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Research Article

Breastfeeding profile and practice of Nigerian mothers: a cross-sectional survey

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ABSTRACT

Background: Breastfeeding patterns in the developing world are still below the recommended levels and the potential to improve child survival remains untapped. This study investigated the breastfeeding profile and practices of Nigerian nursing mothers.

Methods: This cross-sectional survey involved women at attending selected baby-friendly facilities in Ile-Ife, South-West, Nigeria who had breastfed their most recent baby for a minimum of six months. A self-administered questionnaire was used to obtain data on demographics, infant-maternal characteristics and breastfeeding practices. 383 mothers volunteered for this study, yielding a response rate of 95.7%. Data were analyzed using descriptive and inferential statistics at 0.05 alpha level.

Results: The mean age of the respondent was 29.0 ± 4.96 years. Exclusive breastfeeding (EBF) rate was 86.2%. Breastfeeding initiation time of less than 1 hour after delivery and 24 hours rooming-in practice rate was 78.3% and 79.1% respectively. Daily breastfeeding time and total breastfeeding duration was 8.06 ± 2.33 hours and 18.3 ± 4.82 months respectively. The mean onset time for water supplementation was 4.74 ± 1.77 months with a rate of 30.3% within 1-3 months. Weaning initiation time was mostly (43.9%) within 12 to 18 month of infant's age. There was significant association between EBF practice and each of maternal education ($X^2 = 6.554$; $P = 0.038$) and Socio-Economic Status (SES) ($X^2 = 19.32$; $P = 0.031$) with most of the respondents in the lower SES (56.1%) subscribing to EBF.

Conclusions: Exclusive breastfeeding (EBF) rate for the first six months among Nigerian mothers attending baby-friendly clinics was high. Breastfeeding initiation time after delivery was early, water supplementation to breastfeeding was before 5 months of the infant's life and weaning practice was late. Maternal educational level and socio-economic status significantly influenced EBF practice.

Keywords: Exclusive breastfeeding, Baby-friendly, Practice, Nigeria

INTRODUCTION

Breastfeeding is the act of breast milk transference from the mother to the infant.¹ Breastfeeding satisfies baby's emotional needs and it increases bonding between mother and infant² and it is considered to be physiologically,

biochemically, psychologically and immunologically important.³ Consequently, several coordinated activities and policies to promote health among women, new-borns and infants through breastfeeding have been actively advocated for and promoted. Based on empirical evidences on the benefits of breastfeeding to the mother

and child, the World Health Organization (WHO)⁴ has recommended 2 year breastfeeding; first 6 months Exclusive breastfeeding (EBF); and more than 8 times breastfeeding of the baby per day in the first 3 months of an infant's life. The WHO and the United Nations Children's Fund (UNICEF) in 1991 launched a global effort to implement practices that protect, promote and support breastfeeding through the baby-friendly hospital initiative. The initiative is reported to have provided optimal support for breastfeeding by increasing the likelihood of babies being exclusively breastfed for the first six months.¹

The WHO and UNICEF baby friendly hospital initiative recommends infants should be exclusively breastfed for the first six months of life to achieve optimal health and development, followed by complementary foods while continuing breastfeeding for up to two years or beyond.⁵ Even though there are global recommendations regarding the best practises of breastfeeding, the rate of adherence to breastfeeding is reported to be declining worldwide.^{6,7} Singh³ submitted that there has been a general decrease in the practice of breastfeeding both in terms of prevalence and duration in the past few decades and recommended a need to promote, protect and support breastfeeding as a child survival strategy. Breastfeeding rates vary in different countries and from one geographic region to another.^{8,9} It has been observed that breastfeeding patterns have improved significantly in some countries over the recent decade.^{10,11} Conversely, breastfeeding patterns are still below the recommended levels in the developing world as a whole and the potential to improve child survival remains untapped.¹²⁻¹⁵ Furthermore, data on breastfeeding practices are still inadequate in the developing countries. Therefore, this study assessed breastfeeding profile and practices of nursing mothers attending selected baby-friendly facilities in Ile-Ife, South-West, Nigeria.

METHODS

This cross-sectional survey involved women who had breastfed their most recent baby for a minimum of six months and were attending post-natal clinics from five government-owned baby-friendly facilities (namely Ife hospital unit of the Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Eleyele Urban comprehensive health center of the OAUTHC, Enuwa primary health center, comprehensive health center Aderemi and Okeitubu comprehensive health center Modakeke) in Ife central and Ife east local government, areas of Osun state, South West, Nigeria respectively.

