

AN ASSESSMENT OF KNOWLEDGE AND PRACTICE OF EXCLUSIVE BREASTFEEDING AMONG WOMEN IN KADUNA METROPOLIS

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Abstract

Poor breastfeeding practices results in early nutritional deficits that can have profound consequences on the growth and survival of infants. Several health organizations, such as WHO and UNICEF, recommends exclusive breastfeeding based on scientific evidence, of the benefits for infant's survival, growth, and development. Despite the health and economic benefits associated with exclusive breastfeeding, the practice remains low in various parts of the world. In Nigeria out 97% of infants receiving breast only 29% of infants are exclusively breastfeed meaning that over 70% of infants in Nigeria are denied the aforementioned benefits of breast milk in their formative years. Also, only 41% of infants are breastfed exclusively. Therefore, this article examines the Knowledge and practice of exclusive breastfeeding among women in Kaduna metropolis. Data was collected from a sample of women using questionnaires and in-depth interviews. In this study, knowledge of study participant mothers towards EBF is high, as 95% know about exclusive breastfeeding, however; only 34% of them practised exclusive breastfeeding for six months as recommended by health organizations. The study therefore recommends that disseminating knowledge alone is not a sufficient tool. other constraining factors such as employment and school, breast problems, poor milks supply, medical condition of mothers and infants, lack of commitment need to be addressed to improve the practice rate.

Keywords: Knowledge, Practice, Exclusive Breastfeeding, Women

1. Introduction

Prior to the discovery and recommendation of exclusive breastfeeding, there were several methods of infant feeding. Such methods include; mixed feeding, where infants received breast milk and other food or liquids and predominant feeding, where infants receive breast milk as a predominant source of nourishment and also receive water and water-based drinks or liquids (WHO, 2008). Also, another type of infant feeding is formula feeding, where infants receive no breast milk but an artificial breast milk substitute. These feeding practices have been discouraged by many health organizations due to health implications associated with it, because infants are not developmentally ready for the transition from suckling to sucking or from managing semi-solids and solid foods in addition

to liquids until around six months of age (Naylor & Morrow, 2001).

Non-breast milk given before initiating breastfeeding (pre-lacteal feeds), and non-breast milk given after breastfeeding has been initiated (post-lacteal feeds), often lack appropriate energy, protein or micronutrients such as iron, vitamin A, zinc and iodine. These deficit causes under nutrition, which consequently results to infant morbidity and mortality (Ugwu & Obi, 2010). Similarly, it has been discovered that the risk of morbidity when a child is exclusively breastfed is reduced by close to 70% this is evident that exclusively breastfed infants are protected against serious morbidities in the first six months of life and beyond. For this, reason, health organisations such as the World Health Organisation, (WHO) United Nation's International

Children's Emergency Fund (UNICEF) recommends exclusive breastfeeding as the best form of infant feeding. Exclusive breastfeeding means only breast milk is allowed with the exception of medicine, vitamin syrup and oral rehydration solution for the first six months of life to achieve optimal growth, development and health. Thereafter, infants should receive nutritionally adequate and safe complementary foods (WHO, 2002b).

It is considered as one of the primary aims of nutrition and public health programs across the world, with the aim of improving infant and child morbidity and mortality, and also to improve maternal health.

Exclusive breastfeeding for up to six months has been the desired goal of many health organizations but advocates of six months exclusive breastfeeding have expressed concerns over the seeming reluctance of mothers to adhere to the recommendation with varying degrees of success across the world (Ajayi, 2012). Reports from world health organization (WHO/UNICEF) 2022, on global breastfeeding score card reveals that, in 2015-2021, 48% of infants under six months of age are exclusively breastfed which is close to WHO's target 50% target by 2025, This represents progress However, there is a 70% global target rate by 2030 which shows that more work needs to be done within short period of time. Although breastfeeding is a common practice in Nigeria with 97% of infants receiving breast only 29%, of infants are exclusively breastfed in Nigeria, meaning that over 70% of infants in Nigeria are denied the aforementioned benefits of breast milk in their formative years (WHO UNICEF, 2022).

