

Utilization of maternity services and breastfeeding practices of working mothers in Sokoto, Nigeria

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ABSTRACT

Background: Although, the exclusive breastfeeding rates have been low across the globe despite its benefits, the situation has worsened in the last few decades due to the increasing participation of nursing mothers in full-time employment. **Aim:** The aim of this study is to assess the utilization of maternity services and breastfeeding practices of working mothers in Sokoto, Nigeria. **Materials and Methods:** A cross-sectional study was conducted among 246 mothers of children aged 2 years and below attending the immunization clinics of the tertiary healthcare facilities in Sokoto, Nigeria. Data were collected with a set of pretested, structured, interviewer-administered questionnaire. **Results:** Utilization of maternity services was high; all the respondents (100%) attended antenatal clinic in their last pregnancy, most of them delivered in the health facility (96.7%), and also attended postnatal care clinic (97.6%). Most of the respondents initiated breastfeeding within 1 hour of delivery (82.1%), and also breastfed their babies exclusively for 6 months (89.0%). Less than two-thirds of respondents (55.7%) reported breastfeeding their babies on demand, and close to half of respondents (41.9%) gave their babies pre-lacteal feeds. Only about a third of respondents (33.7%) have ever expressed their breast milk to feed their babies. **Conclusion:** This study showed high levels of utilization of maternity services and practice of exclusive breast feeding among working mothers in Sokoto, Nigeria; but only a few of them practiced expressed breast milk feeding. Government, health workers and other stakeholders should ensure that interventions for promoting breastfeeding are focused on both exclusive and expressed breast milk feeding practices.

Keywords: Maternity services, utilization, breastfeeding practices, working mothers

INTRODUCTION

Breast feeding is known to be the best method of feeding for babies both nutritionally and emotionally (Lessen and Kavanagh, 2015), and it has been acknowledged as the optimal way to feed infants for the first six months by national and many other health organizations (UNICEF, 2006; WHO, 2003). There is strong evidence that infants receiving only breast milk with no other liquids or solids known as exclusive breastfeeding (EBF), have many health benefits to mothers, babies, the environment, and society.

EBF in the first six months of life and continued breastfeeding from 6-11 months have been shown to be the most effective preventive intervention for reducing child mortality, with the potential of saving 1.3 million lives worldwide each year (Bai et al., 2011). In addition to reducing the risk of deaths from infectious diseases among infants, breastfeeding also benefits the society by reducing healthcare costs, parental employee

absenteeism, and the associated loss of family income (McFadden and Toole, 2006; Ball and Bennet, 2001).

However, despite the countless benefits of exclusive breastfeeding to children and mothers, its continuation rates are low worldwide (CDC, 2013; Dudenhausen, 2014; Silfverdal, 2011). Globally, only 35% of infants below six months of age are exclusively breastfed, and the situation is more precarious in the developing countries (WHO, 2003). Wide variations exist in the exclusive breastfeeding compliance rates in the developing countries with suboptimal levels in many countries including Brazil (58%), Iran (28%) Lebanon (10.1%), Nigeria (20%), and Bangladesh (34.5%) (Wenzel et al., 2010; Olang et al., 2009; Batal et al., 2005; Salami, 2006; Mhrshahi et al., 2007). In a study done in Mauritius, it was found that only 17.9% of women exclusively breastfed for 6 months, with a mean duration of exclusive breastfeeding of 2.1 months; and addition of

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water was the main reason for not exclusively breastfeeding (Motee et al., 2013). In Kenya, a study conducted by Ganu and Kogutu (2015) reported that 42% of mothers exclusively breastfed, 64% initiated breastfeeding within two hours of delivery, 66% strongly agreed that colostrums should be discarded, and 28% agreed that breast milk alone is inadequate for their babies up to 6 months of age.

Reports from the Nigeria Demographic and Health Survey (NDHS) 2013 revealed an exclusive breastfeeding rate of 17% for the first 6 months of life, and only 38% of mothers initiated breastfeeding early (NPC and ICF International, 2014). In consonance with the NDHS findings, studies across Nigeria majorly reported low exclusive breastfeeding rates. Although, a study conducted in Sokoto state reported a relatively high (78.7%) exclusive breastfeeding for the first 6 months of life, only 8% of mothers initiated breastfeeding within the first hour after delivery (Oche and Umar, 2008). In Calabar, Southern Nigeria, a very low exclusive breastfeeding rate of 22.9% was reported in infants less than 6 months old (Ekure et al., 2003).

