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Birth Order and Exclusive Breastfeeding Practices among Mothers with Two or More Children

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ABSTRACT

Background: The promotion and support of breast-feeding is a global priority breastfeeding is recommended by multiple health agencies as the preferred method of infant feeding for at least six months because of its numerous benefits, both immediate and long term, for both mothers and babies. It has also been suggested that the duration a woman breastfeeds her first born is an important predicator of whether or not she will breastfeed a later-born child. This study aimed to determine the association between birth order and exclusive breastfeeding practices in families with two or more children.

Method: A cross sectional design was used for this study. A total of 288 mothers with two or more children attending Adeoyo Maternity Hospital, Yemetu were recruited using a systematic random sampling and a structured questionnaire was used to collect data on sociodemographic characteristics, birth history, knowledge and practice of breastfeeding. Chi-square test was used for bivariate analyses to test the significance of the association between categorical variables and the practice of exclusive breastfeeding. Logistic regression analysis was performed to identify independent predictors of exclusive breastfeeding. Level of significance was at 5%

Results: The mean age of mothers was 30.4 years (SD 4.4 years) while the mean age of the children was 56.0 months (SD 41.1 months). Exclusive breastfeeding was higher among the second and third children compared to the first, fourth and fifth children. However on logistic regression the differences were not significant. Mothers with three children were about three times more likely to have exclusively breastfed their children compared to mothers with four/five children. (OR=2.168. 95%CI= 1.307-3.596). Mothers from other ethnic group were significantly less likely to breastfeed exclusively than those who were Yoruba (OR=0.515, 95% CI=0.254-1.046)

Conclusion: The study shows that the factors influencing the practice of exclusive breastfeeding differ among mothers by birth order and parity. Efforts must be intensified to reiterate the benefits of EBF and address the identified hindrances irrespective of parity and birth order, via health education of the broader community to enlist family support for breastfeeding mothers. Strategies should also be put in place that would ensure the consistent practice of exclusive breastfeeding especially among mothers who have many children.

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Keywords: Exclusive breastfeeding, Parity, Birth order

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INTRODUCTION

Breastfeeding is recommended by multiple health agencies as the preferred method of infant feeding for at least 1 year because of its numerous benefits, both immediate and long term, for both mothers and babies. In 2002, 71% of mothers in the United States initiated breastfeeding, close to the Healthy People 2010 goal of 75%. To maintain or even

increase this proportion, it is necessary to determine the multiple factors that influence a woman's decision to breastfeed. Given that many women have more than one child, understanding the infant feeding experiences of individual mothers with multiple children provides an important public health perspective on infant nutrition.(Satcher DS., 2001)

The promotion and support of breast-feeding is a global priority [American Academy of Pediatrics 1997 and feachem et al, 1984]. A vast scientific literature demonstrates substantial health, social and economic benefits associated with appropriate breast-feeding, including lower infant morbidity and mortality from diarrhea and other infectious diseases [Popkin et al., 1990, Ruiz-palacious et al., 1990 and Newburg et al., 1998). In the longer term, insulin dependent diabetes mellitus, inflammatory bowel diseases and childhood lymphomas are less common in children who were breast-fed [Wilson et al 1998]. Breast-feeding promotes maternal-infant bonding and attachment and provides the child with a sense of security [Woolridge et al., 1993]. Breast milk provides perfect nutrition because it optimizes growth, development and health in general. It provides all nutrients required for infants in the first six months of life [Woolridge et al., 1993].

Several studies have considered the impact of maternal demographics, employment, the health care system, maternal-child health medical issues, and cultural beliefs on breastfeeding initiation. (Scott J A, 1997)However, very few articles have focused on the relationship between birth order and breastfeeding. Two older studies, one small and the other limited to a single region of the United States, have shown that women tend to repeat the feeding decision they made with their first child with subsequent children.(Da Vanzo et al., 1997) However, a more recent analysis of birth certificates in New Jersey found considerable fluctuations in breastfeeding status at hospital discharge for births to the same mother.(Kruse et al., 2005) In that study, mothers who breastfed their first child exclusively had higher rates of subsequent breastfeeding than those who supplemented breastfeeding with formula. In addition, it has also been suggested that the duration a woman breastfeeds her first born is an important predictor of whether or not she will breastfeed a later-born child (Da Vanzo et al., 1997).