Reports from Kaduna state primary health care board and Kaduna state Nutrition profile. (KSNP) (2022) reveal that only 41% and 19.7% of infants respectively, are exclusively breastfed these figures indicate low practice (KSNP, 2022) and around 42% of children in Kaduna state were termed wasted from acute under nutrition by National Nutrition Health Survey 2015. Although the Nigerian government across all levels has responded to the low prevalence of Exclusive breastfeeding over the years by initiating several programmes and policies responses to promote and support infant and young child feeding practices, such as the Baby-Friendly

Hospital Initiative (BFHI) in 1992, the National Breastfeeding Policy in 1998, among others. Despite these efforts, inconsistent policies and inadequate implementation and enforcement of policies that protect, promote and support exclusive breastfeeding breast feeding contributes to the low practice of exclusive breastfeeding.

Objectives of the Study

- i. To examine women's knowledge of exclusive breastfeeding in Kaduna Metropolis
- ii. To examine the practice rate of exclusive breastfeeding in Kaduna Metropolis
- iii. To investigate factors influencing the practice and non-practice of exclusive breastfeeding, among women in Kaduna Metropolis

Statement of Hypothesis

H1: There is a relationship between respondent's knowledge and practice of exclusive breastfeeding

2. Literature Review

This section seeks to review literature related to the study. It sheds more light on the state of knowledge on what other scholars have written on exclusive breastfeeding. It contains literature on conceptual review on the major concepts of the study as well as empirical review on knowledge and practice of exclusive breastfeeding.

Knowledge of Exclusive Breastfeeding

Knowledge of exclusive breastfeeding has been identified as one of the major factors that determine breastfeeding practices and duration. "Knowledge is power" is a common adage mostly used in various parts of the world. Lack of correct exclusive breastfeeding knowledge and the inability to apply the knowledge in breastfeeding infants is a very serious threat to the practice of exclusive and adequate breastfeeding (Maduforo & Onuoha 2011).

Knowledge of exclusive breastfeeding goes beyond awareness. Awareness refers to basic understanding or consciousness that exclusive breastfeeding for the first six months is recommended. Knowledge on the other hand implies a deeper understanding of the subject matter. It involves having comprehensive information about its benefits, techniques and challenges,

For instance, Oche, Umar and Ahmed (2011), in their study on Knowledge and practice of exclusive breastfeeding in Kwara, Nigeria found out that sixty percent (60%) of the mothers were aware of exclusive breastfeeding (EBF) but only thirty percent (30%) of them had adequate knowledge of EBF having scored 50% or more in the assessment of knowledge of EBF. Similarly, Mbwana, Colon and Von hurst (2013), in their study on mother's awareness, discovered that mothers in their study area did not fully understand all the health benefits of breastfeeding both to the infant and the mother. Apart from the obvious benefit which is nutrition, they were not aware of other benefits, such as reduced risk of lung infection among babies, good development of baby's teeth and gum, and reduced risk of breast problems among breastfeeding mothers. Agunbiade and Ogunleye (2012), in their study on the constraints to exclusive breastfeeding practise among breastfeeding mothers in Southwest Nigeria, found out that majority (94%) of the respondents had a high level of awareness about exclusive breastfeeding but only 19% of the nursing mothers practised exclusive breastfeeding. This indicates that the practicability of exclusive breastfeeding has gone beyond awareness although it is the first step to ensuring the practice. This could be because awareness alone does not lead to behavioural change as it needs to be backed up with proper knowledge and other factors (UNICEF, 2010). Bahemuka, Munyanshongore and Birungi (2013), in their study found out that majority (74.4%) of the women involved in the study have correct knowledge of exclusive breastfeeding but only 34.4% of them practised it to 6 months this implies that knowledge of exclusive breastfeeding does not guarantee high level of practice.

Olayemi et al (2014) conducted a study on factors influencing the practice of exclusive breastfeeding in three regions of Nigeria found out that 90% of women who participated in the study heard about exclusive breastfeeding, but not all of them had accurate knowledge of exclusive breastfeeding. There were variations in the exact definition of exclusive breastfeeding as many interpreted it to be just "till the start of 6 months," meaning, they mistook the message of "till sixth month" to mean getting to the sixth month. This indicates that

incorrect knowledge results to incorrect exclusive breastfeeding practice.

Also, Shirima, Greiner, Kyberg and Gebre-Medhin (2001), in their study on Tanzania, reported that the advantages of breastfeeding mentioned by mothers were only those related to the infant and none to the mother. They also reported that mothers' knowledge on feeding options influences their practices because the study found out that mothers who were educated on exclusive breastfeeding during antenatal visits tend to breastfeed exclusively than others who do not.

The Practice of Exclusive Breastfeeding

Practice, in this study, means the type of infant feeding method that is done by mothers prior to the knowledge of exclusive breastfeeding and after acquiring the knowledge of exclusive breastfeeding. This includes how infant feeding is done and why it is done; therefore, practice as regards to this study means a common way of feeding an infant.

