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Original Research Article

Assessment of breastfeeding knowledge and practices among working mothers in the federal capital territory Nigeria

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ABSTRACT

Background: Inadequate infant feeding practices is a major contributor to the high burden of childhood morbidity and mortality in many countries. Female participation in the labour sector has increased and many of them return to work soon after giving birth posing a significant barrier to breastfeeding. This study assessed the knowledge and practice of breastfeeding among working mothers in the Federal Capital Territory, Nigeria.
Methods: This cross-sectional study was done among 360 working mothers selected by multistage sampling technique. Quantitative and qualitative data were collective using interviewer-administered questionnaire and key informant interview guide, respectively. Data was analyzed using Statistical Package for Scientific Solutions (SPSS) version 21.0 and significant level was set at $p<0.05$.
Results: Two hundred and seventy-six (76.7%) of the respondents had good knowledge of breast feeding. More than three-quarters (77.2%) initiated breastfeeding within one hour of birth, 201 (55.8%) practiced exclusive breastfeeding correctly and 201 (55.8%) introduced complementary foods on time. Median duration of breastfeeding was 14.6 months. Less than half of them (41.7%) had good overall practice of breastfeeding. Level of education, sector of work, knowledge of breastfeeding and availability of on-site crèche were significantly associated with practice of breastfeeding. Common barriers to breastfeeding included poor spousal support, no paid maternity leave and non-availability of nearby crèches. Most of the organizations observed had a breast feeding policy.
Conclusions: This study revealed a gap between the knowledge and practice of adequate breastfeeding among the respondents and identified some perceived barriers to optimal breastfeeding.

Keywords: Breastfeeding, Complementary feeding, Knowledge, Practice, Working mothers

INTRODUCTION

Globally, 5.4 million children under the age of five years died in 2017 and neonatal deaths represented nearly half (2.5 million) of these deaths which translates to 15,000 under-five deaths per day.[1] Sub-Saharan Africa remains the region with the highest under-five mortality rate in the world where children are more than 15 times more likely to die before the age of five than those in the high-income countries.[1] More than half of this under-five deaths are due to conditions that could be prevented or treated with access to simple and affordable interventions.[2] Nutrition-related factors contribute to about 45% of deaths in under-five children.[1] Inadequate infant and young child feeding practices has been identified as a major contributor to this high burden of childhood morbidity and mortality in many countries.[3] Of all preventive interventions, optimal breastfeeding of infants under two years of age has the greatest potential to impact on child survival, as over 820,000 deaths in

children under five could be prevented annually if all children 0-23 months were optimally breastfed.[1]

Immediate breastfeeding (putting the baby to the mother's breast within an hour after birth) can significantly reduce neonatal mortality.[4] Exclusive breastfeeding has been found to be the perfect way to provide the best nutrients for a baby's first six months of life after which the infant should receive complementary foods with continued breast feeding up to 2 years of age or beyond.[4] A non-breast fed child is 14 times more likely to die in the first six months than an exclusively breast-fed child.[5] Breastfeeding has several benefits for the mother as well as the child with a profound impact on the survival, health, nutrition and development of a child.[6] Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhea and pneumonia, and helps for a quicker recovery during illness.[7] Breastfeeding promotes bonding between mother and baby, protects the infant against infectious diseases and also lowers the risk of chronic conditions later in life, such as obesity and diabetes.[7] Breast milk promotes sensory and cognitive development and it has been reported that breastfed infants do better on intelligence and behavioral tests in adulthood than formula-fed babies.[7,8] Breastfeeding also contributes to maternal health immediately after the delivery as it helps to reduce the risk of post-partum hemorrhage, delays the return to fertility and reduces the risk of type II diabetes and breast, uterine and ovarian cancer.[9] Infants are particularly vulnerable during the transition period when complementary feeding begins, usually as from the age of six months.[10]

