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Knowledge and Practice of Exclusive Breast Feeding Among Mothers in Gbarantoru Community, Bayelsa State, Nigeria

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Abstract: ***Background:*** *Exclusive breast feeding for the first six months of life significantly improves the growth, health status and survival of infants. However in spite of all the evidence in support of this practice, its prevalence in the developing world has remained low.*
Aim: *To determine the knowledge and practice of exclusive breastfeeding among mothers of infants aged 7 to 24 months in Gbarantoru Community, Bayelsa State, Nigeria in order to derive information to be used for future breast feeding enlightenment programmes in the sub-region.*
Methodology: *During a medical outreach organized by the Nigerian Medical Association, Bayelsa State Branch, 134 mothers of infants aged 7 to 24 months were interviewed on their knowledge and practice of exclusive breastfeeding.*
Results: *59.7% of the mothers knew the correct definition and duration of exclusive breastfeeding. The major source of their breast feeding knowledge was health workers (80.6%), followed by the mass media (10.4%). All (100%) the mothers breast fed their babies in the first 6 months of life however only 26.9% of them practiced exclusive breast feeding for 6 months. Exclusive breast feeding rate increased with increasing maternal age and education. Mothers who knew the benefits of exclusive breast feeding were more likely to breast feed exclusively compared to those who did not.*
Conclusion: *There is a wide gap between knowledge and practice of exclusive breast feeding among mothers in Gbarantoru Community. There is an urgent need for more programmes aimed at promoting exclusive breastfeeding as well as educating and re-educating health personnel and the general public*
Key words: *Exclusive breast feeding, knowledge, practice, benefits, mothers.*

I. Introduction

Exclusive breastfeeding is defined as the practice of feeding an infant with breast milk only excluding water, other liquids, breast milk substitutes and solid foods. Vitamin drops, minerals, oral rehydration solution (ORS) and medicines may be given,[1] Current World Health Organization (WHO) and United Nations Children Fund (UNICEF) recommendation for optimal infant feeding are exclusive breastfeeding for the first six months after which complementary foods should be introduced with continuation of breastfeeding until two years or beyond.[2] Exclusive breastfeeding is an affordable and feasible intervention that improves new born survival and has been identified as one of the most natural forms of preventive medicine.[3] It fulfills the nutritional requirements of the infants and protects them from infections like diarrhoea and pneumonia.[4] Results of a simulation study representing 90% of worldwide deaths among children less than five years suggest that universal coverage with breastfeeding may help prevent 13% of all child deaths.[5] Not only is human breast milk ideal for the human infant because of its nutritive and anti-infective properties, it also provides physical contact between a mother and her baby further strengthening the emotional bond between them.[6]

Exclusive breast feeding apart from being beneficial to the baby, has also been shown to have significant short and long term health benefits for the mother.[7] It is associated with lactational amenorrhoea which is an important choice for postpartum family planning.[8]Also mothers who do not breast feed are more likely to develop postpartum depression, obesity, type 2 diabetes mellitus, breast cancer and hypertension.[9]

The benefits of exclusive breast feeding are well established especially in poor communities where early introduction of foods other than breast milk is of particular concern because of the risk of pathogen contamination and inadequate preparation of breast milk substitutes leading to increased risk of morbidity and malnutrition.[6] However, despite the high prevalence of childhood malnutrition and proven benefits of exclusive breastfeeding, the practice of breastfeeding has markedly declined throughout the developing world.[10] According to a recent worldwide WHO estimate only 35% of children between birth and 5 months of age are breast fed exclusively[11] and in Nigeria, exclusive breastfeeding rates for six months have dropped from 17.2% in 2003 to 13.0% in 2008.[12] These figures are far below the 90% level recommended by the WHO.[5]

Breastfeeding practices and attitudes have been shown to be influenced by demographic, biophysical, social, cultural and psychological factors.[13-14] Several studies[15-22] have demonstrated that mothers with good knowledge of exclusive breastfeeding are more likely to breastfeed their infants exclusively in the first six

months of life. The present study was therefore carried out in Gbarantoru, a rural community in the Delta region of Southern Nigeria with the aim of ascertaining the knowledge and practice of exclusive breastfeeding in order to derive useful information for the planning of exclusive breastfeeding sensitization campaigns in the region.