Reports from WHO and UNICEF (2017) have shown the practice rate of exclusive breastfeeding is very low with only 40% of infants exclusively breastfed and only 25% are exclusively in Nigeria. Therefore, the World Health Organization aims to increase the global rate of exclusive breastfeeding to at least 50% by the year 2025 (WHO 2014; UNICEF, 2014; Nte & Njebuome, 2015). This, therefore, reflects a low practice of exclusive breastfeeding.

There are factors responsible for the low practice of exclusive breastfeeding these factors vary from one country to another, between different groups in the same country or individual differences. These factors are combinations of economic, social, environmental, cultural, and biological among others. Reports have shown that a mother's social setting as regards to cultural practices influences her choice of infant feeding, while some of these practices can encourage breastfeeding, others may discourage it (Emmanuel & Oyewole, 2012).

Previous studies have shown that educated mothers are more likely to practice exclusive breastfeeding than illiterate mothers. This is because women with higher levels of education place more value in their health and the health of whom they care for and the

educated mothers are less likely to adhere to local customs that prescribe inclusive breastfeeding instead of exclusive breastfeeding (Ajibade, Lokwade, Omojinde-Amoo & Adeyemo, 2013).

However, Oche, Umar and Ahmed, (2011) in their study had a contrary opinion which reveals that the educational level of mothers in Kware, Northern Nigeria, did not influence the practice of exclusive breastfeeding. The major source of support regarding the mother's breastfeeding intention has a significant influence on breastfeeding behaviours. The influence of these significant referents affects the mother's decision on initiation and exclusive breastfeeding. Women experience support when they receive care, concern, respect, understanding, advice, encouragement and practical help from significant others such as the mother in law and elderly females in the family (Williams, 2005; Underwood, 2002). Also, economic status of a breastfeeding mother may encourage or discourage the practice of exclusive breastfeeding. For instance, it has been observed that infants from the wealthiest households are less likely to be exclusively breastfed than those from the poorest households (Emmanuel & Oyewole, 2012; Al-Shoshan, 2007). This is because people from wealthy households can afford to buy breast milk substitutes which makes them refuse to breastfeed their babies exclusively because they feel that breastfeeding babies exclusively is not for a modern woman so they depend on cow's milk in order to show themselves as belonging to the high class (Ike, 2013).

In contrast, Agho et al (2011) discovered that the socio-economic status of mothers influences the decision of mothers to exclusively breastfeed in the sense that mothers with higher socioeconomic status tend to have high education and are more likely to be better informed about the practice of exclusive breastfeeding than mothers with lower socioeconomic status. In addition, Employment status of women plays a major role in determining the practice of exclusive breastfeeding. For some women, their occupation and careers have made the practice of exclusive inconvenient thereby resulting to other forms of infant feeding (Okwy-Nweke, et al 2012). A study by Oche et al (2011) revealed that housewives and self-employed women are more likely to practice exclusive breastfeeding because

they breastfeed their new born babies whenever they want so they feed their babies on demand. This is because housewives and self-employed mothers have more time to breastfeed the babies on demand than employed mothers (Oche et al 2011). Age and marital status of a mother are found to determine the practice of exclusive breastfeeding. Reports from various studies have compared the practice rate between young or teenage mothers and older mothers. Findings from these studies show that the practice rate of exclusive breastfeeding has been more prevalent among the older mothers than young mothers (Al-Shoshan, 2007). In the same vein, (Ajibade et al, 2014) in their study revealed that that women who are married are more likely to practice exclusive breastfeeding than those who are single or divorced.

Another important factor influencing the practice of exclusive breastfeeding is medical factors. Mode of delivery has also been reported as one of the predictors of exclusive Breastfeeding. According to Makena (2014), mode of delivery is one of the predictors of exclusive Breastfeeding. Vaginal delivery is more associated with the practice of exclusive breastfeeding while caesarean section delivery is associated with the inability to breastfeed exclusively. Other medical factors include baby or mother's state of health.

