties and problems about breastfeeding.	89	75.42	20	16.94	9	7.62
3. The baby needs more than breast milk.	29	24.6	20	16.9	69	58.5
4. Mother wants to return job.	84	71.11	28	23.72	6	5.08

Table-2 shows that the frequency and percentage distribution of barrier factor for exclusive breastfeeding in term of personal factor score, the highest responses given 54.2% disagree, 28.8% agree and lowest 16.9% strongly agree for the 1st personal factor. Similarly for 2nd Personal factor majority 75.42% disagree, 16.94% agree, minimum 7.62% strongly agree, for 3rd Personal factor majority 58.5% strongly agree, 24.6% disagree and minimum 16.94% agree, for 4th Personal factor highest 71.11% disagree and 23.72% agree, few i.e. 5.08% strongly agree and from personal factor 5 to factor 12, all mother were disagree.

In response to social support all the mothers were agree and no one was dis-agreed or strongly agree. The items for social support were Encouragement and support in breastfeeding from husband, Family, relatives and friends encouragement,

and health messages on breastfeeding during antenatal clinics (before and after birth) were available.

Comparison of nutritional status of exclusive and non-exclusive breast feed infants in terms of weight

Table 3 Mean, SD, Mean difference, Standard error of mean difference, Df, z-test, p -value to compare the nutritional status (weight) of exclusive breastfed and non – exclusively infants.

N=n₁ (132) +n₂ (118) =250

Age	Exclusive breast feed		Non-exclusive Breastfeed		Mean difference	Df	z-test	p-value
	Mean	SD	Mean	SD				
1.5 month	3.49	0.27	3.41	0.23	0.08	85	1.47	0.14 ^{NS}
2.5 month	4.20	0.51	3.79	0.40	0.40	69	3.70	0.0002 ***
3.5 month	6.04	0.27	5.85	0.32	0.19	69	2.76	0.0058 **
6 month	7.10	0.29	6.48	0.61	0.61	19	3.02	0.0025 **

Mean weight of 1.5 month exclusive breast feeding infants (3.49±0.27) was more than the mean weight of 1.5 month non-exclusive breast feeding (3.41±0.23) was not statistically significant as evident from the z-value =1.47 at df =85 with p = 0.14. The mean weight of breast feeding infants (4.20±0.51) was more than the mean weight non-exclusive breast feeding (3.79±0.40) in 2.5 month was statistically significant as evident from the z-value =3.70 at df =69, p =0.0002. Similarly the mean weight of exclusive breast feeding infants (6.04±0.27) was more than the mean weight of non-exclusive breast feeding (5.85±0.32) in 3.5 month was statistically significant as evident from the z-value =2.76 at df =69, p =0.0058. And The mean weight of 6 month exclusive breast feeding infants (7.10±0.29) was more than the mean weight of 6 month non-exclusive breast feeding (6.48±0.61) was statistically significant as evident from the z-value =3.20 df =19, p =0.0025. Hence it conclude that there was significant difference between weight of 2.5 month, 3.5month and 6 month exclusive and non-exclusive breastfeed infants except 1.5month infants.(Table-3)

Comparison of nutritional status of exclusive and non-exclusive breast feed infants in terms of length.

Table 4, Mean, SD, Mean difference, Standard error mean difference, df, z-Test Value, p -value to compare the nutritional status (length) of exclusive breastfed and non – exclusively infants

N=n₁ (132) +n₂ (118) =250

Age	Exclusive breast feed		Non-exclusive Breastfeed		Mean difference	SEMd	df	z-test	p-value
	Mean	SD	Mean	SD					
1.5 month	52.63	2.10	51.34	2.13	1.29	0.45	85	2.85	0.0044**
2.5 month	60.34	1.48	59.65	1.93	0.69	0.40	69	1.70	0.08 ^{NS}
3.5 month	60.85	1.23	60.84	1.67	0.01	0.34	69	0.03	0.97 ^{NS}
6 month	65.86	0.55	65.30	0.66	0.56	0.26	19	2.12	0.0340 *

The mean length of exclusive breast feeding infant (52.63±2.10) was more than the mean length of non-exclusive breast feeding (51.34 ±2.13) in 1.5 month infants was statistically significant as evident from the z-value= 2.85 at df =85 and p =0.0044. Similarly the mean length of 6 month exclusive breast feeding infant (65.86±0.55) was more than the mean length of 6 month non-exclusive breast feeding (65.30±0.66) statistically significant as evident from the z-value =2.12, df =19, p =0.03, hence it concluded that there was significant difference between length of 1.5 months and 6

month exclusive and non-exclusive breastfeed infants.(Table-4)

Similarly the mean length of exclusive breast feeding infant and non-exclusive breast feeding were not statistically significant in 2.5 month infants and 3.5 month infants as evident from the Z =1.70 and 0.03 at df =69 respectively. hence it concluded that there was no significant difference between length of 2.5 month and 3.5 month exclusive and non-exclusive breastfeed infants. (Table-4)

Association among barriers of exclusive breastfeed with selected demographic variable of non-exclusive breastfeed mothers

There was significant association of age and education status of mother with their knowledge of non-exclusive breastfeeding mothers regarding breastfeeding practice as evidence by $\chi^2=35.4$ and $\chi^2=23.87$ at df =8 respectively It interfere that the mother age group 30-35 and the graduate mother had good knowledge about EBFP.