Ile-Ife is an ancient settlement of the Yoruba tribe in Osun State in the South-western part of Nigeria.

Ethical approval for the study was sought from the ethics and research committee of the OAUTHC. All the respondents gave signed informed consent prior to participation.

The questionnaire for the study was developed from previous studies and expert review. Test-retest reliability of the English version of the questionnaire yielded a correlation coefficient of $r = 0.967$ at $P = 0.001$.

The items of the Yoruba language (the local language among the respondents) version of the questionnaire yielded agreements percentage that ranged from 94 to 100%, and the corresponding kappas ranged from 0.76 to 1.00.

The self-administered questionnaires were distributed to breastfeeding mothers attending medical appointments at the aforementioned facilities. Data were collected on demographics, infant-maternal characteristics and breastfeeding practices.

Data analyses

Data were summarized using descriptive (mean, standard deviation, and frequency) and inferential statistics of Chi-square test of association. The level of significance was set at $P < 0.05$. Data were analyzed with Statistical Package for Social Sciences (SPSS) software (version 16).

RESULTS

A total of 400 questionnaires were distributed, however, 383 were returned yielding a responsive rate of 95.7%. The mean age of the respondent was 29.0 ± 4.96 years.

Table 1 shows the socio-demographic, maternal and infant characteristics. From the result, 68.1% of the respondents were multiparous and 86.7% had vagina delivery.

Table 2 shows the breastfeeding profile and practices of the respondents. 78.3% of the respondents had less than 1hr breastfeeding onset time after delivery and 79.1% reported 24 hours rooming-in practices. 86.2% of the respondents practiced EBF.

The daily breastfeeding time and total breastfeeding duration of the respondents was 8.06 ± 2.33 hours and 18.3 ± 4.82 months respectively.

Weaning was reported as early as less than 6 months of the infant life by 8% of the respondents while majority (43.9%) weaned their children within 12 to 18 months.

The mean time for the onset of water administration as complementary to breastfeeding was 4.74 ± 1.77 months. 30.3% of the respondents administered water within 1-3 months, while 58.7% administered water after 6 months of the infant's age.

Of the respondents that practiced EBF, 22.5% practiced up to 12 months, 43.9% practiced up to 18 months, 32.9% up to 24 months.

The Chi-square test of association between EBF and each of age, religion, education, occupation, and parity is presented in Table 3.

There was no significant association between EBF practice and each of age ($P = 0.367$), occupation ($P = 0.426$) and parity ($P = 0.599$).

However, there was a significant association between education and EBF practice ($X^2 = 6.554$; $P = 0.038$).

Most of the respondents in the lower Socio-economic Status (SES) (56.1%) practiced EBF while 40.0% and 3.9% of the respondents in the middle and lower socio-economic strata respectively practiced EBF.

There was a significant association between SES and EBF practice ($X^2 = 19.32$; $p = 0.031$).

Table 1: Socio-demographic, maternal and infant characteristics.

Variable	n	%
Age (in years)		
≤30	224	58.5
>30	159	41.5
Religion		
Christianity	275	71.8
Islam	108	28.2
Education		
Pry	33	8.6
Secondary	157	41.0
Tertiary	193	50.4
Occupation		
Unemployed	62	16.2
Private unskilled	157	41.0
Private skilled	76	19.8
Public junior	62	16.2
Public senior	26	6.8
Socioeconomic status (SES)		
Low SES	220	57.4
Middle SES	148	38.6
High SES	15	3.9
Mode of delivery		
Vaginal	332	86.7
Caesarean section	51	13.3
Parity		
Primiparous	122	31.9
Multiparous	261	68.1
Infant gender		
Male	187	48.8
Female	196	51.2
Neonatal hospitalization		
Yes	163	43.6
No	220	57.4

Table 2: Breastfeeding profile and practices of the respondents.

Variable	n	%
First breastfeeding initiation time		
≤1 hour	300	78.3
1-3 hours	55	14.4
3-6 hours	10	2.6
6-12 hours	7	1.8
12-24 hours	4	1.0
>24 hours	7	1.9
Total	383	100
Rooming-in practice		
≤12 hours	13	3.4
>12 less than 24 hours	67	17.5
24 hours	303	79.1
Total	383	100
Exclusive breastfeeding duration		
Within 3 months	19	4.9
4-5 months	34	8.9
6 months	330	86.2
Weaning practices		
<6 months	3	0.8
6 to 12 months	6	22.5
12 to 18 months	168	43.9
Up to 2 years	126	32.9
Total	383	100
Administration of water		
1-3 months	116	30.3
4-6 months	42	11.0
>6 months	225	58.7
Total	383	100

Table 3: Association between exclusive breastfeeding practice and each of age, religion, education, occupation and parity.