Theoretical Framework

The relevant theory reviewed is the social cognitive theory. Social cognitive theory stemmed from the Social Learning Theory which has a rich historical background dating back to the late 1800's. In 1941, Miller and Dollard proposed the theory of social learning. Albert Bandura and Walters in 1963 broadened the social learning theory with the principles of observational learning and vicarious reinforcement and developed it into the social cognitive theory in 1986 (Pajares, 2002). The theory defines human behaviours as a triadic, dynamic, and reciprocal interaction of personal factors, behaviours, and the environment. This is often known as reciprocal determinism (Bandura, 1999). Personal factors include individual characteristics such as knowledge, attitude, self-efficacy and outcome expectations play a role in determining behaviour. When people learn or acquire knowledge about the appropriate infant feeding practices and

breastfeeding techniques and are adequately informed about the risk and benefits of certain actions or lifestyles, they will be more likely or motivated to initiate a change. Knowledge acquisition can be said to be the first step to behavioural change. This knowledge or information, as Bandura argued, is a necessary but not a sufficient basis for change. This explains why some women who are aware of the benefits of exclusive breastfeeding do not practice it. Knowledge needs to be accompanied with other factors, such as behavioural capability, a person's confidence in his or her ability to successfully perform behaviour (self-efficacy), outcome expectation, either consequences or rewards. People are likely to adopt behaviours that are beneficial to them and also likely to otherwise if the anticipated outcome is deemed to be bad or negative.

3. Methods and Materials

Study area: the study was conducted in Kaduna metropolis which is the capital of Kaduna State. The state is located at the northern part of Nigeria and is politically classified as the northwest geopolitical zone of Nigeria.

Participants: The target population is women who belong to the reproductive age. This consists of lactating mothers, experienced mothers and expectant mothers. These categories were chosen because they are in a better position to share their perceptions and experiences and also provide in-depth information on the phenomenon of study. In addition, male caregivers (nursing fathers) significant others and health care providers were also chosen to make up part of the population. They were chosen because of the roles they play in infant feeding in terms of decision making and support also; health professionals were included because of their knowledge of the subject matter, their contact and experiences with women on exclusive breastfeeding.

Sampling and sample size: The study made use of a multi-stage cluster sampling method, which involves

a combination of sampling methods to suit the peculiarity of the location of study. The first stage involved selecting wards that make up the metropolis using the simple random method. This method was chosen because it gives every sample unit an equal chance of being selected which avoids the researcher's bias.

Kaduna metropolis comprises of the following wards: Kawo, Hayin Banki, Badarawa, Ungwan Sarki, Ungwan Shanu, Ungwar Dosa, Sabon Gari, Malali, Unguwar Rimi, Mahuta Kabala Constain, Doka, Kabala Doki, Kabala West, Kakuri, Makera, Ungwar Sanusi, Baduko, Tudun Wada, Tundun Nupawa, Barnawa, Television, Ungwar Sunday, Narayi, Sabon Tasha, Ungwan Romi and Mando. Using simple random sampling method, the (27) wards were given a serial number (1-27) and after a reshuffle, a ward was picked continuously until eight wards were selected. Selected wards include: Ungwar Rimi, Kawo, Barnawa, Sabon Tasha, Makera, Malali, Kabala Constain and Mando.

In the second stage, in each of the eight (8) neighbourhoods selected, the purposive sampling method was used to select two (2) streets making a total number of sixteen (16) streets. The selected two (2) streets were to ensure that all the neighbourhoods chosen are represented. The selection was done ensuring a fair distribution of the streets in the area. Purposive sampling was used at this stage because to compile an exhaustive list of all the streets in the selected wards is impractical because not all streets are properly named and documented. In the third stage, the availability sampling method was used to select fourteen (14) household each from the sixteen 16 streets making a total sample size of 224. At this stage, the household selection was done based on the availability of women who meets the criteria of the population of the study, which consists of pregnant women, lactating mothers and experienced mothers. This method was used to in order to avoid choosing houses that may not have a potential respondent.

These sample sizes were adopted because it will be more manageable as regards to time and resources, thereby ensuring successful completion of the study. For the in-depth interview (IDI), six (6) key informants were selected based on their contact with mothers and experience on the phenomena under

study the key informant comprised of two (2) husbands of a breastfeeding mother (male caregiver) two (2) older women and two (2) health care providers. Experienced mothers were interviewed in order to elicit information on how breastfeeding has been done in time past, to get views on the culturally accepted ways of infant feeding and to get more information on the roles they play on breastfeeding decision and practice. The view of husbands of breastfeeding mothers provides more information on the roles they play in infant feeding decisions and support for the breastfeeding mother. Health care providers were interviewed because of their extensive knowledge on the phenomenon and their experience in the profession as regards to exclusive breastfeeding in the metropolis.