It is interesting to consider yet difficult to clearly delineate the association between birth order and duration of breastfeeding. In addition, often women stop breastfeeding when they have another pregnancy. However, very few articles have focused on the relationship between birth order and breastfeeding.(Scott et al., 1999)

This study promote the understandings of infant feeding experiences which will provide an important public health prospective on infant nutrition. Several studies have considered impact of maternal demographics, employment, the health care system, maternal-child health medical issues, and cultural beliefs on breastfeeding initiation. (Scott et al .,1999 and Fein et al ., 1998) However, very few articles have focused on the relationship between birth order and breastfeeding initiation and duration. Thus this study sought to determine the association between birth order and breastfeeding practices in families with two or more children.

RESEARCH QUESTIONS

1. What is the prevalence, level of knowledge, practice and attitude of multiparous mothers towards exclusive breastfeeding?.
2. Is there any realtionship between the socio demographic characteristics and exclusive breastfeeding?.
3. What is the relationship between knowledge and practice of exclusive breastfeeding?.
4. What is the relationship between birth order and exclusive breastfeeding ?

RESEARCH OBJECTIVE

To determine the association between birth order and exclusive breastfeeding practices in mothers with two or more children. The specific objectives of this study are to:

1. To determine the prevalence of knowledge, practice and attitude towards exclusive breastfeeding.
2. To describe the socio demographic characteristics associated with exclusive breastfeeding.
3. To determine relationship between knowledge and practice of exclusive breastfeeding.
4. To determine the association between birth order and exclusive breastfeeding

MATERIALS AND METHODS

Study Area

The study was carried out in adeoyo maternity hospital, yemetu located at Ibadan, Oyo State. Oyo State is one of the 36 states of Nigeria and is located in the South Western region of the country. The State was created in 1976 out of the old Western region and has a projected population of about 4 million (National population commission 2000).

Sampling Approach/Frame

The study population consist of mothers aged 15 to 44 with two or more children that are attending both antenatal and post natal activities at adeoyo maternity hospital, yemetu located at Ibadan, Oyo State. Systematic random sampling technique was used to recruit subject for the study. Participants were interviewed as they came into the hospital. The process continued until the required number of sample size (288) was obtained.

Data collection methods

Data was collected using an interviewer administered questionnaire which consists of the following.Section A

consist of Socio demographic characteristics. Section B consist of Childs vital information. Section C consist of Mothers knowledge of breastfeeding. Section D consist of Pregnancy and delivery history. Section E consist of information on Breastfeeding practices of mothers. Section F consist of information on Mothers attitude to breastfeeding

Data analysis

Data was entered, edited, and analyze with SPSS statistical software (version 15). This included the analysis of mother's socio-demographics data of age, marital status, occupation, educational level, ethnicity and mother's parities. Frequency table diagrams and graph for these data shall be computed. The main variable of interest was birth order; the main outcome measure were exclusive breastfeeding practices for each mother-child pair. Univariate analysis was employed to calculate frequencies and distributions of each variable. Chi-square test was used for bivariate analyses to test the significance of the association between categorical variables and the practice of exclusive breastfeeding. Logistic regression analysis was performed to identify the factors associated with the outcome variable.

Ethical Consideration

Ethical clearance was obtained from the ministry of health research and ethical committee. The research was at no cost to the participants as the researcher shall bear the cost. Informed written consent was obtained from the mothers and permission was taken from the hospital.

RESULTS ANALYSIS

Maternal Demographic Characteristics

Table 4.1 shows the demographic characteristics of the mothers. The mean age of mothers was 30.4 years (SD 4.4 years). Majority of the mothers were aged between 30-34 years (38.6%) followed by those aged 25-29 years (29.8%), 35 years and above (25.3%) and 20-24 years (6.3%). There were more mothers in others occupations (71.9%) compared to those with skilled occupations (28.1%). Majority of the fathers had semi skilled occupations (56.55). Majority of the mothers were married (96.9%) and had secondary level of education highest (55.8%). A little above half of the mothers were Muslims (57.0%) while majority were Yoruba's (93.7%). Mothers with two children were more (55.9%) than those with three children (33.0%). Those with four children and above were only about 11.1%

