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Factors Associated with Exclusive Breastfeeding in a part of South-South of Nigeria

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Abstract:
Background: *Despite the globally acknowledged benefits of exclusive breastfeeding, the majority of women in south-south of Nigeria do not comply with it. Aim: To investigate the factors that are associated with exclusive breastfeeding in a part of South-South of Nigeria.*
Methods and Materials: *A cross-sectional descriptive study was carried out among 276 mothers in South-South of Nigeria. A semi-structured, validated interviewer administered questionnaires were distributed using a systematic sampling technique to 276 mothers who brought their infants to Child Welfare Clinic. The dependent variable was exclusive breastfeeding while the independent variables were antenatal clinic attendance, place of child birth, use of pre-lacteal feed, use of bottle feeding, the influence of health-workers, time of initiation of breastfeeding after birth and mode of child delivery.The data was collated, analyzed using Epi info statistical package version 3.2.2 CDC, Atlanta Georgia.*
Results: *The mean age of the mothers was 30.2 with a standard deviation of 7.9. Statistically significant factors influencing exclusive breastfeeding were ANC Attendant (X^2 = 22.61, p < 0.0001), Place of delivery (X^2 = 19.93, p < 0.0001), Pre-lacteal feed (X^2 = 38.88, p < 0.001), Bottle feeding (X^2 = 7.07, p = 0.0008), Health workers influence (X^2 = 29.88 p < 0.0001). Time of initiation of breastfeeding(X^2 = 3.68, p = 0.55), mode of delivery (X^2 = 0.84, p =0.64), were not statistically significant.*
Conclusion: *The factors identified to be associated with exclusive breastfeeding were ANC Attendant, Place of delivery, Pre-lacteal feed, Bottle feeding and Health workers' influence. These could be incorporated into health awareness and promotion intervention programs.*
Key words: *Factors influencing, Exclusive Breastfeeding, South-South Nigeria.*

I. Introduction

Exclusive breastfeeding practice is gradually becoming a major concern to individuals, families, nations and international communities, as its benefits to the baby, mother and the economy is now in public domain. It has continued to attract global attention even as the international health organizations have intensified efforts in promoting, supporting and protecting the practice. World Health Organization has defined exclusive breastfeeding as the feeding of an infant with only breast-milk for the first 6 months of life.[1]

Highly nutritious food like breast milk has been reported to be the natural and best nutrition for babies.[2] It contains all the nutrients needed by the new born baby for the first 6 months of life.[2] These include fat, protein, carbohydrates, water and minerals.[3] Biochemical research evidence has shown that protein account for approximately 75% of the nitrogenous compound, while the principal carbohydrate is the lactose.[3] Furthermore, bioactive substances that may have beneficial non nutritional functions abound in the breast milk.[3] These components of breast milk confer immense merits to the dyad of mother and baby.[4],[5]

Despite these evidence based benefits of breast milk, it is worrisome to state that only about 38% of infants aged 0-6 months worldwide are exclusively breastfed.[6] UNICEF has come up with the percentages of infants less than 6/12 of age who have been exclusively breastfed in different regions of the world. The report shows an abysmally low exclusive breastfeeding practice.[7] In Nigeria for instance, even though the country has a strong breastfeeding culture with about 97.3% of the children being breastfed for some period of time; the mean duration of exclusive breastfeeding is only half a month.[8] In 2009, a national survey conducted in Nigeria showed that 13.1% of infants less than 6 months were exclusively breastfed.[9] These discouraging trends of exclusive breastfeeding practice prompted some researchers in the field of maternal and child health to go in search of factors that are associated with exclusive breastfeeding with a view of fashioning out intervention programs to address them.Various factors have been found to be associated with exclusive breastfeeding. These include socio-demographic factors (education level, urban versus rural residence, monthly household income and parity); biosocial factors (breastfeeding support); cultural factors (beliefs, norms and attitudes towards

breastfeeding), employment policies as well as maternal antenatal care history, place of delivery, and type of delivery, maternal parity, use of pre-lacteal feeds and use of bottle feeding. [10][11][12][13]

There is paucity of published data regarding factors that are associated with exclusive breastfeeding in this part of South-south of Nigeria. This study was conducted to investigate the factors that are associated with exclusive breastfeeding in a group of mother-infant pairs attending child welfare clinic in a part of south-south of Nigeria.