The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) have over the years emphasized the need for maintaining adequate breastfeeding practices and for reviving the practice where there is a decline so as to improve the health and nutrition of infants and young children.[11, 12] The Nigerian National Policy on Infant and Young Child Feeding also reaffirms government's commitment to optimal feeding of all children from birth and the implementation of the global strategy for infant and young child feeding for improved child survival.[13] Despite the global and national support for optimal breastfeeding, less than half of the world's newborns benefit from early breastfeeding and even fewer are exclusively breast fed for the first six months.[5] Only 39% of infants 0 - 5 months old in low-income countries are exclusively breastfed.[14,15] The 2013 Nigerian Demographic and Health Survey (NDHS) results show that though breastfeeding is very common (98%), only a third of children were breastfed within one hour of birth while 17% of children under 6 months of age were being exclusively breastfed. Eighty-four percent and 35% of them continue to breast feed at one year and two years, respectively. The median duration of exclusive breast feeding was 0.5 months and median duration of breastfeeding was 18.3 months.[16]

Many factors such as living environment (urban or rural), socio-economic status, maternal level of education, maternal employment status, beliefs/attitudes related to breast feeding, knowledge and availability of breast milk substitutes affect how women feed their infants and the length of time for which they breastfeed. [17, 18] This is even more among working mothers who may face other challenges in the workplace least of which is finding space, time and support to breastfeed.[19] Globally, female participation in the labour sector has increased over the years and many of them return to work soon after delivering babies posing a significant barrier to breastfeeding. There are also millions more women working in the informal, seasonal or part-time economy who face even greater barriers to breastfeeding. The FCT is the capital of Nigeria with about 49% labour force participation rate for women in the formal sector.[20] The NDHS reported that in the FCT, 74% of children born in the last two years preceding the survey were ever breast fed and only 51.3% were breastfed within one hour of birth.[16] Therefore, the aim of the study was to assess the knowledge and practice of breastfeeding as well as identify the perceived barriers to breastfeeding among working mothers in Abuja Municipal Area Council (AMAC) of the Federal Capital Territory, Nigeria in order to provide data that will inform basis for intervention.

METHODS

This was a cross-sectional study using a mixed method of quantitative and qualitative data collection techniques. It was conducted among working mothers in the Abuja Municipal Area Council (AMAC) of the Federal Capital territory (FCT) between September 2016 and October 2017. The Federal Capital Territory, Abuja is Nigeria's Capital and the fourth largest urban settlement in Nigeria. It has a population of 1,926,866 persons.[21] Abuja Municipal Area Council with a total land mass of 1,200 square km is located on the eastern wing of the FCT and has 12 wards with headquarter at Garki. The bulk of Federal Ministries, Department and Agencies (MDAs), NGOs, and other private organizations are located within the Area Council and these provide employment for a great proportion of the FCT population.

The study population included mothers working in the Abuja Municipal Area Council of the FCT. Working mothers between the ages of 15 and 49 years who had had a child in the last two years were included in the study while those on maternity leave and those who refused to be interviewed were excluded from the study. The sample size was calculated using the Cochrane formula for descriptive studies given as $n=DEz^2pq/ d^2$, where n is the estimated sample size and p, is the prevalence of exclusive breastfeeding in Nigeria (17%).[16,22] A minimum sample size of 360 was obtained after incorporating a design effect of 1.5 (multistage sampling used in this study) and accounting for 10% non-response rate.

The participants were selected using multi-stage sampling technique comprising of three stages. In stage 1, five sectors (MDAs, NGOs, banks, and schools) from the 24 sectors in the Federal Capital Territory were selected by simple random sampling**.** Stage 2 involved the selection of five organizations from each selected sector by simple random sampling. Stage 3 involved selection of respondents from each selected organization. All women in each selected organization who met the inclusion criteria for this study were recruited for the study.

A combination of qualitative and quantitative data collection methods was used in this study. Quantitative data collection involved the use of a pretested structured, interviewer-administered questionnaire. The questionnaire was composed of four sections: Section A - socio demographic characteristics; Section B - knowledge of breast feeding; Section C - practice of breast feeding for the last child; Section D – Perceived barriers to breastfeeding.

Five research assistants who were first degree holders in the field of health sciences with were engaged to interview the respondents. The research assistants were all females to make it easy for the respondents to feel comfortable answering the research questions. They were trained on questionnaire administration to ensure uniform data collection. This training was done centrally using role-plays to ensure information is passed accurately. To ensure adequate supervision, all five research assistants conducted interviews in the same organization at the same time. The questionnaire was pretested among similar group of working mothers in Federal Inland Revenue Service in Abuja Municipal Area Council of the FCT which was not selected for the actual study.