Methods of Data Collection

A complimentary mixed design was used in this study, consisting of a structured questionnaire and an in-depth interview. The questionnaire contained carefully worded questions relevant for the purpose of the research study, comprising of both close and open-ended questions, and Linkert scale format which used to determine the degree of responses. The questionnaire was self-administered cases, where the respondents are unable to fill the questionnaire; the researcher administered the questionnaire in the form of an interview. Out of the 224 questionnaires administered, 208 questionnaires were retrieved some copies were either missing or not properly filled. In-depth interview was used to elicit information from caregivers such as from male caregivers (nursing fathers) experienced mothers (grandmothers) and health care providers on the important role they play in infant feeding. It was also

used to complement the questionnaire and cover issues that could not be obtained in the questionnaire.

Methods of Data Analysis

For quantitative data, descriptive statistics and inferential statistics were employed in analysing data collected in the study. This includes the use of tables, frequencies, counts, percentages and chi-square test (cross-tabulations). This helped in determining the nature of the data collected and was used to analyse the response obtained from the questionnaire. The cross-tabulation was used to test the relationship between the variables and data collected was edited and coded. Coded information derived from the codebook was transferred to the coding sheet and analysed with the aid of a computer for common themes.

Data generated by this study were entered into SPSS worksheet and analysis was done using the SPSS computer software package (SPSS) version 20. This was done in order to test the relationship between certain selected variables in line with the objectives. Data collected through in-depth interview were audiotaped by a sound recorder. Data were processed through listening to the recorder. It was also transcribed, translated from oral discourse to written discourse. Data were analysed in a thematic form. This was done by content analysing the data based on themes. The data was presented in a triangular form complementing the quantitative data. Findings were synthesised to identify areas of convergence and divergence between data generated from both techniques.

4. Results and Discussions

Table 1: Women's Knowledge of Exclusive Breastfeeding

Awareness of Exclusive of Breastfeeding	Frequency	Percentage (%)
Yes	199	95.7
No	9	4.3
Total	208	100
Received breastfeeding		
Yes	185	88.9
No	23	11.1
Total	208	100

Source: Field Survey, 2023

The level of awareness of exclusive breastfeeding among women was high at about 96%, only about 4%

or respondents reported not knowing about exclusive breastfeeding. This level of awareness is reported to

be acquired through the hospitals with about 85% of respondents reporting in this regard.

Findings show that Majority, 95% of the respondents are aware of exclusive breastfeeding and 88% of the respondents have received breastfeeding education. Respondents were further asked where they received their breastfeeding education, majority, 85% received their breastfeeding education in the hospital. This indicates that hospitals are the major source disseminating breastfeeding knowledge Findings the qualitative data have also shown that most women in the metropolis have heard of

exclusive breastfeeding. Informants added that the older mothers were not privileged to know about it when they were nursing their babies. For instance, one of the experienced mothers said:

During my time there was nothing like exclusive breastfeeding. As far back as 1989 when I had my last delivery, women were not aware. Then, we fed our babies with breast milk, formula and other cereals for babies. But now a lot of women are opportune to know about exclusive breastfeeding.

Table 2 Response on the Knowledge of Exclusive Breastfeeding

Knowledge of Appropriate Period Breastfeeding Initiation	Frequency	Percentage (%)
Within One Hour of Birth	115	53.3
After Two Hours of Birth	30	14.4
After Six Hours of Birth	38	18.3
When Milk Is Ready	15	7.2
No Response	19	4.8
Total	208	100
Knowledge of recommended duration		
0-2 months	5	2.4
3-4months	11	5.3
0-6months	170	81.7
0-1 year	13	6.3
Not applicable	9	4.3
Total	208	100

Source: Field Survey, 2023

The table reveals that half of the respondents, 55% said breastfeeding should commence within one hour of birth. Also, majority, 81%, said exclusive breastfeeding should be done for the period of 0-6months. This implies that majority of the respondents have a good knowledge of proper breastfeeding practices. Results from the qualitative data agree with the quantitative data as informants explained that the recommended duration is mostly emphasized when educating women on the topic. For instance, a medical doctor interviewed had this to say:

Women in Kaduna metropolis are aware of the recommended duration because it is one of the most important aspects of exclusive

breastfeeding. We always tell women not to obey all the rules of exclusive breastfeeding only to stop halfway. We emphasize on the need to breastfeed exclusively for six months. So, for those who are aware of exclusive breastfeeding, we expected to know about the recommended duration.