II. Materials And Method

University of Uyo is one of the tertiary health facilities in the South-South of Nigeria. One of its main medical out-reach centers is the Maternal and Child Health(MCH) located in Uyo; a capital city in Southern Nigeria. The Maternal and Child Health Center serves mainly eleven (11) Political wards, and eighty three ((83) Villages.[17] The present study was a cross-sectional study designed to determine the factors that are associated with the practice of exclusive breastfeeding in South-South of Nigeria. The study was carried out at MCH Center between October and December 2011. A sample size of 271 was calculated using the exclusive breastfeeding rate of 22.9%[18] obtained from previous study; and a total of 276 respondents were recruited through a systematic random sampling technique, and a semi-structured interviewer(face-to-face) administered questionnaire were used after a signed consent had been obtained from the mothers. The dependent variable was exclusive breastfeedingpractice while the independent variables were antenatal clinic attendance, place of child birth, use of pre-lacteal feed, use of bottle feeding, the influence of health-workers, time of initiation of breastfeeding after birth and mode of child delivery. In this study, exclusive breastfeeding was defined as the infant having received only breast milk from the mother (either directly from the breast or expressed) and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines form birth to the period of the study.

A pre-test study involving ten (10) mothers was carried out before the study was commenced and the appropriate corrections were effected on the questionnaire.

The inclusion criteria include being the biological mother of the infant and have to be free of any self-reported medical condition making any breastfeeding or exclusive breastfeeding inadvisable or difficult. Approval for the study was obtained from Research and Ethical Committee of University of Uyo Teaching Hospital, Uyo.

The data was collated and analyzed using Epi info statistical package version 3.2.2 CDC, Atlanta Georgia, USA. The level of statistical significance was taken as $p < 0.05$.

III. Results

A total of two hundred and seventy six (276) mothers-infants pair were recruited for the study. The results obtained from the respondents are presented below:

The maternal age ranged between 16 and 50 years with the mean age of 30.2 and a standard deviation of 7.9. The majority of the mothers (78.3%) were thirty five years and below. Figure 1: Shows the age distribution of the mothers.

More than two-third of the mothers (67.4%) attended antenatal clinic, while the rest (32.6%) did not. Majority of the mothers had normal vaginal delivery (82.6%), and the rest had caesarean operation. More than half of the mothers delivered in the hospital (55.1%), while only 2.2% delivered at home. Majority of the mothers initiated breastfeeding after one hour of delivery (77.2%), while 22.7% initiated breastfeeding within the first one hour of birth. About two-third (65.9%) of mothers used pre-lacteal feeds for their infants, while 34.1% did not. Almost half of the mothers (48.9%) indicated that the health-workers at where they delivered influenced them negatively on the practice of exclusive breastfeeding, while more than half (51.1%) indicated that they were not influenced.Table 1: Shows some variables that were considered in the study.

Variables that were significantly associated with exclusive breastfeeding practice include antenatal clinic attendance, hospital delivery, pre-lacteal feeds, bottle feeding and health-workers influence.

Mothers that attended antenatal clinic were more likely to practice EBF, when compared to mothers that did not(X^2=22.61,df=1,p<0.0001). When respondents who had normal vaginal delivery and practiced exclusive breastfeeding, were compared to those who had caesarean delivery and also practiced exclusive breastfeeding. The difference was not statistically significant (X^2=0.86,df=1, p=0.64). Mothers that delivered in the hospital had higher exclusive breastfeeding rate when compare to mothers that delivered either at traditional birth attendance center, church or at home(X^2=19.93,df=3,p<0.0001). When respondents who initiated breastfeeding within the first one hour after birth and practiced exclusive breastfeeding, were compared with those who initiated breastfeeding after one hour of birth and also practiced exclusive breastfeeding. The p value was not statistically significant (X^2=3.68, df=1p=0.055). Mothers that did not give pre-lacteal feeds to their infants were more likely to practice exclusive breastfeeding, when compared to mothers that gave pre-lacteal feeds. The difference reached a significant level (X^2=38.88,df=2,p<0.0001). Mothers that did not use bottle

feeding for their infants were more likely to practice exclusive breastfeeding compare to those that used bottle feeding for their infants. The p value was significant (X^2=7.07,df=1,p=0.008). In addition, mothers that were not influenced by health-workers to use complementary feeds for their infants were more likely to practice exclusive breastfeeding, when compared to mothers that were influenced. The p value achieved significant level (X^2=29.88,Df=2,p<0.0001). Table 2: Shows the association of some variables with exclusive breastfeeding practice.