The qualitative data collection involved key informant interviews of 16 Heads (or their designate) of Human Resource Departments of purposefully selected organizations using an interview guide designed for this purpose. The purpose of the KII was to explore each organization's policy and actual practice regarding breastfeeding as well as the responsiveness of the organization to the needs of mothers who have infants who are being breastfed. In addition, an observational checklist was used to access the condition of the crèches in the organizations where available.

Prior to each interview, appointments were made with the key informant in each of the organizations to avoid conflicting schedules. In each case, the interviewer briefly explained the objective of the interview and the possible uses of the information that will be provided by the key informant while also assuring the confidentiality. All interviews were recorded using an audio tape recorder. Each interview lasted for an average of 40 minutes. To avoid interruption and the flow of the interview, the observation of the crèche was done after the interview using the observational checklist.

Data was analyzed using the IBM Statistical Package for Scientific Solutions (SPSS) version 21.0. Descriptive statistics were performed for the socio-demographic characteristics, specific knowledge, practice and the overall knowledge and practice. Bivariate analysis was done to determine association of socio-demographic characteristics and knowledge and practice of breastfeeding. Tests of associations such as Chi square test and Fisher's exact test were done where applicable. The level of statistical significance used was $p<0.05$.

The scoring for knowledge of breastfeeding was as follows: A score of 1 was accorded to every correct response while 0 was scored for every incorrect response. The total score for each respondent was converted to percentages and graded as: poor knowledge (0-49.9%), fair knowledge (50-74.9%) and good knowledge (75% and above). The scoring for practice of breastfeeding was as follows: A score of 1 was accorded to every correct practice while 0 was scored for every incorrect practice. The total score for each respondent was converted to percentages and graded as: Poor practice (0-49.9%), fair practice (50-74.9%) and good practice (75% and above).

The qualitative data were transcribed, collated and presented in prose. Before commencement of the study, ethical clearance was obtained from the Health Research Ethics Committee of the FCT. Institutional permission was also sought from the management of each of the selected organizations. For the respondents, the objectives of the study were explained after which verbal informed consent was obtained.

RESULTS

A total of 360 respondents participated in the survey with a 100% response rate. One hundred and forty-seven (40.8%) of the respondents were in the age-group 30-34 years, 317 (88.1%) were married and 168 (46.7%) worked in the Ministries Department and Agencies (MDAs). Most of the respondents and had tertiary level of education 348 (96.7%) and 222 (61.7%) had between 1-2 children (Table 1).

Majority of respondents 253 (70.3%) knew that the ideal time of initiation of breast feeding was within one hour of birth while 51 (14.9%) reported within 30 minutes of birth and 56 (15.6%) reported two or more hours after birth. Almost all the respondents 354 (98.3%) were aware of exclusive breastfeeding. Of these, less than half 158 (44.6%) correctly described what exclusive breastfeeding was. The respondents' sources of information about exclusive breast feeding included hospitals 310 (85.0%), family and friends 26 (7.3%), media 21 (5.9%), internet 17 (4.8%), school 4 (1.1%) and books 4 (1.1%). Most of the respondents knew that water 350 (98.9%), other drinks/juices 352 (99.4%) and other foods 351 (99.2%) should not be given during exclusive breastfeeding. Majority of the respondents 293 (81.4%) knew that an

infant should be breast fed on demand. Majority of the respondents 252 (70.0%) knew that time of introduction of complementary foods is 6 months. Almost one-third (32.5%) of the respondents knew that a mother should breastfeed her baby till 24 months of age. Assessment of the overall knowledge score showed that more than three quarters of the respondents 276 (76.7%) had good knowledge of breast feeding (Table 2).

Table 1: Socio-demographic characteristics of respondents.