A study conducted in Edo State, Nigeria, reported that although 82% of the women breastfed their babies, only 20% did so exclusively for 6 months (Salami, 2006). Another study in Edo State revealed that 16% of the mothers introduced bottle feeding to their infants when they were just 3 weeks old (Alutu and Orubu, 2005). In Ile-Ife, Oyo state, Nigeria, a relatively high exclusive breastfeeding rate of 61% was reported (Ojofeitimi et al., 2000). Another study conducted in Igbo Ora, Oyo state, Nigeria, reported that less than half of the women had heard of EBF and only 7.5% of them knew any mother who was practicing it (Nwankwo and Brieger, 2002).

Utilization of maternity services particularly, antenatal clinic attendance during pregnancy, has been found to influence the practice of exclusive breastfeeding by mothers in addition to other maternal socio-demographic variables. Attending antenatal clinic is believed to be very helpful in promoting breastfeeding as it avails the healthcare providers the opportunity of disseminating information on the benefits of breastfeeding to pregnant women, and it is believed that this might influence those who have not already made the decision to breastfeed or not (Gunagi et al., 2013). Of equal importance is the support from peers and relatives. In a randomized control study on the effect of peer counselors on exclusive breastfeeding practices, it was found that the prevalence of exclusive breastfeeding at six months was 66.67% in the intervention group and

36.6% in control group. Also, a higher proportion of mothers in the intervention group administered colostrum and initiated early breastfeeding compared to the control group (Gunagi et al., 2013).

Similarly, in a study conducted in Malaysia on factors associated with exclusive breastfeeding, it was found that mothers with supportive husbands were more likely to exclusively breastfeed compared to those with non supportive husbands (Tan, 2011). There has been conflicting reports regarding the impact of mode of delivery on exclusive breastfeeding. Whereas, a study by Kuyper (2008) found that cesarean section was associated with reduced rates of breastfeeding initiation and breastfeeding at six months, another study by Naanyu (2008) did not find any association between EBF and mode of delivery.

Socio demographic factors were also found to be associated with the success of exclusive breastfeeding in various studies. In a study conducted in Ethiopia, it was found that unemployment and having an infant less than 2 months old were independently associated with EBF, the median duration of EBF was 3 months, and working mothers were found to be more likely not to exclusively breastfeed their babies as compared to unemployed ones (Setegn et al., 2012). Maternal education, age and marital status were also found to be associated with exclusive breastfeeding in other studies (Meedya et al., 2010; Grummer-Strawn and Shewly, 2009).

Although, the exclusive breastfeeding rates have been low across the globe despite its benefits, the situation has worsened in the last few decades due to the increasing participation of nursing mothers in full-time employment. Reports from studies showed that one of the most common factors for discontinuation of early breastfeeding among working women was lack of paid maternal leave (Li et al., 2008; Ogbuanu et al., 2011). In addition, whereas, expression of breast milk has been recommended as an option for working mothers as a way of sustaining exclusive breastfeeding (Kimani-Murage et al., 2011), compliance rates have been disproportionately low in the developing countries including Kenya (18.9%) (Chege and Ndungu, 2016), and India (11.0%) (Rai, 2017), as compared to the high compliance rates in the developed countries including Australia (98.0%) (Clemons and Amir, 2010), and USA (85%) (Labiner-Wolfe et al., 2011). Similar to the situation in many developing countries, studies conducted across Nigeria generally reported low prevalence of expressed breast milk feeding ranging from 3.8% to 34.4% (Sadoh et al., 2011; Sholeye et al.,

2015). There is a dearth of literature on the breastfeeding practices of working mothers in Sokoto, Nigeria. This study was conducted to assess the utilization of maternity services and breastfeeding practices of working mothers in Sokoto, Nigeria.

MATERIALS AND METHODS

Study Design and Population

A cross-sectional study was conducted among mothers of children aged 2 years and below attending the immunization clinics of the Usmanu Danfodiyo University Teaching Hospital, and Specialist Hospital, Sokoto, Nigeria, in April and May 2018. All working mothers whose place of work is away from their homes, and gave consent to participate in the study were considered eligible for enrollment into the study. Those who were on treatment for breast disease and those with medical conditions for which breastfeeding was contraindicated were excluded.

Sample Size Estimation and Sampling Technique

The sample size was estimated at 236 using the Fisher's formula for calculating sample size for cross-sectional studies (Araoye, 2004), an 18.9% prevalence of expressed breast milk feeding among working lactating mothers from a previous study (Chege and Ndugu, 2016), and a precision level of 5%. It was adjusted to 248 in anticipation of 95% participant response rate. The eligible participants were selected by systematic sampling technique; one of seven mothers presenting consecutively with their children at the respective immunization clinics and meets the eligibility criteria was enrolled into the study over an eight clinic day period until the required sample size was obtained.