Table 4.1 Maternal Demographic Characteristics

MATERNAL DEMOGRAPHIC FACTOR	FREQUENCY (%)
MEAN AGE (SD)	
MOTHERS	30.4 (4.4)
AGE GROUPS	
20-24	15 (6.3)
25-29	85 (29.8)
30-34	110 (38.6)
35 AND Above	72 (25.3)
TOTAL	285 (100)
MOTHERS OCCUPATION	
Skilled	80 (28.1)
Others	205 (71.9)
TOTAL	285 (100)
FATHERS OCCUPATION	
Skilled	124 (43.5)
Semi skilled	161 (56.5)
TOTAL	
EDUCATIONAL LEVEL	
Primary	43 (15.1)
Secondary	159 (55.8)
Tertiary/ post tertiary	83 (29.1)
TOTAL	285 (100)
MARITAL STATUS	
Married	277 (96.9)
Others	9 (3.1)
TOTAL	286 (100)

ETHNICITY	
Yoruba	268 (93.7)
Others	18 (6.3)
TOTAL	286 (100)
RELIGION	
Christianity	123 (43.0)
Islam	163 (56.9)
TOTAL	286 (100)
NUMBER OF CHILDREN	
Two children	161 (55.9)
Three children	95 (33.0)
Four/five children	32 (11.1)
TOTAL	288 (100)

Demographic Characteristics Of Children

Table 4.2 shows the demographic characteristics of the children. The mean age of the children was 56.0 months (SD 41.1 months). Majority of the children were aged between 1-60 months (66.1%) and were males (60.5%).

Table 4.2 Demographic Characteristics Of Children

DEMOGRAP HIC CHARACTERISTICS OF CHILDREN	FREQUENCY (%)
MEAN AGE	56.0 (41.4)
AGE OF CHILDREN(MONTHS)	
1-60	486 (66.1)
61-144	228 (31.0)
145 and above	21 (2.9)
Total	735 (100)
SEX	
Male	445 (60.5)
Female	290 (39.5)
Total	753 (100)

Breastfeeding Practices Received by Mothers

Table 4.3 shows mother's breastfeeding practices for all children. Majority of the children were exclusively breastfed (62.9%) and were immediately put to the breast after delivery (57.8%). Children who were given baby formular had the highest percentage (46.7%) followed by those who were given multi mix (30.0%), pap (16.7%) and pap and milk (6.7%).

Table 4.3 Breastfeeding Practices Received By Mothers

BREASTFEEDING PRACTICES RECEIVED BY CHILDREN	FREQUENCY BY BIRTH ORDER (PERCENTAGE)				
	TOTAL	FIRST CHILD	SECOND CHILD	THIRD CHILD	FOURTH/FIFTH CHILD
EXCLUSIVE BREASTFEEDING					
Yes	462 (62.9)	163 (57.0)	191 (66.8)	91 (70.0)	16 (48.5)
No	273 (37.1)	123 (43.0)	95 (33.2)	38 (29.5)	17 (51.5)
Total	735 (100)	286 (100)	286 (100)	129 (100)	33 (100)
TIME OF INITIATION OF BREAST FEEDING					
Immediately	421 (57.8)	166 (58.5)	167 (59.0)	75 (58.6)	13 (39.4)
Hours	307 (42.2)	118 (41.5)	116 (41.0)	53 (41.4)	20 (60.6)
Days	728 (100)	284 (100)	283 (100)	128 (100)	33 (100)
Total	98(54.3)	3(12.2)	40(14.0)	18(13.8)	5(14.3)

SUPPLEMENTARY FOODS GIVEN					
Multi mix	9 (30.0)	4 (36.4)	4 (33.3)	1 (14.3)	
Pap	5 (16.7)	1 (9.1)	2 (16.7)	2 (28.6)	
Pap and milk	2 (6.7)	1 (9.1)	1 (8.3)		
Baby formular	14 (46.7)	5 (45.5)	5 (41.7)	4 (57.1)	
Total	30 (100)	11 (100)	274 (100)	122 (100)	

Association Between Exclusive Breastfeeding and Socio Demographic Characteristics of the Mothers

Table 4.4 shows the association between exclusive breastfeeding and demographic characteristics of the mothers. Majority of the mothers were aged between 20-24 years (72.2%) exclusively breastfed their children followed by those 35 years and above (59.7%), those aged 25-29 years (55.3%), and 30-34 years (53.6%). This was not significant at p= 0.47. The mothers who were skilled (58.8%) exclusively breastfed their children compared to those in others occupations (56.1%). This was not significant at p= 0.68