Variable	Frequency (n=360)	Percentage (%)
Age group (years)		
20-24	6	1.7
25-29	88	24.4
30-34	147	40.8
35-39	88	24.4
40-44	31	8.6
Mean age in years (SD)	32.7 (4.8)	
Level of education		
Secondary	12	3.3
Tertiary	348	96.7
Marital status		
Married	317	88.1
Not married	43	11.9
Sector of work		
Bank	35	9.7
NGOs	41	11.4
Schools	116	32.2
MDAs	168	46.7
Religion		
Christianity	259	71.9
Muslim	101	28.1
Number of children		
1-2	222	61.7
3-4	116	32.2
5 and above	22	6.1

There were no significant associations between maternal age (p=0.791), number of children (p=0.576), maternal education (p=0.210) and sector of work (p=0.651) with knowledge of breastfeeding (Table 3).

Two hundred and seventy-eight (77.2%) of respondents initiated breast feeding early, that is, within one hour of delivery. Majority of the respondents 286 (79.4%) reported that they practiced exclusive breast feeding with their last child but 201 (55.8%) practiced it correctly (exclusively breastfed their babies for six months). Other infant feeding practices in the first six months reported by the respondents included giving water or artificial milk 142 (39.4%), giving expressed breast milk 96 (26.7%) and using pacifiers 44 (12.2%) (Table 4).

Table 2: Respondents' knowledge of breastfeeding.

Knowledge domain	Frequency	Percentage (%)
Ideal time of initiation of breast feeding (n=360)		
Within 30 minutes of birth	51	14.1
Within 1 hour of birth	253	70.3
2 hours or more after birth	56	15.6
Awareness of exclusive breast feeding (n = 360)		
Yes	354	98.3
No	6	1.7
Definition of exclusive breastfeeding (EBF) (n=354)		
Correct	158	44.6
Incorrect	196	55.4
Source of information* (n=354)		
Hospital	301	85.0
Family and friends	34	9.6
Media	21	5.9
Internet	17	4.8
School	4	1.1
Books	4	1.1
Water given during EBF (n=354)		
Yes	4	1.1
No	350	98.9
Other drinks/juices given during EBF (n=354)		
Yes	2	0.6
No	352	99.4
Other foods given during EBF (n=354)		
Yes	3	0.8
No	351	99.2
Frequency of breastfeeding (n=360)		
Whenever baby is wants it (on demand)	293	81.4
Six times a day	24	6.7
Four times a day	17	4.7
Others	26	7.2
Time of commencement of complementary foods (months) (n=360)		
<6	40	11.1
6	252	70.0
>6	68	18.9
Should a mother stop breastfeeding after introducing complementary foods (n=360)		
Yes	8	2.2
No	352	97.8
Duration of breastfeeding (months) (n=360)		
<24	243	67.5
≥24	117	32.5
Overall knowledge score (n=360)		
Good	276	76.7
Fair	81	22.5
Poor	3	0.8

Table 3: Association between respondents' socio-demographic characteristics and overall knowledge of breast feeding.

Variable	Good (n=276) n (%)	Fair (n=81) n (%)	Poor (n=3) n (%)	Test statistics (X^2)	P value
Age group (years)					
20-24	5 (83.8)	1 (16.7)	0 (0.0)		
25-29	70 (79.5)	17 (19.3)	1 (1.1)		
30-34	110 (74.8)	37 (25.2)	0 (0.0)		
35-39	70 (79.5)	17 (19.3)	1 (1.1)		
40-44	21(67.7)	9 (29.0)	1 (3.2)	4.683	0.791
Level of education					
Secondary	7 (58.3)	5 (41.7)	0 (0.0)		
Tertiary	269 (77.3)	76 (21.8)	3 (0.9)	8.081	0.210*
Sector of work					
Bank	25 (71.4)	10 (28.6)	0 (0.0)		
NGO	35 (85.4)	6 (14.6)	0 (0.0)		
Schools	87 (75.0)	27 (23.3)	2 (1.7)		
MDAs	129 (76.8)	38 (22.6)	1 (0.6)	7.214	0.651*
Number of children					
1-2	175 (78.8)	46 (20.7)	1 (0.5)		
3-4	85 (73.3)	29 (25.0)	2 (1.7)		
5 and above	16 (72.7)	6 (27.3)	0 (0.0)	3.252	0.576*

Fisher's exact*

Table 4: Respondents practice of breast feeding.

