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Breastfeeding Duration and Related Factors among Mothers in Southeast Nigeria

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ABSTRACT

Background: Breastfeeding is beneficial to mothers, infants and society at large. The nutritional and non-nutritional benefits are gained when practiced in line with recommended durations.
Objective: The duration of breastfeeding and related factors among mothers of Southeastern Nigeria were explored.
Methods: This was a hospital based cross-sectional study using an interviewer-administered questionnaire. Data analysis employed SPSS version 20.
Results: A total of 1,833 women were surveyed. Most (93.3%) were aged 20-40 years and had at least secondary education (94,6%). More than half (64.3%) were working class. Many had 1-4 children (91.5%) and a family size of ≤6 (74.2%). Up to 83.3% of the mothers breastfed for ≥12 months. Common reasons advanced for cessation of breastfeeding were pregnancy (29.8%), baby refusing to suckle (10.2%) or old enough to stop breastfeeding (18.0%). No reason for cessation was given for 22.4%. Mothers <20 years practiced non-exclusive breastfeeding or early introduction of complementary feeds, bottle-fed and were significantly least likely to breastfeed for up to one year.
Conclusion: A suboptimal number of Nigerian mothers breastfed for ≥12 months. Unscientific reasons were proffered for cessation of breastfeeding. Younger mothers practiced non-exclusive breastfeeding, bottle-fed and gave early complementary feeds, negatively affecting duration of breastfeeding. Sustained individualized health education is advocated to improve duration of breastfeeding and avail young children of its wholesome nutritional benefits.

***Keywords*:** Breastfeeding Cessation, Breastfeeding Duration, Lactation Cessation Determinants, Weaning Timing, Nutrition

INTRODUCTION

Human breast milk is the optimal nutrient for the infant and young child in the early period of life. [1] It has both nutritive and non-nutritive values. Nutritionally it serves as a rich source of macronutrients such as carbohydrate, protein and fats (3.8% fat, 1.0% protein, and 7% lactose, 87% water [2] and micronutrients which includes but are not limited to iron, zinc, and copper.

[3] Among the non-nutritive value of breastfeeding are: social bonding of mother-infant dyad, anti-allergic effect, anti-diarrhea, reduction in the risk of maternal and childhood cancers such as ovarian and breast cancers, childhood leukemia. [4-8] Studies have associated breastfeeding with higher neurodevelopmental and cognitive scores in children. [9,10] For mother and child to achieve maximum benefits from breastfeeding, it is important that breastfeeding be practiced up to the recommended duration. A study has shown that each month of breastfeeding reduces the relative risk of ovarian cancer by 2%. [6] Also there exists a close link between extended breastfeeding and higher IQ scores, school attainment and higher earnings. [11]

On the other hand, suboptimal breastfeeding accounts for over 30% of child deaths in low-income countries [12,13] and is linked with national gross economic losses. [14] The WHO and UNICEF recommended exclusive breast feeding for the first 6-months of life and introduction of adequate complementary feed afterwards while continuing to breastfeed into the 2nd year and beyond. [15] In the background of the myriad benefits of optimal breastfeeding to the mother, child and society, it behooved the researchers to explore how optimally the mothers of southeast Nigeria practiced breastfeeding and factors related to such practices. The findings would serve as a veritable tool in designing programs to promote and protect optimal breastfeeding in the region.

SUBJECTS AND METHODS

This hospital based cross-sectional study was conducted across the five states of the South-East geopolitical zone of Nigeria in 13 health facilities – namely, Nnamdi Azikiwe University Teaching Hospital, Nnewi; Iyienu Hospital, Ogidi; Waterside Specialist Hospital, Onitsha; Federal Medical Centre, Owerri; Ebonyi State University Teaching Hospital, Abakaliki; Enugu State University Teaching Hospital, Enugu; Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Awka; St. Charles Borromeo Specialist Hospital, Onitsha; Awka-Etiti Catholic Mission Hospital, Awka-Etiti; Immaculate Heart Hospital, Nkpor; St. Patrick's Hospital, Enugu; Uwani Health Centre, Enugu and Federal Medical Centre, Umuahia. The South East region of Nigeria comprises Anambra, Enugu, Imo, Abia and Ebonyi states. Southeasterners are of the Igbo tribe and the dominant religion is Christianity. The Southeast occupies a land mass of 28.98 m^2 with population of 16.39 million people (11.68% of national population) according to 2006 national population census. Women make up 49% of the population.

The study was conducted over a period of 3 months between July and September, 2018. In each of the states, the major Baby Friendly health facilities that offered maternal and child health services were selected. Mothers were enrolled consecutively following an oral informed consent.