In the present study, there was association between the age and personal factor i.e. Mother have physically difficulty and problems about breastfeeding) of non-exclusive breastfeeding mother regarding breastfeeding practice as evidence by $\chi^2=16.75$, df =8, P= 0.03 which is significant. It interfere that the (23-27) age group mother had more physically difficulty and problems about breastfeeding, which create barrier of exclusive breast feeding.

It was also found that there was strong association between the employment status and personal factor i.e. Mother wants to return job of non-exclusive breastfeeding mothers, as evidence by $\chi^2=35.35$, df =4, at P= 0.0001, which was extremely significant. It interfere that the employed mothers were want to return their work or job place ,which may be the barrier of exclusive breast feeding practice. (Table-5)

Table 5 Chi-square value, p-value and df to find out the association of knowledge factor with selected socio-demographic variables of non-exclusive breastfeeding mother (age, education, employment status, parity of mother).

NO.	Demographic Variables	df	χ^2	P-Value
1	Age of mother	8	35.40	0.0001***
2	Education of mother	8	23.87	0.0024**
3	Employment Status	4	3.99	0.04 ^{NS}
4	Parity of mother	2	0.72	0.69 ^{NS}

DISCUSSION

In present study, half of participants’ of the exclusive breastfeed and nonexclusive breastfeed mothers were in age group of 23-27years. This finding supported by Wanyonyi, mary nekesa *et al* (2015) found that, 31% of mothers were in the age group of 25- 29 years.¹²In present study only 42% exclusive breastfeed and 44% nonexclusive breastfeed mother had graduate educational qualification. This finding supported by the study done by Dipen V. Patel *et al* (2015) found the 86.1% had studied up to 10th standard.¹¹The study found all exclusive and non-exclusive breastfeed mothers were married, majority 73% of non-exclusive mother and 66% exclusive mother were prime parity, and 67% exclusive and 65% non-exclusive mother were unemployed. This finding supported by Fatoumata Binta Diallo *et al* (2018) that 35.6% were primi-paras and 83.5% were married.⁴

Barriers of exclusive breastfeeding practice in term of knowledge factors, 65.25% had average knowledge, 26.27 % had good knowledge, & only 8.47 % had poor knowledge. This finding supported by the similar study conducted by Deepanjali Behera (2013), that 43% mother had low knowledge about exclusive breast feeding practice.¹³

As per the personal factors in the present study, the highest responses given for the 1st personal factor (mother does not have enough milk) was, 28.8% agree, 16.9% strongly agree. Above study supported by Mengistu Berhanu *et al* (2015) and Cherop CE *et al* (2009) reported 14.3% were insufficient breast milk production.^{8,9} In the present study for 2nd Personal factor (mother has physically difficulty and problems about breastfeeding), 16.94% agree, and 7.62% strongly agree was supported by Thiawan Thepha (2017) that 23% mothers had physical difficulties and problem about breast feeding.⁷

As regards to 3rd Personal factor (The baby needs more than breast milk) 58.5% strongly agree, and 16.94% agree was supported by Cherop CE (2009) that 64.4% of infants were not satisfied by exclusive breastfeeding.⁸ Similarly for 4th Personal factor (Mother wants to return job.) 23.72% agree, and 5.08% strongly agree was supported by Mengistu Berhanu *et al* (2015) that 56% employed mothers were more likely practicing nonexclusive breastfeeding to infants within the first 6 months compared to housewife as they return to their work.¹⁰ Riyadh A Alzaheb *et al* 2017 also got similar result for 97% working mothers.⁹

In the present study, there was significant difference between the mean weight of (2.5, 3.5, 6) month exclusive breast feeding infant and non-exclusive breast feeding at z-value (3.70, 2.76, 3.20) respectively. There was significant difference between the mean length of (1.5, 6) month exclusive breast feeding infant and non-exclusive breast feeding infants as at z-value (2.85, 2.12) respectively. This research finding does not supported by any other study. Present research finding related to the association of non exclusive breastfeeding practice with selected socio-demographic variables of mothers does not supported by any other study.

Limitation

The study cannot be generalized due to:

Sample and less sample size; small group of samples, only mother and their 1-6month baby who came for only immunization and conducted only one Govt. hospital for 1 month only

CONCLUSION

From all research finding and discussion investigator found that exclusive breast feeding is more essential for 0-6 month baby as the mean weight and length of infant was more as compare to the non-exclusive breast feed infants. Now a day's also the rate of exclusive breastfeeding is dismally low even if breastfeeding is universal. There are several factors attributed to this which has a great impact on the breast feeding practice, mainly the knowledge factor about EBFP ,mother employment status, perception of insufficient breast milk production, baby needs more than breast milk, mother's physical problem.

Recommendation

Research beyond this descriptive study, qualitative research is needed; for instance a research on the adequacy of breast milk in meeting the nutritional needs of infants to 6 months.

A similar study may be done in a different geographical (rural and urban area) and cultural setting (religion and income) that was not captured in this research.

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