	Exclusive breastfeeding practice		X^2	P value
	Yes, n (%)	No, n (%)		
Age (in years)				
≤30	190 (84.8)	34 (15.2)	0.813	0.367
>30	140 (88.1)	19 (11.9)		
Religion				
Christianity	239 (86.9)	36 (13.1)	0.457	0.499
Islam	91 (84.3)	17 (15.7)		
Education				
Pry	25 (75.8)	8 (24.2)	6.554	0.038
Secondary	131 (83.4)	26 (16.6)		
Tertiary	174 (90.2)	19 (9.8)		
Occupation				
Unemployed	57 (85.1)	5 (7.5)	3.856	0.426
Private unskilled	132 (84.1)	25 (15.9)		
Private skilled	63 (82.9)	13 (17.1)		
Public junior	54 (87.1)	8 (12.9)		
Public senior	24 (92.3)	2 (7.7)		
Parity				
Primiparous	103 (84.4)	19 (15.6)	0.277	0.599
Multiparous	217 (86.5)	34 (13.5)		

DISCUSSION

This study assessed breastfeeding profile and practices of nursing mothers attending from selected baby-friendly facilities in Ile-Ife, South-west, Nigeria. The maternal demographics showed that most of the women in this study were multiparous and had a vaginal delivery. Relatively, a smaller percentage (13.3%) of the mothers had caesarean section. This could be associated with a widely held belief that women in the West African sub-region have an aversion for surgical delivery.¹⁶ From the result of this study, majority of the mothers had less than one hour breastfeeding initiation time after delivery (78.3%). Data on breastfeeding initiation time are sparse and differs across different countries. A study among Turkish mother reported an overall breastfeeding initiation of 32.8% and 72.8% within the first and hour two hours after delivery respectively.¹⁷ Madagascar mothers were reported to have a rate of 78% for breastfeeding initiation within the first hour,¹⁸ however, a rate as low as 3.4% was reported among Nepalese mothers.¹⁹ Factors such socio-cultural beliefs, delay in lactogenesis, sub-optimal behaviour of new-borns to accept breastfeeding especially in those exposed to labour medication during delivery are frequently associated with the initiation of breastfeeding.^{17,20,21}

Rooming-in practice was reported among 79.1% of the mothers in this study. Cotton and Garcia²² reported a rooming-rate of 70% among Brazilian mothers. Rooming-in practice rate ranging from 25 to 98.5% has been reported among South Korean mother.^{23,24} Nurses' document information on EBF practices on electronic health record for rooming-in practice in 2010 was 81.38%.²⁵ Rooming-in practice allows the mother and infant to remain together 24 hours a day.³ WHO and UNICEF included rooming practice in their joint statement to maternity units worldwide to protect, promote and support breastfeeding.²⁶ Rooming-in allows for skin to skin contact and it promotes pre-feeding behavioural instinct in the infant to start sucking the breast by him/herself^{27,28} and lactogenesis,^{29,30} helps the mother to keep the baby warm³¹ and enhances baby's relaxation³² and a non-crying state.³³

Eighty six point two percent of the mothers in this study practiced EBF. The daily breastfeeding time of the mothers was 8.06 ± 2.33 hours while breastfeeding duration was 18.3 ± 4.82 months. Breastfeeding rates have been reported to vary in different countries and from one geographic region to another.^{8,9} The rates for EBF found in this study were higher than those reported in most studies from Western and Asian countries. A study by Tan³⁴ among Malaysian women reported that 32.8% of the respondents exclusively breastfeed for six months while 14.5% practice mixed infant feeding. Another study by Khassawneh et al.⁹ among Jordanian women found a rate of over 58% and 30% respectively for full and mixed breastfeeding practices. The breastfeeding rate in this study was higher than the 44.3% to 47.2% breastfeeding rate at 6 months and 23.8% to 25.5%

breastfeeding rate at 12 months observed from 2008 to 2009 among women in the USA. However, breastfeeding rate observed in this study was lower than a report among Iranian women.³⁵ Variation in rates of breastfeeding practices can be a reflection of differences in the socio-demographic and cultural inclination.⁹ The EBF rate obtained in this study is higher and contrasts a recent report by Agho et al.³⁶ that the EBF rate in Nigeria is low and falls well short of the expected levels needed to achieve a substantial reduction in child mortality. The study by Agho et al.³⁶ was an analysis of secondary data from publicly available datasets of the Nigeria demographic and health survey.³⁷ On the other hand, the samples in the present study comprised mothers attending baby-friendly clinics and who may have imbibed the baby-friendly initiatives and consequently the higher EBF rate observed in the study.

