RESEARCH PAPER | Medical Science | Volume : 4 | Issue : 7 | July 2014 | ISSN - 2249-555X

Gap between Knowledge and Practice of Exclusive Breast feeding Among Mothers of Infants in Enugu

KEYWORDS: Prevalence, exclusive breastfeeding, gap, mothers

Chinawa JM | Ubesie AC
Chinawa AT | Ilechukwu GC
Eke CB | Nwogu UB
Obu HA | Ezewosu O

ABSTRACT *Background: The exclusive breastfeeding rate in Nigeria has remained low. Objectives: The aim of the study was to determine the knowledge of, and practice of exclusive (EBF) breastfeeding among mothers of infants attending the Children Out-patients Clinic. Methods: An observational cross-sectional study of 107 mothers of infants attending the Children Out-patients of the UNTH Enugu over three months. Results: One hundred and seven mothers of infants attending the Children Out-patients Clinic were included in the data analysis. One hundred and three correctly defined EBF. However, only 59 of the 107 mothers (55.1%) practiced or were practicing exclusive breastfeeding in the index infants There was a difference in the proportion of mothers that correctly defined EBF and the proportion that were actually practicing EBF (p<0.001). Conclusion: The exclusive breastfeeding rate in this study was 55.1%. There exists a gap between knowledge and practice of EBF among mothers of infants in Enugu.*

Introduction:
Exclusive breastfeeding (EBF) is defined as the intake of breast milk by an infant from its mother or wet nurse, or expressed milk with no addition of any liquid or solids apart from drops or syrups consisting of vitamins, mineral supplements or medicine, and nothing else. [1]

Breastfeeding reduces the risk of malnutrition and common infectious diseases in children, which are the leading causes of infant mortality in developing countries.[2] According to the UNICEF report (2006). the infant mortality rate (IMR) of Nigeria was 78 per1000 live births: one of the highest in the world. [3] The diseases contributing to such high IMR are mostly infectious diseases like pneumonia and diarrhoea. Breast milk contain antibodies and a variety of nonspecific defense factors with antimicrobial properties that protects against these diseases.[4] Increasing the prevalence of exclusive breastfeeding is therefore an important step toward acheiving the Millennium Development Goal of reducing IMR in Nigeria to 52/1000 by the year 2015.[5]

Sadly, the reported exclusive breastfeeding rate in Nigeria, in the first six months of life is still as low as 17%.[6,7] .This is despite the Baby Friendly Hospital Initiative (BFHI) which is aimed at protecting, promoting and supporting breastfeeding for optimal maternal and child health.

Moreover, an estimate by the WHO showed that only 35% of children between birth and their 5th month are breastfed exclusively worldwide.[9] Based on the WHO Global data on Infant and Young Child Feeding in Nigeria, 22.3% of children were exclusively breastfed for less than 4 months, while 17.2% were exclusively breastfed for less than 6 months, in the year 2003. According to the Nigerian Demographic and Health Survey (NDHS), in 2008 17% of children were exclusively breastfed for less than 4 months, while 13% were exclusively breastfed for less than 6 months. Within the same period, early initiation of breastfeeding among women in the region was 12.7% in 2003, but increased to 35.5% in the year 2008.10 All these figures are far below the 90% level recommended by the WHO .[10]

Although studies have been done to assess the prevalence of EBF practices,4-6 there very are limited local study on this subject from Enugu or South-East Nigeria.. This study was thus designed to bridge this knowledge gap. It is hoped that this will add to the body of knowledge available on infant breastfeeding.

Subjects and methods
Study Area
The study was conducted at the paediatric outpatient clinics of the University of Nigeria Teaching Hospital (UNTH) Ituku-Ozalla, Enugu; a tertiary health institution located about 20 km from the city of Enugu in south-eastern Nigeria. The hospital receives referrals from various health facilities in Enugu State and the neighboring states of Anambra, Ebonyi, Benue, Imo and Abia.

Study Population
An observational cross-sectional study involving 107 mothers of infants attending the Children Out-patients Clinic of the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, between May and July 2013, was carried out. All mothers of

Volume : 4 | Issue : 7 | July 2014 | ISSN - 2249-555X

infants attending the Children Out-patients clinics during the period of the study who satisfied the inclusion criteria were consecutively enrolled.

Study Procedure
A structured self administered questionnaire was used to collect information from mothers of infants attending the Children Out-patients clinics of the hospital during the study period. In a few cases where the caregivers were illiterate, the questionnaire was administered to them by the investigators. Information sought included socio-demographic characteristics, knowledge of EBF, and infant feeding practices.

Consenting mothers of infants attending the Children Out-patients Clinic and their infants aged one week to 12 months were included in this study.

Severely ill mothers, children with any gross congenital abnormality and subjects and those unwilling to participate in the study were excluded.