Practice domain	Frequency (n=360)	Percentage (%)
Initiation of breastfeeding		
Early (within 1 hour of birth)	278	77.2
Late	82	22.8
Practice of exclusive breastfeeding (EBF) with index child		
Yes	286	79.4
No	74	20.6
Correct practice of EBF		
Yes	201	55.8
No	159	44.2
Others infant feeding practices (first 6 months)		
Gave water or artificial milk	142	39.4
Gave expressed breast milk	96	26.7
Gave pacifier	44	12.2
Introduction of complementary foods		
Early	142	39.4
On time	201	55.8
Late	17	4.7
Total duration of breastfeeding (months)		
1-6	37	10.3
7-12	93	25.8
13-18	187	51.9
19-24	43	11.9
Median duration of breastfeeding (months) = 14.6		
Overall practice score		
Good	150	41.7
Fair	66	18.3
Poor	144	40.0

Table 5: Association between selected characteristics of respondents and overall practice of breast feeding.

Variable	Good (n=150) n (%)	Fair (n=66) n (%)	Poor (n=144) n (%)	Test statistics (X^2)	P value
Age group (years)					
20-24	3 (50.0)	1 (16.7)	2 (33.3)		
25-29	35 (39.8)	12 (13.6)	41 (46.6)		
30-34	57 (38.8)	31 (21.1)	59 (40.1)		
35-39	41 (46.6)	17 (19.3)	30 (34.1)		
40-44	14 (45.2)	5 (16.1)	12 (38.7)	7.993	0.631
Level of education					
Secondary	9 (75.0)	2 (16.7)	1 (8.3)		
Tertiary	141 (40.5)	64 (18.4)	143 (41.1)	10.011	0.012
Sector of work					
Bank	9 (25.7)	5 (14.3)	21 (60.0)		
NGO	23 (56.1)	4 (9.8)	14 (34.1)		
Schools	53 (45.7)	26 (22.4)	37 (31.9)		
MDAs	65 (38.7)	31 (18.4)	72 (42.9)	21.834	0.005
Number of children					
1-2	83 (37.4)	39 (17.6)	100 (45.0)		
3-4	54 (46.6)	22 (19.0)	40 (34.5)		
5 and above	13 (59.1)	5 (22.7)	4 (18.2)	8.521	0.075
Overall knowledge score					
Good	134 (48.6)	55 (19.9)	87 (31.5)		
Fair	15 (18.5)	11 (13.6)	55 (67.9)		
Poor	1 (33.3)	0 (0.0)	2 (66.7)	36.323	< 0.0001
On site crèche					
Yes	75 (50.0)	19 (512.7)	56 (37.3)		
No	75 (35.7)	47 (22.4)	88 (41.9)	9.323	0.010

Table 6: Respondents' opinion on barriers to optimal breastfeeding practices.

Variable*	Frequency (n=360)	Percentage (%)
Poor Spousal/family support	310	86.1
No paid maternity leave	216	60.0
Non-availability of crèche in/near workplace	210	58.3
Short maternity leave	184	51.1
No option for part-time working conditions	182	50.6
Late closing hours	169	46.2
Long working hours	126	35.3
No breastfeeding breaks at work	58	15.8
Early resumption hours	22	6.0

Multiple responses*

One hundred and forty-two (39.4%) of the respondents introduced complementary food too early (less than six months), 201 (55.8%) on time (at six months) while 17 (4.7%) late (greater than six months). Three hundred and twenty-three (89.7%) of the respondents continued breastfeeding their babies after six months. The total duration of breastfeeding for majority of the respondents 187 (51.9%) was between 13-18 months while the least 37 (10.3%) was between 1-6 months. The median duration of breast feeding was 14.6 months. Overall breast feeding practice score showed that 150 (41.7%) had good practice, 66 (18.3%) had fair practice while 144 (40.0%) had poor practice (Table 4). Only 150 (41.7%) of the respondents reported that there was an on-site crèche in their workplace.