II. Methodology

Ethical consideration

Ethical approval for the study was obtained from the research and ethics committee of the Niger Delta University Teaching Hospital Okolobiri, Bayelsa State. Permission for the study was obtained from the council of Chiefs, Gbarantoru community and verbal consent was obtained from the study participants.

Study area

Gbarantoru is a rural community in Bayelsa State, Southern Nigeria. It is located about 8km from Yenagoa, the capital city of Bayelsa State and is accessible by road. It has an estimated population of 3,351 people. The community has a primary health centre which is manned by a Youth Corp doctor, two midwives and 4 community health workers. Services offered at the health centre include maternal and child health services including antenatal care, delivery and immunization services.

Sampling

This was a cross sectional descriptive study carried out on the 20th of August 2013, during a medical outreach conducted by the Nigerian Medical Association (NMA), Bayelsa State branch in Gbarantoru Community. All mothers that presented with children aged seven to twenty four months were recruited into the study. The study participants had free medical consultation and drugs. The investigators administered and filled questionnaires which included the mothers' age, occupation, educational status, number of children and marital status. All mothers were asked to define exclusive breastfeeding and this was written in their own words. For the mothers that had heard about exclusive breastfeeding, their source of knowledge was recorded. The mothers were asked to list the benefits of exclusive breastfeeding to the baby and mother. Each mother was assessed for practice and duration of exclusive breastfeeding. For those that did not breast feed exclusively, their reasons were obtained and recorded.

Data analysis

Data was entered onto an excel spreadsheet and presented in form of tables. Data was analyzed using epi-info version 6.04 and SPSS version 15 statistical packages. Test of significance between proportions was assessed using Chi-square. A 95% confidence interval was used and a p value of less than 0.05 was considered significant.

III. Results

General characteristics of the mothers: Age range, marital status and educational level

One hundred and thirty four mothers with children aged 7 to 24 months were interviewed. As shown in table 1, 50 (37.3%) of the mothers were in the 25 to 29 years age category followed by 36 (26.9%) in the 20 to 24 years and 18 (13.4%) in the 35 to 39 years age categories respectively. Eighty six (64.2%) of the mothers were married while 38 (35.8%) of them were single. Over half of the mothers [80 (59.7%)] had secondary level of education followed by 40 (29.9%) of them with primary education.

Table 1: Age range, marital status and educational level of the mothers

Age range (years)	Number	Percentage of total population
15 - 19	8	6.0
20 - 24	36	26.9
25 – 29	50	37.3
30 – 34	14	10.4
35 – 39	18	13.4
40 – 44	4	3.0
45 – 49	4	3.0
Total	134	100
Marital status		
Married	86	64.2
Single	48	35.8
Total	134	100
Educational level		
None	8	6.0
Primary	40	29.9
Secondary	80	59.7
Tertiary	6	4.5
Total	134	100

General characteristics of the mothers: Parity and occupation

One hundred and ten (82.1%) of the mothers were multipara while 24 (17.9%) of them were primipara (table 2).The highest percentage of the mothers 35.8% were unemployed, followed by 31.3% and 7.5% who were traders and seamstresses respectively.

Table 2: Parity and occupation of the mothers

Parity	Number	Percentage
Primipara	24	17.9
Multipara	110	82.1
Total	134	100
Occupation		
Unemployed	48	35.8
Trader	42	31.3
Seamstress	10	7.5
Hair dresser	8	6.0
University student	8	6.0
Civil servant/Clerk	6	4.5
Teacher	6	4.5
Farmer	6	4.5
Total	134	100

Exclusive breastfeeding knowledge

As shown in table 3, 80 (59.7%) of the mothers knew the correct definition and duration of exclusive breastfeeding while 26 (19.4%) had never heard of exclusive breastfeeding.

Source of exclusive breast feeding knowledge

One hundred and eight (80.6%) of the mothers heard about exclusive breast feeding from health workers during antenatal clinic visits, 14 (10.4%) heard about it from either the television or radio and 12 (9.0%) heard about exclusive breast feeding from relatives and/or friends (table 3).