Data Analysis
Data was analyzed with SPSS version 19 (Chicago IL, USA). Chi-square test was used to test for significant association of categorical variables. The level of significance was set at $p < 0.05$.

Ethical Considerations
Ethical approval for the study was sought from the Health Research and Ethics Committee of the University of Nigeria Teaching Hospital.

Results:
Socio-demographic characteristics:
One hundred and seven mothers of infants attending the Children Out-patients Clinic were included in the analysis. The infants were aged one week to 12 months (mean age, 5.1± 3.5 months). The mean age of the mothers was 31.1 ± 5.0 years. The age group 30-39 years accounted for more than half of the mothers (51.4%). Most of the mothers (76.6%) had tertiary education. The characteristics of the infants and their mothers are described in Table 1.

Knowledge and practice of exclusive breastfeeding:
One hundred and three of the 107 mothers (96.3%) correctly defined exclusive breastfeeding (EBF) as giving only breast milk without water or any other food to a baby. Ninety-seven of the 107 mothers (90.7%) also correctly answered that the recommended duration of EBF should be six months. Five mothers (4.7%) answered 4 months while three (2.8%) and two (1.9%) mothers answered one and three months respectively. In practice, only 59 of the 107 mothers (55.1%) practiced or were practicing exclusive breastfeeding in their index infants. There was a statistically significant difference in the proportion of mothers that correctly defined EBF and the proportion that were actually practicing EBF ($p<0.001$). Twenty-eight (26.2%) and 20 (18.7%) mothers were combining breast milk with formula and water respectively. Forty-nine of 82 mothers (59.8%) with tertiary education compared to 10 of 25 mothers (40%) with primary or secondary education practiced or were practicing exclusive breastfeeding in the index infant ($p=0.11$). EBF was highest among mothers aged 30-39 years: 34 of 55 mothers (61.8%) were practicing EBF compared to 24 of 45 mothers (53.3%) aged 20 to 29 years ($p=0.056$). Similarly, 29 of 55 mothers (52.7%) aged 30 -39 years had practiced EBF in the past compared to 14 of 45 mothers (31.1%) among those aged 20 – 29 years ($p=0.07$) as shown in Table 2

Reasons for infant feeding choice:
Sixty nine mothers provided reason for choice of EBF for their infants. Among them, 65 (94.2%) ascribed infant protection by EBF as the major reason. Thirty mothers among those that were giving breast milk and water provided reason; 21 (70%) believed that adding water helps digestion in infants while 9 (30%) thought that breast milk alone does not contain enough water. Thirty-nine of mothers that were combining breast feeding with formula provided reasons for the choice of their infant feeding; 25 of them (64.1%) believed that breast milk alone was not enough for their infants while 14 (35.9%) said they don't have enough time to practice

Discussion
Our study showed that the rate of exclusive breastfeeding among mothers presenting at our facility was 55.1%. This was higher than the national average of 41% and previously reported rates in some centres. 11,12,13 However the rate obtained in this study was still below the 90% level recommended by the WHO.[14] A complex interplay between biological, cultural

and psychological determinants and different methodologies for estimating the rate of EBF may explain these variations.[15,16] Other attributable reasons include differences in breastfeeding duration, frequency of feeds, suckling time, night feeds and complementary feeding between individuals and between countries.[17]

There is an urgent need to improve the practice of breastfeeding in general and exclusive breastfeeding in particular among mothers in Nigeria, This can be achieved by establishing various public health interventions that encourages breastfeeding at local and national levels in Nigeria. Moreover, such interventions should also involve maternity healthcare professionals as a first step in breastfeeding promotion. [18]

Our study showed a statistically significant difference in the proportion of mothers that correctly defined EBF and the proportion that was actually practicing EBF. This means that although mothers are knowledgeable about EBF, this knowledge has failed to improve the practice. A previous study done in the United Kingdom in 2000 showed that only 8% of mothers practiced exclusive breastfeeding which contrasted sharply with the level of knowledge in that country.[19] An Australia study showed that mothers who were knowledgeable about the WHO EBF recommendations were five times more likely to intend to breastfeed exclusively compared to those without EBF awareness .[20] The study concluded that efforts need to be intensified in order to translate this knowledge into practice.20 This can be achieved by implementing policies that support breastfeeding such as, the Baby Friendly Hospital Initiative (BFHI), , community education on EBF, providing crèches at work places and extended maternity leave to six months for breastfeeding.[21]

More than half of the mothers in our study who practice EBF attended tertiary education. A previous study showed that mothers with more education were more likely to practice exclusive breastfeeding.[22] This is also in keeping with the data from the 2003 and 2004 National Immunization Surveys in the US that found that women with less than a college degree were less likely to breastfeed than college graduates. [23] Another study using data from a statewide postpartum survey in California found that education was associated with intention to breastfeed even after controlling for income, although a model that included maternal education and income fit the data on intention to breastfeed better than maternal education alone.[24]