When probed further on who benefits from exclusive breastfeeding, majority, 61% (127) believed it is beneficial to both mother and child, 33% (70) said child alone, 3% (7) said the mother alone benefits from the practice of exclusive breastfeeding, while 1.9% (4) had no response.

Table 3 Women's Knowledge of the Benefits of Exclusive Breastfeeding

Benefits of exclusive of breastfeeding	S D	D	A	S A	Total
Breastfeeding increases mother-infant bonding.	9(4.5%)	4(2.0%)	87(43.7%)	99(49.7%)	199(100%)
Exclusively breastfed infants have stronger immune system than formula fed infants	3(1.5%)	12(6.0%)	85(42.7%)	99(49.7%)	199(100%)
Exclusively breastfed infants have reduced risk of infectious	3(1.5%)	11(5.5%)	97(48.7%)	88(44.2%)	199(100%)
Exclusively breastfed infants have reduced and chronic diseases	23(11.6%)	45(22.6%)	92(46.2%)	39(19.6%)	199(100%)
Mothers who breastfeed exclusively have lower risk of breast cancer	5(2.5%)	30(15.1%)	100(50.3)	64(32.2%)	199(100%)
Mothers who breastfeed exclusively have lower risk of ovarian cancers	9(4.5%)	21(10.6%)	111(55.8%)	58(29.1%)	199(100%)
Exclusively breastfed infants have higher cognitive development	5(2.5%)	44(22.1%)	85(42.7%)	65(32.7%)	199(100%)
Exclusively breastfed infants have higher Intellectual capacity	9(4.5%)	4(2.0%)	87(43.7%)	99(49.7%)	199(100%)
EBF reduces health care cost	2 (1.0%)	36(18.1%)	91(45.7%)	70(35.2%)	199(100%)
exclusive breastfeeding helps in child spacing	7(3.5%)	56(28.1%)	84(42.2%)	52(26.1%)	199(100%)

Source: Field Survey, 2023

Table respondent's knowledge of the benefits of exclusive breastfeeding, findings reveal that majority, 93% agreed that breastfeeding increases mother and infant bonding, 92% agreed that exclusive breastfeeding increases immune system, 93%, agreed that exclusively breastfed infants have reduced risk of infectious diseases. Furthermore, 66% which

constitute the majority, agreed that exclusively breastfed infants have reduced rates of diseases. Majority also agreed that mothers who breastfeed exclusively have reduced risk of breast and ovarian cancer with 83% and 85% respectively. Most of the respondents 75% agreed that exclusively breast-fed infants have higher cognitive development than their

formula-fed peers, 83% agreed that exclusive breastfeeding increases intellectual capacity and 81%

believe that exclusive breastfeeding reduces health care cost.

Table 4: Breastfeeding practices

Method of Infant feeding practised	Frequency	Percentage
Mixed feeding	95	45.7
Predominant feeding	25	12.0
Exclusive breastfeeding	72	34.6
Formula feeding	16	7.7
Total	208	100

Source: Field Survey, 2023

Results on the method of infant feeding practice by respondent's shows that Majority, 66% practised other forms of feeding and only 32% practised or intend to practice exclusive breastfeeding. Findings from the IDI corroborate the survey data as most of the key informants believe the practice of mixed feeding is found more among women than exclusive breastfeeding. For instance, one of the male caregivers had this to say:

From what I have observed, most women do not practise exclusive breastfeeding, some start but stop

along the way. On a scale of 1 to 10, I will rate 5. Although many of them have knowledge of exclusive breastfeeding because I believe they must have heard about it during their antenatal visit but it does not guarantee that they will practice it until six months.

It can be deduced that the practice of exclusive breastfeeding among women in Kaduna metropolis is still low and not satisfactory although, the practice of exclusive breastfeeding has improved over time.

Table 5: Age of introduction of complementary foods

Age of introduction of complementary foods	Frequency	Percentage
First month	29	13.9
Second month	25	12.0
Third month	60	28.8
Four months	2	1.0
Five months	32	15.4
Six months	56	26.9
No response	4	1.9
Total	208	100

Source: Field Survey, 2023

The table reveals that only 26% of the respondents introduce complementary foods at the sixth month. This implies that Majority of the respondents introduce complimentary foods earlier than six months. The in-depth interview conducted is in line with the survey data. One of the key informants had this to say: "I have seen many women who actually start exclusive breastfeeding, but for numerous

reasons stop at three months, some four months, some even two months.