Data Collection and Analysis

A structured questionnaire (administered by trained research assistants) was used to obtain information on the participants' socio-demographic characteristics, utilization of maternity services, and breastfeeding practices. Data were analyzed using the IBM SPSS version 24 computer statistical software package. Quantitative variables were summarized using mean and standard deviation, while categorical variables were summarized using frequencies and percentages.

Ethical Consideration

Ethical approval was obtained from the Research and Ethics Committee of Sokoto state Ministry of Health, Sokoto, Nigeria. Permission was obtained from the management of the two hospitals used as study centers, and informed written consent was obtained from the study participants before data collection.

RESULTS

Socio-demographic characteristics of respondents

Two hundred and forty-six of the 248 questionnaires administered were fully completed and analyzed, giving a response rate of 99.2%. Most of the respondents were aged 20-39 years (95.9%), practiced Islam as religion (87.4%), and had secondary and tertiary education (97.5%). All the respondents (100%) were married and were civil servants (Table 1).

Table 1: Socio-demographic characteristics of respondents

Variables	Frequency (%) n = 246
Age groups (years)	
< 20	6 (2.4)
20-29	149 (58.1)
30-39	93 (37.8)
≥40	4 (1.6)
Marital status	
Married	246 (100)
Religion	
Islam	215 (87.4)
Christianity	31 (12.6)
Level of education	
Primary and below	6 (2.4)
Secondary and tertiary	240 (97.5)
Occupation	
Civil servant	246 (100)

Utilization of maternity services by respondents

All the respondents (100%) attended antenatal clinic in their last pregnancy, most of them (96.7%) delivered their babies in a health facility, majorly by vaginal delivery (87.8%), and most of them (97.6%) also attended postnatal care clinic (Table 2).

Table 2: Utilization of maternity services by respondents

Variables	Frequency (%) n = 246
Attended antenatal clinic in the last pregnancy	
Yes	246 (100)
No	0 (0)
Place of delivery of last baby	
Health facility	238 (96.7)
Home	8 (3.3)
How last baby was delivered	
Vaginal delivery	216 (87.8)
Caesarean operation	30 (12.2)
Attended postnatal clinic	
Yes	240 (97.6)
No	6 (2.4)

Respondents' breastfeeding practices

All the respondents (100%) reported ever breastfeeding their babies. Whereas, most of the respondents (82.1%) initiated breastfeeding within 1 hour of delivery, less than two-thirds of them (55.7%) reported breastfeeding their babies on demand. Close to half of respondents (41.9%) gave their babies pre-lacteal feeds, and the reasons cited were lack of breast milk (28.2%), being their tradition (40.8%) and baby being hungry (31.0%). The pre-lacteal feeds most commonly given by the respondents to their babies were glucose (39.8%), cow milk (26.2%), and plain water (24.3%).

Most 219 (89.0%) of the 246 respondents breastfed their babies exclusively for 6 months, and most of them (82.1%) were still breastfeeding their babies. Of the 44 (17.9%) respondents that have stopped breastfeeding their babies, the duration of breastfeeding ranged from 9 to 24 months, with a median duration of 20 months. The most commonly cited reasons for stopping breastfeeding were child being old enough to eat adult food (68.2%), and child refusing breast milk (13.6%).

Only about a third, 83 (33.7%) of the 246 respondents have ever expressed their breast milk to feed their babies; of these, 47 (56.6%) did so often or very often. Of the 157 respondents that gave the reasons for not practicing expressed breast milk feeding, the most commonly cited reason was that they did not know how to express their breast milk (52.2%) as shown in Table 3.

DISCUSSION

Majority of the respondents recruited for this study were aged 20 – 29 years, Hausas by tribe, and practiced Islam as religion. Similar findings were reported in previous studies conducted in Sokoto, Nigeria (Oche and Umar 2008, Oche et al, 2011). The relatively young population of mothers in these studies could be due to the tradition of early marriage for girls in the study area.

Noticeably, most of the respondents in this study (89.0%) had tertiary education; this is a sharp contrast to the finding in a previous study conducted in Sokoto, Nigeria (the study area) that reported poor educational attainment among mothers with most of them having primary education and below (Oche et al., 2011); and another study conducted in Lagos, Nigeria, in which less than a third of respondents (29.1%) had tertiary education (Akinyinka et al., 2016). This could be due to the fact that whereas the other studies were community based and involved mothers from different background, this study was among working mothers and formal education is a prerequisite for employment as civil servants.