Table 5 shows the association between selected characteristics of the respondents and their overall infant feeding practice score. Respondents' level of education, knowledge of infant feeding and availability of onsite crèche were statistically associated with good infant feeding practices. Respondents with secondary level of education 9 (75.0%) had a higher proportion of those with good practice compared with those with tertiary levels of education 141 (40.5%), p=0.012). Good knowledge of breast feeding was significantly associated

with good practice of infant feeding. Higher proportion of those with good knowledge of breast feeding 134 (48.6%) had good practice compared with 1 (33.3%) of those with poor knowledge, p<0.0001. Those working in Non-Governmental Organizations (56.1%) had the highest level of those with good practice of breastfeeding while those in the banking sector had the lowest (25.7%), p=0.005. Availability of onsite crèche was also significantly associated with good infant feeding practice, p=0.010 (50% versus 35.7%). Age of respondents and number of children were not statistically associated with infant feeding practice.

Respondents' opinion on barriers to optimal breast feeding practices included poor support form spouse 310 (86.1%), not being paid during maternity leave 216 (60.0%), non-availability of onsite crèche 210 (58.3%), short maternity leave 184 (51.1%), no option for part-time working conditions 182 (50.6%), late closing hours 169 (46.2%), long working hours 126 (35.3%), no breast feeding breaks 58 (15.8%) and early resumption hours 22 (6.0%) (Table 6).

Observation of breast feeding facilities for 16 purposefully selected organizations revealed that 15 (93.7%) of them had a breast feeding policy, 9 (56.3%) had an onsite crèche facility and 12 (70.0%) had early closing hours for breast feeding staff. Half of them 8 (50.0%) gave staff maternity leave for more than 12 weeks, 6 (37.5%) for 12 weeks and 2 (12.5%) for less than 12 weeks. Inspection of the crèches where permitted showed that all of them 7 (100.0%) had adequate space for the number of children, 5 (71.4%) had adequate number of caregivers, 5 (71.4%) were in good hygienic condition, 4 (57.1%) had adequate bed spaces and availability of breastfeeding chairs was moderately adequate in all of them.

DISCUSSION

This study assessed the knowledge and practice as well as identified perceived barriers to optimal breast feeding among working mothers in AMAC, FCT Abuja. Majority of respondents knew that the ideal time of initiation of breast feeding was within one hour of birth and almost all the respondents had heard of exclusive breast feeding which is in agreement with studies from other similar studies.[23,24] This may be because their major source of information was from the hospitals which may imply that they could have heard about this from health care providers during ANC attendance.

Less than half of our respondents knew the correct definition of exclusive breastfeeding (giving baby breast milk only without water or other foods for the first six months of life) as recommended by WHO.[25] This is in contrast with studies among resident doctors in North-central Nigeria and bankers in Lagos, South west Nigeria.[26,27] More than three-quarters of the respondents had good overall knowledge score of breast feeding which is in contrast to findings from a study in Sokoto, northern Nigeria where less than one-third of respondents had adequate knowledge.[24]

The high level of knowledge among the respondents may be because they were all educated women with either secondary or tertiary education. High level of education will make them more receptive to health information. In addition, their major source of information being from hospitals could mean that they are more likely to receive correct information with regards to optimum breastfeeding practices. In this study, maternal age, number of children, level of education and sector of work were not significantly associated with overall knowledge of breastfeeding. This is similar to what has been reported elsewhere.[28]

Timely initiation of breastfeeding (within one hour of birth) found among majority of the respondents in this study is commendable. This protects the newborn from acquiring infections and reduces newborn mortality.[2] Though more than three-quarters of the respondents reported practicing exclusive breast feeding with their last baby, just above half of them correctly practiced it for six months with their last babies. This poor level of practice has been reported in other similar studies.[26,27,29]

In addition, it is worth noting that more than one-third of the respondents gave their babies either water or artificial milk/formula during the first six months of life when they should have been exclusively breastfed. Poor breastfeeding practices which includes not exclusively breastfeeding babies for the first six months of life and early introduction of complementary feeds before six months predispose infants to diarrhoeal and respiratory diseases.[30]

It is worrisome to note that almost half of the respondents introduced complementary feeds too early or late. The introduction of complementary feeds before six months of age is associated with increased incidence of neonatal and infant morbidity and mortality while late introduction puts the infant at risk of undernutrition and poor growth.[31,32]

The reason for early introduction of complementary feeds could be because of the duration of the maternity leave which in most cases is 12 weeks by which time mothers have to return to work.[26] Another possible reason could be non-availability of onsite or nearby reported by majority of the respondents and corroborated by observation of some of the organizations.