Table 3: Mothers definition of Exclusive breast feeding

Definition	Number	Percentage
Breast milk only for 6 months	80	59.7
No idea	26	19.4
Breast milk and water for 6 months	10	7.5
Breast milk only for unknown duration	6	4.5
Breast milk only for 3 to six months	4	3.0
Breast feeding baby constantly	4	3.0
Breast milk and water for 3 to six months	2	1.5
Breast milk only for 7 months	2	1.5
Total	**134**	**100**
Source of exclusive breast feeding knowledge		
Health workers	108	80.6
Mass media (television/radio)	14	10.4
Relatives/friends	12	9.0
Total	**134**	**100**

Knowledge of benefits of exclusive breastfeeding to baby and mother

Ninety eight (73.1%) knew at least one benefit of exclusive breast feeding to the baby while 36 (26.9%) had no idea that exclusive breastfeeding had any benefit to the baby. Forty two (31.3%) thought exclusive breastfeeding had benefits to the mother while 92 (68.7%) did not. The various benefits of exclusive breast feeding to the baby and mother mentioned by the mothers are listed in table 4.

Thirty four (34.7%) of the 98 who knew at least one benefit of exclusive breastfeeding to the baby breastfed exclusively for 6 months while 2 (5.6%) of the 36 who did not know any benefit to the baby practiced exclusive breast feeding. This difference was statistically significant ($\chi^2$11.38, p value 0.001).

Twenty (47.6%) of the 42 mothers who thought exclusive breast feeding had benefits to the mother practiced exclusive breastfeeding for 6 months as against 16 (17.4%) of the 92 who did not know of any advantages to the mother. This difference was statistically significant ($\chi^2$13.41, p value 0.000).

Table 4: Benefits of exclusive breastfeeding to the baby and mother

Advantage to baby	Number	Percentage
Prevents illness	48	35.8
Makes baby healthy	44	32.8
Makes baby intelligent	28	20.9
Makes baby strong	20	14.9
Helps baby grow well	20	14.9

Prevents diarrhoea	8	6.0
Aids bonding between mother and child	4	3.0
Prevents infection	4	3.0
Prevents skin rashes	2	1.5
Advantages to mother		
Improves mothers appetite	12	9.0
Makes mother healthy/prevents illness/strong	10	7.5
Helps in child spacing	8	6.0
Saves cost	8	6.0
Prevents breast cancer	2	1.5
Cannot remember any	2	1.5
It is more convenient	2	1.5
Aids uterine contraction	1	0.7
Prevents pain in the breast	1	0.7

Exclusive breastfeeding practice

All 134 (100%) of the mothers breastfed their babies within the first 6 months of life. However 60 (44.8%) of them breastfed exclusively for 3 to 6 months with a mean duration of 5.4 months. Thirty six of the 134 mothers breast fed exclusively for 6 months giving an exclusive breast feeding rate of 26.9%, fourteen (10.4%) breastfed exclusively for 3 months, 8 (6.0%) for 4 months and 2 (1.5%) for 5 months.

Exclusive breastfeeding rate according to age range, marital status and educational level of the mothers

The exclusive breastfeeding rate increased with increasing maternal age from 0.0% among mothers aged 15 to 19 years to 100.0% among those aged 44 to 49 years (table 5).

Fourteen (16.3%) of the 86 married mothers breastfed exclusively while 22 (45.8%) of the 48 single mothers breastfed exclusively. This difference was statistically significant ($\chi^2$13.69, p value 0.000).

The exclusive breast feeding rate showed a steady increase with increasing level of maternal education from 0.0% among the mothers with no formal education to 25.0% among those with primary level of education and 30.0% and 33.3% among the mothers with secondary and tertiary levels of education respectively. This difference was however not statistically significant (χ^2 3.54, p value 0.316).