Table 3: Respondents' breastfeeding practices

Variables	Frequency (%) n = 246
Child ever breastfed	246 (100)
Breastfeeding initiated within 1 hour of delivery	202 (82.1)
Baby breastfed on demand	137 (55.7)
Child exclusively breastfed for 6 months	219 (89.0)
Baby given pre-lacteal feed	103 (41.9)
Type of pre-lacteal feed given (n = 103)	
Plain water	25 (24.3)
Glucose	41 (39.8)
Infant formula	7 (6.8)
Cow milk	27 (26.2)
Wash out from the Quran on slate	1 (1.0)
Honey	2 (1.9)
Reason for giving pre-lacteal feed (n = 103)	
No breast milk	29 (28.2)
It is a tradition	42 (40.8)
Baby was hungry	32 (31.0)
Currently still breastfeeding baby	
Yes	202 (82.1)
No	44 (17.9)
Age at cessation of breastfeeding	
Range = 9 to 24 months	
Median = 20 months	
Main reason for stopping breastfeeding (n = 44)	
Child was old enough to eat adult food	30 (68.2)
Child refused breast milk	6 (13.6)
Mother was ill	7 (15.9)
Child was ill	1 (2.3)
Ever expressed breast milk to feed the baby	
Yes	83 (33.7)
No	163 (66.3)
Frequency of breast milk expression (n = 83)	
Very often	4 (4.8)
Often	43 (51.8)
Occasionally	36 (43.4)
Main reason for not expressing breast milk (n = 157)	
Did not know how to do it	82 (52.2)
Not aware of its benefits	33 (21.0)
Other reasons	42 (26.8)

Utilization of maternal health care services was high among the respondents in this study, as all of them (100%) had antenatal care by a skilled provider in their most recent pregnancy; and almost all of them had their delivery in a health facility (96.7%) and also attended post-natal clinic (97.6%). The high level of utilization of maternal health services among the respondents in this study is much higher than the 61% national prevalence of antenatal care by skilled provider during pregnancy, and 36% national prevalence of delivery in a health facility among women of child bearing age in Nigeria (NPC and ICF International, 2014); and it could be due to their high educational attainment and being employed,

thus making them empowered to know the benefits of these services and access them. This is of immense benefits as it would avail them the opportunity of exposure to educational sessions on infant feeding (particularly exclusive breast feeding and expressed breast milk feeding) during the antenatal and post-natal clinic visits.

The high prevalence of exclusive breastfeeding among the respondents in this study (89.0%) is in consonance with the finding in a previous study in Sokoto, Nigeria, by Oche and Umar (2008) that reported an exclusive breastfeeding prevalence of 78.7%. However, in contrast to the finding in the latter study in which only 8% of mothers initiated breastfeeding within 1 hour of delivery, most of the respondents in this study (82.1%) reported initiating breastfeeding within 1 hour of delivery. In addition to the relatively higher prevalence of EBF among the respondents in this study as compared to the EBF prevalence rates in studies conducted in other cities in Nigeria including Ile-Ife (61.0%) and Calabar (22.9%), and other developing countries including Kenya (42.0%) and Iran (28.0%), the proportion of respondents that initiated breastfeeding within 1 hour of delivery is also higher in this study as compared to the other studies (Ojofeitimi et al., 2000; Ekure et al., 2003; Ganu and Kogutu, 2015; Mihrshahi, 2007). This is reassuring in view of the immense benefits of these practices to babies, mothers and employers of labour (Kliegman and Nelson, 2011; Stevens et al., 2008; Stuebe et al., 2007; Armstrong and Reilly, 2002); and it underscores the need for health workers and other stakeholders to sustain their promotion among mothers.

The low prevalence (33.7%) of expressed breast milk feeding among the respondents in this study is similar to the finding in studies conducted in other developing countries including Kenya (18.9%) (Chege and Ndungu, 2016), and India (11.0%) (Rai, 2017). Noticeably, while lack of knowledge of how to express breast milk was the most commonly cited reason for not practicing it by the respondents in this study, generally poor knowledge of expressed breast milk feeding was also reported in the latter studies; these findings suggest poor promotion of the practice in the developing countries considering the fact that the high expressed breast milk feeding compliance rates obtained in the developed countries including Australia (98.0%) (Clemons and Amir, 2010), and USA (85%) (Labener-Wolfe et al., 2011) are believed to be related to the promotion of the practice by the government and other non-governmental organizations (NGOs) in these countries (Raising Children Network-Australia, 2018). It is therefore necessary for

government, health workers and other stakeholder in the developing countries to promote expressed breast milk feeding practice among working mothers.

CONCLUSION

This study showed high levels of utilization of maternity services and practice of exclusive breast feeding among working mothers in Sokoto, Nigeria; but only a few of them practiced expressed breast milk feeding. Government, health workers and other stakeholders should ensure that interventions for promoting breastfeeding are focused on both exclusive and expressed breast milk feeding practices.

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Conflict of interest

None declared.

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Attahiru and Awosan: Breastfeeding practices of working mothers

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