Majority of the husband (59.7%) that their wives exclusively breastfed had skilled occupations compared to those that were semi skilled (5.7%). This was not significant at p= 0.39

Mothers who had tertiary level of education (61.4%) who exclusively breastfed were the highest when compared to those who had secondary level of education (54.1%). This was not significant at p= 0.53

Majority (77.8%) of the mothers who exclusively breastfed were others (divorce, widows and single) compared to those that were married (56.3%) and had secondary level of education highest (55.8%). This was significant at p= 0.20

The mothers who were Christians (63.4%) exclusively breastfed compared to those were Islam (52.1%). This was significant at p= 0.005. Mothers who exclusively breastfed (77.8%) were other (hausa, igbo and others) compared to those who were Yoruba (55.6%). This was not significant at p= 0.06.

A slightly greater proportion of mothers with three children reported exclusive breastfeeding (69.7%) compared to those with two (61.1%) and four/five children (51.9%). This was significant at p= 0.002.

Table 4.4 Bivariate Analysis of Exclusive Breastfeeding with Socio Demographic Characteristics of the Mothers

SOCIO DEMOGRAPHIC CHARACTERISTICS	EXCLUSIVE BREASTFEEDING		Total	Chi square	P-value
	Yes (%)	No (%)			
AGE GROUPS					
20-24	13 (72.2)	5 (27.8)	18 (100)		
25-29	47 (55.3)	38(44.7)	85 (100)		
30-34	59 (53.6)	51 (46.4)	110 (100)	2.523	0.471
35 AND Above	43 (59.7)	29 (40.3)	72 (100)		
MOTHERS OCCUPATION					
Skilled	47 (58.8)	33 (41.3)	80 (100)		
Others	115 (56.1)	90 (43.9)	205 (100)	0.165	0.685
HUSBAND OCCUPATION					
Skilled	74 (59.7)	50(40.3)	124 (100)	0.719	0.396
Semi skilled	88 (54.7)	73 (45.3)	161 (100)		
EDUCATIONAL LEVEL					
Primary or non					
Secondary	25 (58.1)	18 (41.9)	43 (100)		
Tertiary/ post tertiary	86 (54.1)	73 (45.9)	159(100)	1.238	0.538
	51 (61.4)	32 (38.6)	83 (100)		

MARITAL STATUS					
Married	156 (56.3)	121 (43.7)	277 (100)	1.638	0.201
Others	7 (77.8)	2 (22.2)	9 (100)		
ETHNICITY					
Yoruba	149 (55.6)	59 (53.6)	268 (100)	3.386	0.066
Others	14 (77.8)	4 (22.2)	18 (100)		
RELIGION					
Christianity	78 (63.4)	45 (36.6)	123 (100)	3.631	0.005
Islam	85 (52.1)	78 (47.9)	163 (100)		
PARITY					
Two children	193 (61.1)	123 (38.9)	316 (100)		
Three children	202 (69.7)	88 (30.3)	290 (100)	12.757	0.002
Four/five children	67 (51.9)	62 (48.1)	129 (100)		

Association Between Exclusive Breastfeeding And Socio Demographic Characteristics of the Children

Table 4.5 shows the association between exclusive breastfeeding and the demographic characteristics of the children. The children that were 145 months and above (71.4%) were exclusively breastfed were the highest compared to those who are between 1-60 months (65.6%) and those between 61-144 months (56.1%). This was however significant at p= 0.03. The children who were males (63.8%) were exclusively breastfed than those who were females (61.4%). This was not significant at p= 0.50

Table 4.5 Bivariate Analysis of Exclusive Breastfeeding with Socio Demographic Characteristics of the Children

DEMOGRAPHIC CHARACTERISTICS OF CHILDREN	EXCLUSIVE BREASTFEEDING		Total	Chi square	P-value
	Yes (%)	No (%)			
AGE OF CHILDREN(MONTHS)					
1-60	319 (65.6)	167 (34.4)	486 (100)	6.67	0.03
61-144	128 (56.1)	100 (43.9)	228 (100)		
145 and above	15 (71.4)	6 (28.6)	21 (100)		