Breastfeeding weaning initiation time of less than 6 months of the infant life was reported by 0.8% of the mothers in this study. Traditionally, weaning is used to describe the process of withdrawal from breastfeeding with the gradual replacement of fresh or modified animal milk or by semisolid food.³⁸ The rate of early weaning in this study is relatively small compared with reports from the Western countries.³⁹⁻⁴² Early and rapid weaning and introduction of solid foods have negative impact on the infant's health and it is reported to increase susceptibility to skin infections⁴³⁻⁴⁶, enteritis,⁴⁷ respiratory illnesses⁴⁶ and childhood obesity.⁴⁸ The time of initiation of weaning varied widely in this study. However, majority of the mothers (99.2%) practiced late weaning with weaning initiation of 22.6%, 43.9% and 32.9% for 6 to 12 months, 12 to 18 months and up to 2 years duration respectively. These findings are consistent with report that a vast majority of mothers in sub-Saharan Africa breastfeed for long durations.⁴⁹ The World Health Organization (WHO) recommended 6 months postpartum for the initiation of weaning.⁵⁰ Conversely, there has been global debate on the optimal weaning age. 4, 6 months or a window between these two time points as been advocated as the optimal age for introducing solids to an infant's diet.⁵¹⁻⁵³ Weaning practice is associated with cultural predisposition,^{54,55} socio-demographic and socio-economic factors,⁵⁵⁻⁵⁷ wrong perception of insufficient of milk⁵⁸, maternal factors (such as ill-health, pregnancy or death)⁵⁹⁻⁶¹ and psychosocial beliefs (e.g. erroneous belief of saggy breast with late weaning)^{62,63} among others. However, poor feeding habit with consequent nutritional deficiency and failure to thrive have been linked with delay weaning of infant.⁶⁴⁻⁶⁶

The onset of water administration as complementary to breastfeeding in this study was approximately five months. 30.3% of the mothers administered water within 1-3 months, while 58.7% administered water after 6 months of the infant's life. Water supplementation of infant's breastfeeding as early as the first month of birth is a prevalent practice among Africans and constitutes a major barrier to achieving greater level of compliance

with exclusive breastfeeding.^{67,68} Eregie⁶⁷ in a study among Nigerian mothers reported that water supplementation accounted for 91.7% of partial breastfeeding up to one completed month. Another study among rural Nigerian women revealed that pre-lactate feeding of water, herbal infusions and ritual fluids are the norm and breast milk is supplemented from birth, with water and teas.⁶⁹ Water supplementation of breastfeeding is deeply engrained in Africa, as most infants are given water from birth, in part due to cultural perceptions that infants need water to survive.⁷⁰ Similar to the finding of this study, Scariati et al.⁷¹ submitted that water supplementation of neonates was a prevalent practice among a cohort of US women.

This study showed that individual factors such as age, religion, occupation and parity status were not significantly associated with exclusive breastfeeding practice. The pattern of association between EBF practice and socio-demographic and maternal factors varies across studies. Some studies showed that mothers who were young in age,^{72,73} employed,^{74,75} less educated⁷⁶ often do not practice EBF. However, there was a significant association between education and EBF practice in this study. Educational status has been reported as an important maternal factor associated with adopting exclusive breastfeeding practice.^{72,73,77}

Furthermore, most of the respondents in the lower SES (56.1%) practiced EBF while 40.0% and 3.9% of the respondents in the middle and lower socio-economic strata respectively practiced EBF. From previous studies, mothers in higher SES have been reported not to comply with exclusive breastfeeding practice.^{72,77,78} Some researchers submitted that the inverse association between SES and EBF practice is due to greater affordability of foods other than breast milk by higher SES households,^{72,77,78} occupation and work status,^{72,79} and body image consciousness among mothers of high-income groups.⁸⁰

CONCLUSION

Exclusive breastfeeding (EBF) rate among Nigerian mothers attending baby-friendly clinics was high. Breastfeeding initiation time after delivery was early, water supplementation to breastfeeding was before 5 months of the infant's life and weaning practice was late. Individual factors such as age, religion, occupation and parity status were not significantly associated with exclusive breastfeeding practice. Maternal educational level and socio-economic status significantly influenced EBF practice.

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