Inclusion Criteria

To be included in the study the woman must be of child-bearing age with the last offspring less than 24 months, and must have presented to the clinic with the index baby.

Exclusion Criteria

Non-biologic mothers and caregivers were excluded from the study.

Instruments and Tools

Data was collected from mothers attending well-baby (Immunization) clinics using an interviewer-administered questionnaire. The following socio-demographic characteristics of the subjects were obtained: Age in years categorized into <20, 20-30, 31-40 and >40, Highest Educational Level (No formal education, Primary Education, Secondary Education, and Post-Secondary Education), Occupation (Professional, Civil/ Public Servant, Trader,

Artisan, Unskilled Worker, Peasant farmer and Unemployed), Parity (1-2, 3-4, 5-6, ≥7 Children) and total family size categorized into ≤6 and> 6. Other measures ascertained from the participant were whether or not they practiced Exclusive breast feeding, total duration of breastfeeding in months (<6, ≥6 to <12, ≥12 to <18, ≥18) and reasons for cessation of breastfeeding.

Data Analysis

Data was analyzed using SPSS version 20. The relationship between two categorical variables or a categorical and an ordinal variable was examined using chi-square test while Kendall's tau-b was used to test the association between two ordinal variables. Any p-value less than 0.05 was considered statistically significant.

RESULTS

Table 1. Socio-demographic characteristics of the mothers

Characteristics	Frequency	Percent
Age (years)		
< 20	62	3.4
20-30	944	51.5
31-40	767	41.8
> 40	60	3.3
Highest Educational Level		
No formal education	36	2.0
Primary education	62	3.4
Secondary education	616	33.6
Post-secondary education	1119	61.0
Occupation		
Professional	209	11.4
Civil/public servant	554	30.2
Trader	416	22.7
Artisan	149	8.1
Unskilled worker	75	4.1
Peasant farmer	41	2.2
Unemployed	389	21.2
Parity		
1 to 2	931	50.8
3 to 4	746	40.7
5 to 6	141	7.7
≥7	15	0.8
Total family size		
≤6	1360	74.2
>6	473	25.8
Total	1833	100.0

Majority of the mothers were between 20 to 40 years of age (93.3%), had at least secondary school education (94.6%), working (78.8%) and had a total family size of 6 persons or less. Table 1 outlines the characteristics of the subjects.

Mothers who exclusively breastfed constituted 37.3%, while 83.3% breastfed for 12 months or more. Common reasons cited for cessation of breastfeeding were pregnancy (29.8%), baby refusing to suckle (10.2%) or old enough to stop breastfeeding (18.0%). About 22.4% of mother gave no specific reason for stopping breastfeeding. This is shown in Table 2.

Table 2. Duration of breastfeeding and reasons for cessation of breastfeeding

Breastfeeding practice	Frequency	Percent
Exclusive breastfeeding		
Yes	683	37.3
No	1150	62.7
Total duration of breastfeeding (months)		
<6	68	3.7
≥ 6 to < 12	238	13.0
≥ 12 to < 18	1516	82.7
≥ 18	11	0.6
Reason for cessation of breastfeeding		
Pregnancy	546	29.8
Recommencement of sexual activity	130	7.1
Use of contraceptives	48	2.6
Baby refused to suckle	187	10.2
Breastmilk became 'spoilt'	17	0.9
Baby was old enough to stop breastfeeding	330	18.0
Breastmilk was not enough for baby	66	3.6
Need to return to work or school	72	3.9
Health problems	27	1.5
No specific reason	410	22.4
Total	1833	100.0

Mothers less than twenty years old were significantly least likely to breastfeed for up to one year. Mothers that practiced non-exclusive breastfeeding, bottle feeding and early introduction of complementary feeds were significantly least likely to breastfeed for up to one year. The factors associated with duration of breastfeeding are outlined in Table 3.

Among mothers who did not breastfeed for up to one year, the commonest reasons cited for cessation of breastfeeding were pregnancy (27.1%), return to sexual activity or need to use contraceptives (12.4%), baby refusal to suck (9.5%), need to return to work (8.8%) or breastmilk inadequate for baby (6.9%). Baby was considered old enough to stop breastfeeding by 10.8% of them. (Figure 1).