Association Between Exclusive Breastfeeding And Birth Order

Table 4.6 shows the association between exclusive breastfeeding and birth order. A slightly higher proportion of third children had been exclusively breastfed (70.5%) followed by second children (66.8%), first children (57.0%) and fourth and fifth children (48.5%). This was significant at p= 0.006

Table 4.6 Bivariate Analysis of Exclusive Breastfeeding with Birth Order

BIRTH ORDER	EXCLUSIVE BREASTFEEDING		Total	Chi square	P-value
	Yes (%)	No (%)			
First child	163 (57.0)	123 (43.0)	286 (100)	12.276	0.006
Second child	191 (66.8)	95 (33.2)	286 (100)		
Third child	91 (70.5)	38 (29.5)	129 (100)		
Fourth/fifth child	16 (48.5)	17 (51.5)	33 (100)		
TIMEOF INITIATION OF BREASTFEEDING					
Immediately					
Hours	270 (64.1)	187 (60.7)	421 (100)	0.889	0.346
	151 (35.9)	121 (39.3)	308 (100)		

Logistic Regresion Of Socio Demographic Characteristics And Exclusive Breastfeeding

Table 4.7 shows the logistic regression output for exclusive breastfeeding. After adjusting for other variables, mothers who are Yoruba are two times less likely to have exclusively breastfed their children compared to mothers from other ethnic group. (OR=0.494, 95%CI= 0.247-0.986). Mothers who are Christians are more likely to have exclusively breastfed their children compared to mothers who are Muslims. (OR= 1.347, 95%CI= 0.984-1.843). The children who are between 1-60 months are six times less likely to be exclusively breastfed compared the children that were 145 months and above (OR= 0.517, 95%CI= 0.177-1.508) children who are between 1-60 months are two times less likely to be exclusively breastfed compared the children that were 145 months and above. (OR= 0.418, 95%CI= 0.149-1.169). The first child are less likely to be breastfed than the fourth child, second child is more likely to be breastfed than the fourth and fifth child while the third child are two times more likely to be exclusively breastfed than the fourth and fifth child (OR= 1.540, 95%CI= 0.652-3.638).

Mothers with three children were about two times more likely to have exclusively breastfed their children compared to mothers with four/five children. (OR= 2.168, 95%CI= 1.307-3.596). Mothers who initiated breastfeeding immediately are less likely to be exclusively breastfed compared to those who breastfed hours after delivery.

Table 4.7: Logistic Regresion Of Exclusive Breastfeeding On Variables

Variable	Odds ratio	95% CI or	P-value
ETHNICITY			
Yoruba	0.515	0.254-1.046	0.066
Others			
RELIGION			
Christianity	1.347	0.984-1.843	0.063
Islam			
CHILD AGE (yrs)			
0-5	0.517	0.177-1.508	0.227
5-10	0.418	0.149-1.169	0.096
10 and above			
BIRTH ORDER			
First child	0.919	0.373-2.268	0.855
Second child	1.355	0.577-3.182	0.486
Third child	1.540	0.652-3.638	0.325
Fourth/fifth child			
PARITY			
Two children	1.609	0.920-2.813	0.095
Three children	2.168	1.307-3.596	0.003
Four/five children	2.941		
TIME OF INITIATION OF BREASTFEEDING			
Immediately	0.864	0.638-1.170	0.346
Hours	2.069		

CONCLUSION

The awareness of the breastfeeding worldwide is increasing but its practice is on the average in this study. This result suggests that having more than four children presents the greatest challenge for breastfeeding every child. It also shows that increases in family size can cause a decrease exclusive breastfeeding practice. Despite the fact that previous studies found significant association between exclusively breastfeeding and some socio demographic factors, this study however only found ethnicity to be significant with exclusive breastfeeding.

RECOMMENDATION

In view of the above findings, the following recommendations are being put up to help achieve a desirable attitude and to adopt better practices of breast feeding in our community:

1. Health education should be strengthened among mothers and should cut across all social strata irrespective of level of education and class and should include information especially like properties and component of breast milk which makes it superior to artificial feeding.

2. Mothers should also be educated about the importance and duration of exclusively breast feeding for first six months of lives of their babies.
3. Mothers should also be taught about when to add supplementary food to breastfeeding and also how to prepare these feeds. They should also be taught the types of food which have the most nutritious value.

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