Our study showed that older mothers were more likely to practice EBF than younger ones. This finding showed a trend that failed to attain statistical significance. The reasons for lower rate of exclusive breastfeeding among younger mothers include lack of adequate support and inexperience[25] Feldman-Winter et al[26] reported that rates of 6-month exclusive breastfeeding increased significantly at institutions where younger mothers are provided with additional breastfeeding support.[27]

Volume : 4 | Issue : 7 | July 2014 | ISSN - 2249-555X

Majority of mothers believe that EBF protect their infant from infection while some mothers who were giving breast milk and water believed that adding water helps digestion and that breast milk alone does not contain enough water. We also noted that one third of mothers that were combining breastfeeding with formula believed that breast milk alone was not enough for their infants. These misconceptions need to addressed because tt is well known that breastfeeding have [21] advantages: [7] for the mother and 14 for the infant. 2-4,28

Conclusion:
The exclusive breastfeeding rate in this study was 55.1%. This still fell short of the 90% advocated by the WHO. There exists a significant gap between knowledge and practice of exclusive breastfeeding among mothers of infants in Enugu. Practical strategies that support EBF at home, work places and community need to be strengthened.

Limitation
A main limitation of this study was our reliance on parental reports of breastfeeding behaviours. However, mothers' recall of breastfeeding initiation and duration has been found to be reliable and valid when investigated within 3 years after the practice[29] This partly informed our decision to restrict the study participants to mothers of infants. Measuring breastfeeding exclusivity presents unique challenges, as Li et al[29] found that the validity and reliability of mothers' recall of introducing foods and fluids other than breast milk were less satisfactory than those for other breastfeeding behaviors.

Competing Interest: The authors declare that there is no conflict of interests

Authors' Contribution
All the authors made substantial intellectual contributions to this study. They were involved in the conception, design, and data collection, interpretation of results, preparation of the manuscript, revision of the article at various stages and preparation of the final draft. Acknowledgements

We are grateful to all the doctors and nurses that work at our Children Outpatient Clinic for their co-operation. Our gratitude also extends to the mothers and their childen who participated in this study.

Finally we thank the almighty God whose assistance and ideas through the course of this work is priceless.

Tables
Table 1: Characteristics of the infants and their mothers

Mean age of infants in months (SD)	5.1±3.1
Mean age of mothers in years (SD)	31.1± 5.0
Mothers' age group (years) n (%)	
20 – 29	45 (42.1)
30 – 39	55 (51.4)
≥ 40	7 (6.5)
Mothers' highest educational attainment	
Primary	2 (1.9)
Secondary	23 (21.5)
Tertiary	82 (76.6)
Infants' gender	
Male	59 (55.1)
Female	48 (44.9)

SD=standard deviation

Table 2: Association between exclusive breastfeeding rate and age of the mothers

Mothers' age (years)	EBF currently		EBF in the past	
	Yes (%)	No (%)	Yes (%)	No (%)
20-29	24 (53.5)	21 (47.6)	14 (31.1)	31 (68.9)
30 - 39	34 (61.8)	21 (38.2)	29 (52.7)	26 (47.3)
≥40	1 (14.3)	6 (85.7)	2 (28.6)	5 (71.4)