Similarly, one of the health care personnel also stated:

The challenge most women are having is the ability to complete the six months' duration Most women actually start but stop before six

months. They give several reasons why they were not able to continue to the end. So yes, they start breastfeeding exclusively but then they do not complete it and that automatically makes it mixed feeding and not exclusive because exclusive requires six months with no alternative food.

Respondents were further probed on reasons for introducing other fluids at the time they did findings revealed that the majority 51% (107) introduced other fluids at the time. They did because they were busy with employment or school, 21% (44) felt the baby was old enough, 14% (30) said age was recommended by relatives, 5% (12) felt baby was hungry (12), 3% (7) said it was a result of low milk supply, 1% (2) had difficulty in breastfeeding, while 1% (3) said the baby was thirsty. Findings from the in-depth interview reveal other reasons for early introduction of fluids/complementary foods, for instance, one of the health care professionals said thus:

Most mothers give excuses that they cannot cope; some complained the child is growing so his demand for food is more frequent than when the child was much younger so they introduce other feeds. Other women complain they have to resume work; some even say the child is not growing well so they introduce formula to enhance growth.

Similarly, a medical doctor interviewed also stated:

I think most women especially 'career women, complain that after the three months of maternity leave they stop exclusive breastfeeding because they have to resume work and cannot breastfeed on demand. They also complain they do not have crèche facilities at their place of work so they introduce other feeds to the baby at that time

Table 6: Relationship between Respondent's Knowledge and Practice of Exclusive Breastfeeding

Knowledge	Practice of EBF		Total
	Yes	No	
Yes	72(100%)	127(93.4%)	199(95.7%)
No	0(0.0%)	9(6.6%)	9(4.3%)
Total	72(100%)	136(100%)	208(100)

Source: Field Survey, 2023

Table 6 reveals that at the df. of 1 and the alpha level of 0.05, the calculated χ^2 value of 4.980 is greater than the table χ^2 of 3.841. This shows that there is a relationship between respondent's knowledge of exclusive breastfeeding and the practice of exclusive breastfeeding.

Using phi coefficient to further measure the strength of the relationship, results reveal the value of 0.15. This indicates a low positive association between knowledge and practice of exclusive breastfeeding which indicates that practice is not entirely dependent on knowledge. Therefore, it can be said that

Information is a necessary but insufficient condition for behaviour change.

Discussion of Major findings

This study assessed women's Knowledge and practice of exclusive breastfeeding. Findings indicated high level of awareness. This finding is consistent with the findings of Olayemi et al (2014) who found out that 90% of women who participated in the study heard about exclusive breastfeeding. Findings also revealed that Majority of the respondents received their education in a hospital. This result is supported by the findings of Thomas (2016), where 92% of the

respondents stated they had received information at the clinics concerning the benefits of EBF from the practitioners. This indicates that hospitals are major sources of disseminating knowledge of exclusive breastfeeding.

Respondents were further asked questions to assess their level of knowledge on proper breastfeeding practices. Majority of the respondent, believe that breastfeeding should be initiated within one hour of birth, most of them were aware of the 0-6 months recommended duration for exclusive breastfeeding, and most of the respondents believe that the practice of exclusive breastfeeding is beneficial to both mother and child. This implies that respondents had a good knowledge of proper breastfeeding practices.

EBF has been associated with a lot of health and economic benefits therefore; respondents were asked questions on their knowledge of the benefits of exclusive breastfeeding. Findings reveal that 93% of the respondents agreed that breastfeeding increases mother and infant bonding. The findings are in line with other studies that argue that breastfeeding establishes a close bond between mothers and infants, thus strengthening feelings of security in the child at the outset of life. For instance, Mbada et al (2013), in their study, on knowledge attitude and techniques of breastfeeding among Nigerian mothers in A semi-urban community reported that on a scale of 100, 76 rated breastfeeding as a means to promotes mother-baby bonding. The study further showed that 92% of the respondents agreed that exclusively breastfed infants have a stronger immune system than formula-fed infants. This finding is also in agreement with Clark and Bungum (2003) who stated that breastfed children exhibit greater resistance to infectious disease and stronger immune systems than their formula-fed peers and they also experience lower rates of chronic diseases. Furthermore, 93% of the respondents agreed that exclusively breastfed infants have reduced risk of infectious diseases and 83% agreed. They have reduced risks of chronic diseases than formula-fed infants. These findings are not in agreement with the findings of Tyndall et al (2016), who found out that (78%) of respondents, believed that EBF causes respiratory tract infections.