Table 5: Exclusive breastfeeding rate according to age range, marital status and educational level of the mothers

Age range (years)	Number	Number who breastfed exclusively for 6 months	Percentage who breastfed exclusively
15 - 19	8	0	0.0%
20 - 24	36	6	16.7
25 – 29	50	18	36.0
30 – 34	14	2	14.3
35 – 39	18	4	22.2
40 – 44	4	2	50.0
45 – 49	4	4	100.0
Marital status			
Married	86	14	16.3
Single	48	22	45.8
Educational level			
None	8	0	0.0
Primary	40	10	25.0
Secondary	80	24	30.0
Tertiary	6	2	33.3

Exclusive breast feeding rate according to parity and occupation of the mothers

As shown in table 6, 30 (27.3%) of the 110 multiparous mothers breastfed exclusively compared to 6 (25.0%) of the 24 primiparous mothers. This difference was not statistically significant (χ^2 0.02, p value 0.0.884).

The exclusive breastfeeding rate was highest among civil servants and farmers (66.7%) followed by seamstresses (40.0%), traders and teachers with exclusive breastfeeding rates of 33.3% respectively (table 6).

Table 6: Exclusive breast feeding rate according to parity and occupation of the mothers

Parity	Number	Number who breastfed exclusively for 6 months	Percentage who breastfed exclusively
Primipara	24	6	25.0
Multipara	110	30	27.3
Occupation			
Housewife/Unemployed	48	6	12.5
Trader	42	14	33.3
Seamstress	10	4	40.0

Hair dresser	8	0	0.0
University student	8	2	25.0
Civil servant/Clerk	6	4	66.7
Teacher	6	2	33.3
Farmer	6	4	66.7

Reasons for not breastfeeding exclusively

As shown in table 7, 68 (50.7%) of the mothers did not breast feed exclusively because they thought their breast milk was not enough for the baby, followed by 16 (11.9%) who thought all babies need to drink water and 14 (10.4%) who did not breast feed exclusively because of advice from friends/relatives.

Table 7: Reasons for not breastfeeding exclusively

Reason	Number	Percentage
Breast milk not enough for baby	68	50.7
All babies need to drink water	16	11.9
Advice from friends/relatives	14	10.4
My baby was always crying	8	6.0
Exclusive breast feeding is too demanding	8	6.0
Not convenient because of my job	6	4.5
I was lactating poorly	6	4.5
I do not eat well enough to breast feed exclusively	4	3.0
Because of my ill health	4	3.0
It is our culture to give water to breastfeeding babies	3	2.2
The baby's father insisted on addition of infant formula	3	2.2
I have never heard of exclusive breastfeeding	2	1.5
I could not cope because I had twins	1	0.7

IV. Discussion

As shown in the present study, 59.7% of the mothers in Gbarantoru community of Bayelsa State knew the correct definition and duration of exclusive breast feeding. This is similar to the 50% knowledge reported by Okolie U[19] in Enugu. Ukaegbuet al[18] however reported a higher knowledge of 91.2% among mothers attending the immunization clinic of the NnamdiAzikiwe University Teaching Hospital, Nigeria. This difference may be due to the fact that Ukaegbu's study population were urban dwellers whereas the population in the present study were rural dwellers. It has been demonstrated that women living in urban areas have better knowledge of exclusive breast feeding compared to women in rural areas.[23-24] The59.7% knowledge of exclusive breastfeeding in the present study is higher than 35.3% reported by Abdul Ameer et al[22] in Iraq. The reason for this difference is not immediately clear but may be due to geographical and cultural differences between the two study populations.

The major source of information on exclusive breast feeding to the mothers in the present study was health workers. This is similar to reports by Ukaegbu et al[18] and El-Kariri and Kanoa.[25] It has been shown that the key to successful breastfeeding is based on information, education and communication strategies aimed at behavior change[16] with improved health care practices standing out as being the most promising means of reinforcing the prevalence and duration of breast feeding.[26] Though Health workers knowledge and attitude have been identified as a major factor influencing exclusive breastfeeding rates in some communities,[27-29] one wonders if these health workers are actually giving the mothers correct exclusive breast feeding information. Okolo and Ogbonna[30] carried out a study to assess the knowledge, attitude and practice of health workers towards baby friendly hospital initiative in Keffi Local Government Area of Nigeria. They reported a low level of knowledge with 80.8% of them believing that babies less than 6 months on breast milk should also be given water. Benjamin[31] in Washington, USA also opined that health workers including doctors and Nurses have surprisingly little training in lactation and lactation support. Schanler et al[32] carried out a study on the educational needs of Paediatricians in the United States regarding breastfeeding. They reported that exclusive breastfeeding for the first month of life was recommended by 65% of the Paediatricians. The majority of the Paediatricians had not attended any presentation on breast feeding management in the preceding three years and most of them wanted more education on breast feeding management.