EBF=exclusive breastfeeding

REFERENCE
1. World Health Organization. Indicators forAccessing Breastfeeding Practices. WHO/CDD/ | SER/91.1. Geneva: World Health Organization,1991. | 2. Heinig MJ. Host defense benefits of breastfeeding for the infant. Effect of breastfeeding duration and exclusivity. Pediatr Clin North Am 2001; 48: 105-23. | 3. Adebayo, S.B. & Fahrmeir, L. (2005). Analyzing child mortality in Nigeria with Geo-additive discrete survival models. [Online] Available: http:www.ncbi.nlm.nih.gov/pubmed/15696506 | 4.UNICEF. (Online) (Cited 2009 August). Available from URL: http://www.unicef.org/infobycountry/pakistan_pakistan_background.html. Assesed on 12/08/2013 | 5. Telemo E, Hanson LA. Antibodies in milk. J Mammary Gland Biol Neoplasia 1996; 1: 243-9. | 6. UNICEF State of the Worlds' Children, 2001. Available from www.unicef.org/sw01 (Accessed 12 August 2013) | 7. Nigerian Demographic and Health Survey (NDHS). National Population Commission, ORC Macro,Calverton, Maryland, USA 2003;151–4. | 8. Nigeria Demographic and Health Survey 1999. Federal Office of Statistics, Lagos and IRD/ | Macro International Inc., Columbia, Maryland,USA, 1999: 34-37. | 9. World Health Organization: The State of Breastfeeding in 33 Countries. Obtainable at [http://www.worldbreastfeedingtrends.org/] webcite 2010.Assesed on 12/08/2013 | 10. National Population Commission (NPC) and ICF Macro: Nigeria Demographic and Health Survey 2008. Calverton, Maryland, USA: NPC and ICF Macro; 2009. | 11 .National Bureau of Statistics (NBS) [Tanzania] and ORC Macro: Tanzania Demographic and Health Survey 2004-05. Dar-Es-Salaam, Tanzania; 2005. | 12. Laisiriruangrai P, Wiriyasirivaj B, Phaloprakarn C, Manusirivithaya S. Shirima R, Greiner T, Kylberg E, Gebre-Medhin M: Exclusive breast-feeding is rarely practised in rural and urban Morogoro, Tanzania. Public Health Nutrition 2000; 2:147- | 13.Prevalence of exclusive breastfeeding at 3, 4 and 6 months in Bangkok Metropolitan Administration Medical College and Vajira Hospital. J Med Assoc Thai. 2008; 7:962-7. | 14. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS, Bellagio Child Survival Study Group: How many child deaths can we prevent this year? Lancet 2003, 362:65-71 | 15. Aarts C, Kylberg E, Hornell A, Hofvander Y, Gebre-Medhin M, Greiner T: How exclusive is exclusive breastfeeding? A comparison of data since birth with current status. International Journal of Epidemiology 2000; 6:1041-1046 | 16. Zohoori, N., Popkin, B.M. & Fernandez, M.E. Breast-feeding patterns in the Philippines: a prospective analysis. J Biosoc Sc 1993; 25: 127-38. | 17. Woolridge MW. Baby-controlled Breastfeeding: Biocultural Implications. In P. | Stuart-Macedam & K. A. Dettwyler (Eds.), Breastfeeding. Biocultural Perspectives 1995; | 217-242. New York: Aldine de Gruyter | 18. Siret V, Castel C, Boileau P, Castetbon K, Foix L'hélias L.Factors associated to breastfeeding up to 6 months in the maternity of Antoine-Béclère Hospital, Clamart. Arch Pediatr. 2008;7:1167 | 19. Amin M, Matthews L, Johnson T, Kilty L, Riley R:The prevalence of breast-feeding in south Leicestershire; Br. J Community News;2000 | | 20. Wen LM, Baur LA, Rissel C, Alperstein G, Simpson JM: Intention to breastfeed and awareness of health recommendations: findings from first-time mothers in southwest Sydney, Australia. International Breastfeeding Journal 2009, 4:9. | 21. Tiras EN, Sia EM. Prevalence and predictors of exclusive breastfeeding among women in Kigoma region, Western Tanzania: a community based cross-sectional study. International Breastfeeding Journal 2011, 6:17 | 22. Janet M. Wojcicki, Roberto Gugig, Cam Tran, Suganya Kathiravan, Katherine Holbrook, Melvin B. Heyman. Early Exclusive Breastfeeding and Maternal Attitudes Towards Infant Feeding in a Population of New Mothers in San Francisco, California Breastfeed Med. 20;1: 9–15. | 24. Forste R. Hoffmann JP. Are US mothers meeting the Healthy People 2010 breastfeeding targets for initiation, duration, and exclusivity? The 2003 and 2004 National Immunization Surveys. J Hum Lact. 2008; 24:278–288. | 25. Braveman P. Cubbin C. Marchi K, et al. Measuring socioeconomic status/position in studies of racial/ethnic disparities: Maternal and infant health. Public Health Rep. 2001;116:449–463. | 24. Feldman-Winter LB, Schanler RJ, O'Connor KG, Lawrence RA. Pediatricians and the promotion and support of breastfeeding. Arch Pediatr Adolesc Med. 2008;12:1142–1149 | 26. Jessica RJ, Michael D K,Gopal K, Deborah LD, Laurence MG. Factors Associated With Exclusive Breastfeeding in the United States. Pediatrics 2011; 128: 1117 -1125 | 27.Feldman-Winter L, Barone L, Milcarek B, et al. Residency curriculum improves breastfeeding care. Pediatrics. 2010; 2:289–297 | 28. Clara Aarts, Elisabeth Kylberg, Agneta Hörnell; Yngve Hofvander, Mehari Gebre- | Medhin, Ted Greiner. How Exclusive is Exclusive Breastfeeding? A Comparison of | Data since Birth with Current Status Data. International Journal of Epidemiology 2000;29:1040-1046. | 29. Li R, Scanlon KS, Serdula MK. The validity and reliability of maternal recall of breastfeeding practice. Nutr Rev. 2005; 4:103–110 |