Findings also reveal that majority of the respondents agreed that exclusive breastfeeding reduces the risk of

breast and ovarian cancer with 83%and 85%respectively. Findings are in line with Labbok (2001) who posited that breastfeeding lowers the risk of breast and ovarian cancers, and possibly the risk of hip fractures and osteoporosis. This study also revealed that 75% of the respondents agreed that exclusively breast-fed infants have higher cognitive development and intellectual capacity, while 81% of the respondents believe that exclusive breastfeeding reduces overall health care cost. Results on respondent's views on exclusive breastfeeding as a form of contraceptives show that most of them (68%) agreed that exclusive breastfeeding helps in child spacing. Findings from this study indicates that majority of the respondents have a good knowledge of the benefits of exclusive breastfeeding.

Findings on the practice of exclusive breastfeeding after adding up mixed, predominant and formula feeding to arrive at the total of mixed feeding. The result shows that majority, 64%, of the respondents practised mixed feeding and only 36% practised exclusive breastfeeding in spite of the high level of knowledge of EBF, indicating that some deterring factors may be at play. Findings are supported by Rahma et al (2017), in their study, where they observed that majority of the mothers (73.8%) did not exclusively breastfeed their children, but in general, knowledge of exclusive breastfeeding was high (86.2%). This by implication means knowledge does not entirely guarantee the practice of exclusive breastfeeding.

Further analysis showed that the respondents introduced other fluids before six months with the majority (28%) occurring at the third months. Despite their knowledge of the proper duration of introducing other fluid which is 6 months, only few (26%) adhered to the recommended duration. Respondents identified several reasons for introducing other fluids earlier than the recommended period. Some felt the baby was old enough, others said age was recommended by relatives, some felt baby was hungry some said it was a result of low milk supply, others had difficulty in breastfeeding, some said the baby was thirsty. However, majority (26%) identified employment school who introduced other fluids at the time did it because they were busy with work/school as reasons for introducing other fluid earlier than six months. These findings are in contrast to the findings

of Thomas (2016) in his study of barriers to exclusive breastfeeding among mothers during the first four weeks postpartum. He observed that 66.7% of the respondents stated that return to work and return to school (73.3%) were not barriers to continue EBF.

5. Conclusion and Recommendations

A very high level of knowledge of exclusive breastfeeding was shown among women in Kaduna metropolis, however, mixed feeding still seems to be more prevalent. It is expected that knowledge of exclusive breastfeeding should translate into practice because knowledge is a significant factor in determining the practice. It is however only a step in the right direction as a lot of factors come to play to ensure the practice of exclusive breastfeeding. This implies that disseminating knowledge alone is not a sufficient tool; other constraining factors need to be addressed so as to improve the practice rate. Based on the findings of the research, the following recommendations are made:

- i. Although, knowledge is no longer a challenge like it was before, health organization and other stake holders still need to intensify their efforts in educating women of child bearing age by specifically addressing the concerns of delayed milk production and breastfeeding difficulties. Mothers should be educated on breastfeeding techniques, how to care for the breast and ways to prevent breast feeding problems such as breast pain and engorgement. Mothers should also be offered lactation support by professionals to be part of their breastfeeding experience to monitor progress and follow up regularly in order to offer guidance and help mothers overcome breastfeeding difficulties. Women also need to be educated on how to maintain good

health and proper diet as they contribute to ensuring a successful practice.

- ii. Current public health interventions on exclusive breastfeeding are tailored to the needs of breastfeeding women only. therefore, strategies in educating grandmothers, fathers and traditional birth attendants should be initiated so as to increase the familiarity of family relations on exclusive breastfeeding as they play a key role in influencing mothers in infant feeding practices. This can involve engaging family members, partners, and the community to assist with household chores and create a comfortable and private space for breastfeeding.
- iii. Based on the findings of the study, lack of support from management at the work place has been a barrier to the practice of exclusive breastfeeding. Therefore, the ministry of labour and productivity need to address women's right to breastfeed in the workplace by ensuring that employers provide breastfeeding and expressing facilities at the work place, such as crèche facilities to be used by employees who are nursing mothers. Also, employers should consider reduced working hours for breastfeeding employees or extension of maternity leave period. This will give nursing mothers time to breastfeed on demand and that will consequently motivate the practice of exclusive breastfeeding.
- iv. Based on the findings of the study, lack of support was identified as one of the major factors that hinder the practice of exclusive breastfeeding. Therefore, government in collaboration with health organizations should come with intervention on behaviour change programmes to support the practice of exclusive breastfeeding.

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