Availability of onsite or nearby crèche at the workplace would make mothers closer to their babies during working hours and may facilitate breastfeeding on demand. This is supported by finding from this study where those who had onsite crèches were more likely to have better breastfeeding practices.

Though the majority of the respondents breastfed their babies into the second year of life with the median duration of breastfeeding being 14.6 months, this falls short of the recommended duration of 24 months. [25] This could be also due to the demanding nature of their job which may pose a challenge to continued breastfeeding. Therefore, it is important to educate mothers that the longer breastfeeding lasts, the greater its nutritional benefits and the greater the protection it confers against diarrhoeal diseases.[33] In addition, a dose-response effect has been observed between breastfeeding duration and neurocognitive outcomes in children.[33]

Less than half of the respondents had good overall practice of breastfeeding. Level of maternal education, knowledge of breastfeeding, sector of work and availability of onsite crèche were significantly associated with good overall practice of breastfeeding. In this study, high maternal education was significantly associated with good practice of breastfeeding as has been reported in several studies.[34,35] The more educated a woman is, the more likely she is to have access to health information which can influence the practice of health promoting behaviours including adequate breastfeeding practices.

Respondents in the banking sector had the poorest practice. This could be due to the highly demanding nature of their jobs which includes very early resumption time and late closing hours reported as barriers to optimum breastfeeding practice by some of the respondents. Other barriers to optimal breastfeeding mentioned by the respondents included poor spousal and family support, no paid maternity leave, short maternity leave, no option of part-time working conditions, non-availability of crèches in or near workplace, long working hours and no breastfeeding breaks. These barriers if mitigated can act as motivators for working women to practice optimal breastfeeding [26]

Partner support has been found to be associated with breastfeeding practice.[27,35] A supportive social network which may include a spouse, family members or friends can enable working women to continue breastfeeding even after they have returned to work.[36]

An unfavourable working environment that is not supportive can make it difficult for mothers to practice optimal breastfeeding.[37] Our study found that though majority of the organizations observed had a breastfeeding policy, only about half of them gave adequate provision for an on-site crèche and maternity leave for more than 12 weeks. A woman's ability to breastfeed is markedly reduced when she returns to work, if breastfeeding breaks are not available and if quality infant care facility is inaccessible or unaffordable.[38] Therefore, legislation guaranteeing breastfeeding breaks which has been reported to improve working mothers' ability to continue breastfeeding is essential. [39] Long working hours makes mothers to breastfeed for shorter periods. Nigeria is a signatory to the Maternity Protection Convention, 2000 (No 183) adopted by the General Conference of the International Labour Organization (ILO) which specifies that a woman shall be provided with the right to one or more daily breaks or a daily reduction of hours of work to breastfeed her child. In addition, the period during which nursing breaks or the reduction of daily hours of work are allowed, their number, the duration of nursing breaks and the procedures for the reduction of daily hours of work shall be determined by national law and practice. These breaks or the reduction of daily hours of work shall be counted as working time and remunerated accordingly. It also makes provision for a guaranteed period of 16 weeks for maternity leave.[40] The convention has, however, not been fully domesticated in Nigeria.

Limitation of the study

The information about breastfeeding practices was self-reported and may also have been subject to recall bias. The findings of this study may only be generalizable to women working in the formal organized sector since those working in the informal sector were not part of the study. Focus group discussions among working mothers could have provided more in-depth information.

CONCLUSION

This study revealed a gap between the knowledge and practice of adequate breastfeeding among this population of working women and identified some perceived barriers to optimal breastfeeding. High level advocacy to the government by relevant stakeholders to pass, implement and enforce enabling laws which will guarantee adequate breastfeeding breaks, availability and accessibility of crèches as well as other provisions of the maternity protection convention.

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