Figure 1:Age(Years) Distribution Of Mothers

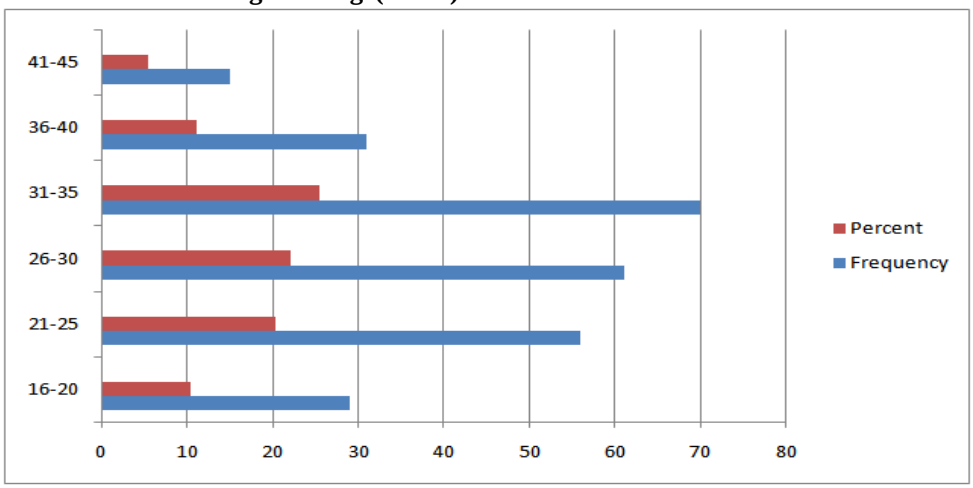

Table 1: Distribution Of The Variables In The Study

Characteristics	Frequency (n)	Percentage (%)
Antenatal attendant:		
Yes	186	67.4
No	90	32.6
Total	**274**	**100**
Delivery mode:		
Normal	228	82.6
Caesarean delivery	48	17.4
Total	**276**	**100**
Place of delivery:		
Hospital	152	55.1
TBA	55	19.9
Home	06	02.2
Church	63	22.8
Total	**276**	**100**
Initiation of breastfeeding:		
< 1 hour after birth	63	22.8
>1 hour after birth	213	77.2
Total	**276**	**100**

Table 1: Distribution Of The Variables In The Study Continued

Characteristics	Frequency (n)	Percentage (%)
Pre-lacteal feeds:		
Yes	182	65.9
No	94	34.1
Total	**276**	**100**
Bottle feeding:		
Yes	137	49.6
No	139	50.4
Total	**276**	**100**
Health workers' influence On EBF:		
Yes		
No	135	48.9
Total		
	141	51.1
	276	**100**

Table 2:**The Variables Compared With Exclusive Breastfeeding Practice.**

Variable	Exclusive Breastfeeding Yes n (%)	Exclusive Breastfeeding No n (%)	Total	X^2	df	P-Value
ANC[x]:						
Yes	58(31.2)	128(68.8)	186(67.4)			
No	05(5.6)	85(94.4)	90(32.6)	22.61	1	<0.0001
Mode of delivery:						
Normal vaginal	54(23.7)	174(76.3)	2228(82.6)			
Caesarean section	09(18.8)	39(81.2)	48(17.4)	0.86	1	0.64
Place of delivery:						
Hospital	56(36.8)	96(63.1)	152(55.1)			
TBA[xx]	02(3.6)	53(96.4)	55(19.9)			
Home	00(0)	06(100)	06(2.2)			
Church	05(7.9)	58(92.1)	63(22,8)	19.93	1	<0.0001
Initiation of Breastfeeding:						
<1hr	20(31.7)	43(68,3)	63(22.8)			
>1hr	43(20.2)	170(79.8)	213(77.2)	3.68	1	0.055
Pre-lacteal feeds:						
Yes	19(10.9)	156(89.1)	175(63.4)			
No	44(43.6)	57(56.4)	101(36.6)	38.88	1	<0.0001
Bottle Feeding:						
Yes	22(16.1)	115(83.9)	137(49.6)			
No	41(29.5)	98(70.5)	139(50.4)	7.07	1	0.008
Health-workers' Influence on EBF						
Yes	12(8.9)	123(91.1)	135(48.9)			
No	51(36.2)	90(63.8)	141(51.1)	29.88	2	<0.00001

ANC[x] means Antenatal Clinic. TBA[xx] means Traditional Birth Attendance. EBF means exclusive breatfeeding.