Table 3. Factors associated with breastfeeding duration

Characteristics	Total Breastfeeding duration		p-Value
	< 12 months	≥ 12 months	
Age			
< 20	17(27.4)	45(72.6)	
20-30	166(17.6)	778(82.4)	0.029[a*]
31-40	114(14.9)	653(85.1)	
> 40	9(15.0)	51(85.0)	
Highest educational level			
No formal education	7(19.4)	29(80.6)	
Primary education	6(9.7)	56(90.3)	0.077[a]
Secondary education	93(15.1)	523(84.9)	
Post-secondary education	200(17.9)	919(82.1)	
Occupation			
Professionals	21(10.0)	188(90.0)	
Civil/public servants	104(18.8)	450(81.2)	0.001[b]*
Traders	77(18.5)	339(81.5)	
Artisans	20(13.4)	129(86.6)	
Unskilled workers	7(9.3)	68(90.7)	
Peasant farmers	1(2.4)	40(97.6)	
Unemployed	76(19.5)	313(80.5)	
Parity			
1 to 2	146(15.7)	785(84.3)	0.644[a]
3 to 4	144(19.3)	602(80.7)	
≥5	16(10.3)	140(89.7)	
Family size			
≤6	234(17.2)	1126(82.8)	0.307[a]
>6	72(15.2)	401(84.8)	
Exclusive breastfeeding practice			
Yes	89(13.0)	594(87.0)	0.001[b]*
No	217(18.9)	933(81.1)	
Complementary feeding commencement age			
< 6 months	154(24.1)	485(75.9)	
At 6 months	138(14.0)	846(86.0)	<0.001[a*]
>6 months	14(6.7)	196(93.3)	
Bottle feeding			
Yes	200(20.0)	802(80.0)	<0.001[b]*
No	106(12.8)	725(87.2)	
Total	306	1527 (83.3)	1833(100.0)

*a =Kendall's tau-b(τ_b); b =Chi square test; * Statistically significant; Percentages in parentheses*

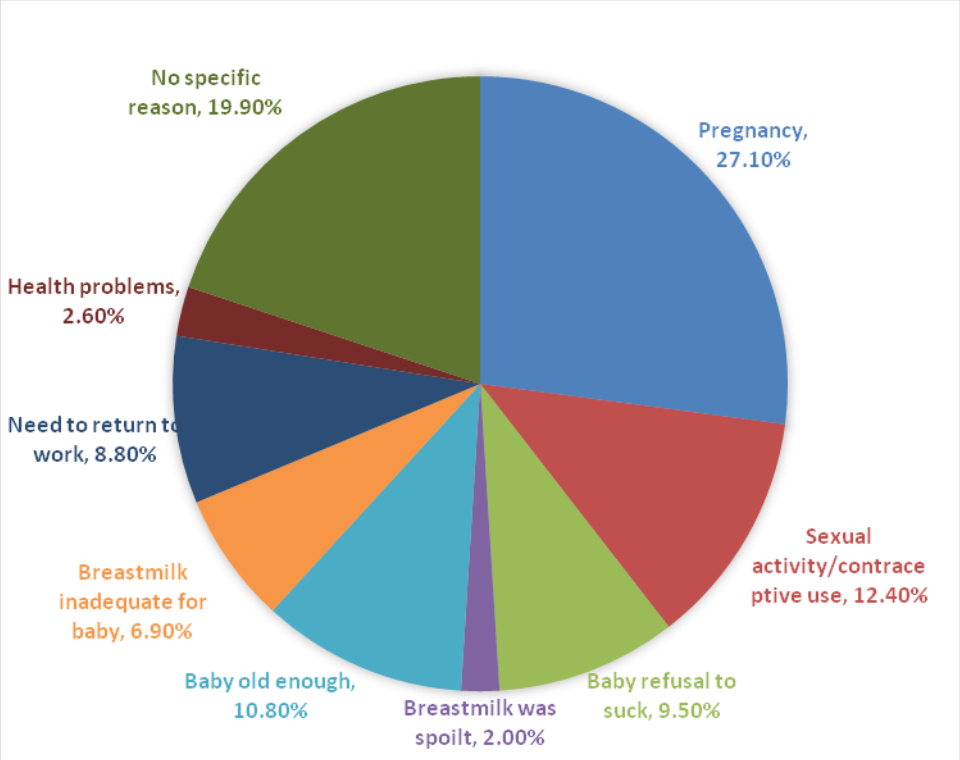

Figure 1. Reasons for breastfeeding cessation before one year (n=306)

DISCUSSION

A good number of mothers in the South-Eastern region of Nigeria breast feed their babies for up to 1 year and above. This duration of breastfeeding appears encouraging and consistent with a similarly high rate documented by Akadri et al in the South-West, [16] Oni in the North-Central city of Ilorin, [17] another study in the Northwest sate of Katsina [18] and other international studies. [19,20] However, this is contrary to lower durations reported by Isenalumhe and Oviawe in Benin [21] and another study in Delta and Edo States [22] all of the South-South Nigeria. The observed difference in these regions could be the influence of different socioeconomic and environmental backgrounds of the mothers. There seems to be a progressive decline in the proportion of mothers who breastfed for upwards of 12 months in southern Nigeria (97.1% to 89.9% from 1990 to 2008), [23] further highlighted by this study (83.3%) as against 89.9 in 2008. [23] This trend is worrisome as it undermines the gains of breastfeeding on child survival in developing countries. Therefore, urgent steps are needed to address the factors responsible for decline in the duration of breastfeeding among mothers in southern Nigeria.