Apart from health workers, 10.4% of the mothers heard about exclusive breastfeeding from the television or radio. This highlights the importance of using the mass media as an alternative means of disseminating health information since about 46.8% of Nigerian mothers deliver outside health facilities[30] and as such, may not have the privilege of getting infant feeding information from health workers. In Columbia, the use of mass media was assessed as being more effective in reaching pregnant women and breastfeeding mothers than health and educational agents.[33] Gupta et al[10] carried out a study in Uganda on evaluation of the extent to which exposure to communication messages in the media on behavioral change determined recent improvement in exclusive breastfeeding knowledge. Their reports indicated that exposure to these messages was strongly associated with women's knowledge of six months as the ideal duration for exclusive breast feeding. Positive

influences on knowledge of men were also reported. The fact that almost half of Nigerian mothers deliver outside health facilities also highlights the need for community awareness programmes on exclusive breastfeeding which was demonstrated to increase knowledge of exclusive breastfeeding from 67.1% to 89.5% in a study done in fourteen Angawari centres in Chandigarh India.[34]

Though all the mothers in the present study breastfed their babies within the first six months of life, only 26.9% of them breast fed exclusively for 6 months. This is not surprising as it has been found that in the developing world, breastfeeding is nearly universal among mothers but not exclusive breastfeeding as early supplementation with water and other fluids and food is the norm.[24] The exclusive breastfeeding rate of 26.9% though higher than the 2008 Nigerian national exclusive breast feeding prevalence of 13.0%,[12] is far below the WHO recommended prevalence of 90%.[5] This shows a wide gap between desired and actual exclusive breast feeding practice which has also been demonstrated by other studies.[20] Ekanem et al[17] reported a similar exclusive breast feeding rate of 24.0% among working mothers in Calabar while Agunbiade et al[35] reported a slightly lower rate of 19% among mothers in South-west Nigeria. Maduforo et al[36] in Owerri however, reported a much higher exclusive breastfeeding practice rate of 66.4% among lactating women in Owerri Metropolis. Their higher exclusive breast feeding rate may be due to the fact that they also had a higher exclusive breast feeding knowledge of 90.6% as compared to the 59.7% found in the present study. According to Bryne et al[37] mothers knowledge of exclusive breast feeding, determines their practice.

Results of the present study show that mothers with good knowledge of the benefits of exclusive breast feeding were more likely to breast feed exclusively. This is similar to reports from other studies in Nigeria[18] Sri-Lanka[22] and Ireland.[15] This finding is not surprising as it has been demonstrated that high maternal knowledge about infant health benefits from breastfeeding was directly related to maternal intention to exclusively breast feed.[38] Also several studies[36, 39- 41] which show high maternal knowledge of exclusive breast feeding also report high exclusive breast feeding rates whereas those[20, 42] with low maternal knowledge also report low exclusive breastfeeding practice rate.

Exclusive breast feeding rate in the present study increased with increasing maternal age and educational level. This is similar to reports from other Nigerian studies.[17,18, 43] This may be explained by the fact that younger mothers may practice exclusive breast feeding less as a result of inexperience which may make them more susceptible to family pressure.[17] It is also possible that with age, mothers may acquire experience and confidence in good child care practices and are less likely to be influenced by friends and relatives.[18] Educated mothers may have better breast feeding practices because they are better able to understand the health implications.[17]

V. Conclusion

Though the practice of breastfeeding in Gbarantoru community is high, the exclusive breastfeeding rate is still low. There is an urgent need for more programmes aimed at promoting exclusive breastfeeding as well as educating and re-educating health personnel as well as members of the public. Exclusive breast feeding information programmes should not only include the definition and recommended duration but should also include its benefits to the infant, mother, family and community.

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