IV. Discussion

In this study, some factors have been identified to be associated with the practice of exclusive breastfeeding in a part of South-South of Nigeria. The study noted that the mothers that attended antenatal clinic practiced exclusive breastfeeding more when compared to those without ante-natal history. This observation has been reported in previous studies. In a Nigerian health survey, it was asserted that mothers who had four or more antenatal visits were significantly more likely to engage in exclusive breastfeeding.[16] Findings from Similar studies in South-East and North-Central Nigeria were in tandem with the above report.[17][18] Furthermore, reports from Windhoek district of Namibia concurred with the Nigerian Studies.[19] The positive association between antenatal care history and exclusive breastfeeding could be attributed to the fact that health information on child welfare and primary prevention of diseases in childhood are often provided at antenatal clinics. In addition, the influence of the mode of delivery on the practice of exclusively breastfeeding has been reported by many authors. The reports concluded that vaginal delivery was associated with increase exclusive breastfeeding practice.[19][20] Some of the reports clarified further that caesarean delivery is a factor that discourages exclusive breastfeeding practice.[21] However, the present study did not find any significant association between the mode of delivery and exclusive breastfeeding practice. The reason for the observed disparity among the mothers of south-south of Nigeria is not clear. However, the deep cultural affiliation of the people and their negative perception about exclusive breastfeeding may have contributed to this finding.

The current study also observed high rate of exclusive breastfeeding practice among mothers who delivered in the hospitals. This finding is in agreement with other reports.[17] In Anambra State, Nigeria,

studies have shown that delivery in hospitals enhances exclusive breastfeeding practice[17] A similar report was documented in Lafia, the North-Central Region of Nigeria.[18] Delivery in the hospitals will enable mothers to obtain appropriate health information that will assist in the care of the infants, and it will also determine to some extent the type of health preventive measures mothers will practice on discharge home.The present study also noted no association between initiation of breastfeeding and the practice of exclusive breastfeeding. This is in contrast to the observation made by some reports.In Bolivia programed intervention for example, it was reported that early initiation of breastfeeding was associated with 15% improvement in exclusive breastfeeding rate.[22]Similarly, the Madagascar intervention showed a similar trend[22] The observed disparity may be due to differences in methodology, period of the study, cultural differences and the studied population. Furthermore, mothers in this study that did not use pre-lacteal feeds for their infants had higher exclusive breastfeeding practice. The finding in this study was in tandem with the ones documented by some researchers.[23]World Health Organization and United Nation Children Funds have stated that the use of pre-lacteal feeds have a negative effect on the practice of exclusive breastfeeding[24]The use of feeding bottle by mothers has been a major concern to critical stake-holders in Infant and Young Child Nutrition. This current study observed that mothers that did not use bottle feeding to feed their infants had higher exclusive breastfeeding practice. This finding has been documented by previous studies. In Xinjiang China, for example, it was reported that the use of bottle feeding in infants has a negative correlation with exclusive breastfeeding.[25] A similar observation was reported in Bogota[2]. Similarly, bottle feeding in infants have been discouraged by UNICEF on the ground that it negatively affects exclusive breastfeeding practice.[24]

Researchers in the field of Infants and Young Child Nutrition have not paid much attention to the role of health workers in the practice of exclusive breastfeeding. In this study, mothers who indicated that health workers at the place they delivered their babies did not influence them to give complementary feeds, had higher exclusive breastfeeding practice. This finding may suggest the need for further research work in this area in order to further evaluate the association between health workers and the practice of exclusive breastfeeding.

The limitations identified in the study include; the questionnaire used for this study was supposed to be self-reported diagnostic tools. Its interpretation to the respondents may reduce the accuracy of the responses.Secondly, multiple logistic regression analysis of factors that are associated with exclusive breastfeeding was not done and that may reduce the strength of the association between them.

Findings of this cross-sectional study should form the basis of a longitudinal study on exclusive breastfeeding whereby the factors that are associated with exclusive breastfeeding can be examined closely**.**

V. Conclusion

The factors identified to be associated with exclusive breastfeeding were ANC Attendant, Place of delivery, Pre-lacteal feed, Bottle feeding and Health workers' influence. These could be incorporated into health awareness and promotion programs.

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