Although most of our participants breastfed their babies for 1 year and above, only 0.6% breastfed beyond 18 months. This falls below the WHO and UNICEF standard which recommend continued breastfeeding up to 2years of age or beyond. [15] The fact that both local and international observations are documenting suboptimal compliance to WHO/UNICEF recommendation on breastfeeding duration calls for a more concerted effort into unraveling the cause of the suboptimal compliance. Among our participants, common reasons for cessation of breastfeeding earlier than recommended period include pregnancy occurring during breastfeeding, baby old enough to stop breastfeeding and baby voluntarily refusing to suckle. The belief in our society that a pregnant mother should not breastfeed is non-scientific and indeed needs to be addressed in public health campaigns. For mothers in our environment to stop breastfeeding earlier than standard timing on the ground that baby is old enough to stop breastfeeding reveals that these mothers were obviously uninformed of the standard globally recommended duration of breastfeeding as well as the benefits of breastfeeding to both the mother and the baby. There has to be a paradigm change in perception and practice of these mothers.

It is also interesting to note that in our study, mothers reported voluntary refusal to suckle otherwise known as breastfeeding strike as a major cause of early cessation of breastfeeding. This phenomenon has been reported in an earlier study. [24] The fact that the study recorded a lower incidence compared to ours has demonstrated unhealthy increase of this practice in our environment. According to their study, older mothers, those with more children, higher occupational grades and higher educational attainment were more likely to experience infant refusal of breastfeeding before 6 months of age. In our opinion, the above maternal characteristics are likely to increase maternal stress and reduce their availability to breastfeed on demand. Thus, such mothers tend to introduce breast-milk substitutes and complementary feeds too early. This may distract the baby from breastfeeding and finally lead to early cessation. The above suggestions notwithstanding, there should still be a concerted effort to discover why an infant will voluntarily abandon the natural meal which should ordinarily appeal to its taste. Authors strongly believe the existence of a subtle deterrent which can only be unraveled through a more thorough review.

In our study, maternal age less than twenty years, non-exclusive breastfeeding, bottle feeding and early introduction of complementary feeds were maternal characteristics and practice associated with breastfeeding for less than a year's duration. A study on factors influencing breastfeeding

duration among Polish women also implicated young maternal age as a factor militating against optimal breastfeeding duration among mothers. [25] No doubt the young mothers are more prone to work pressures and demands which could make them succumb to early cessation of breast feeding in order to focus attention to their work demands. This fact has been documented in a systematic review of breastfeeding in Nigeria by Adewuyi and Adefemi. [26] In the authors' opinion addressing this critical issue of work/breastfeeding conflict among working mothers in our environment will play a pivotal role in optimizing breastfeeding duration among young mothers in prime age of reproduction. An approach to address this may include individualized pre-natal infant feeding counselling which has been found to be very useful in ensuring adherence to infant feeding recommendations. [27]

CONCLUSION

A large number of women in Southeast Nigeria breastfed for up to 12 months and more, however, this still falls below the standard recommendations by the WHO/UNICEF. Reasons proffered for early cessation of breastfeeding were non-scientific. Younger mothers, those who practice non-exclusive breastfeeding or bottle-feeding, or introduce complementary feeds too early, were likely not to breastfeed for up to 1 year. Such factors can be addressed through sustained individualized health education, laying emphasis on the need for not truncating the length of time a child is breastfed, as breastmilk is the bedrock of infant nutrition.

Ethical Considerations

Ethical clearance for the study was obtained from the Research and Ethics Committee (REC) of Nnamdi Azikiwe University Teaching Hospital, Nnewi Anambra State, South-East Nigeria. The study was explained to the subjects and verbal informed consent was obtained from each respondent to participate in the study. Permission was obtained from the various Hospital Administrators and Nursing staff in charge of the Well Baby Immunization Clinics used.

Conflict of Interest

The authors declared that there is no conflict of interest.

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Author's Contributions

EFU and CUO were involved in the conceptualization and development of the research protocol for this study. UE, EFU, CUO, CM, IKU and KNO collected data and facilitated ethical approvals. Data analysis and interpretation were done by CUO and EFU. Initial drafting of the work was carried out by UE and CUO. Critical revision for important intellectual content - EFU. All authors were involved in vetting the final version to be published.

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