International Journal of Medicine & Health Research

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Open Access Scientific Publisher

Research Article

LACTATING MOTHERS' WEANING PRACTICES IN LAMINGO, PLATEAU STATE, NIGERIA

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Received July 03, 2015; Accepted July 13, 2015; Published August 14, 2015;

Cite This Article: Luret Albert, L., Mathilda Edmund, B., Anna Awukun, W., Joshua Difa, A., Lungfa Albert, L.(2015). Lactating Mothers' Weaning Practices in Lamingo, Plateau State, Nigeria. International Journal of Medicine & Health Research, 1(2). 1-8

ABSTRACT

Background: Weaning is the introduction of the first solid foods to infants and maintenance of breastfeeding by demand up to two years of age. The first months of infants' life are characterized by rapid growth and development and cultural, occupational and educational factors could influence these various weaning practices. This descriptive, cross-sectional, community-based study among 219 breastfeeding mothers, in Lamingo assessed weaning practices among them.

Methodology: The participants were selected using multistage sampling technique. Data was collected using pre-tested, semi- structured, interviewer-administered questionnaires and analysed using Epi-Info version 3.4.5 software.

Results*:* Most 104(47.0%), of the respondents had a good knowledge on weaning practices. One hundred and sixty seven (76.3%) of them introduced weaning foods at the age of 6 months. Majority; 87(39.7%) of the respondents gave their children "gwete, a local porridge made from hungry rice with "vegetables" as the first food. The knowledge of weaning practices was significantly influenced by the mothers' level of education ($p=0.0045$).

Conclusion: This study showed that most of the respondents had good knowledge on weaning practices, but were ignorant on what weaning meant. Therefore, it was recommended that mothers should be educated on the importance of weaning to the growth and development of the child.

KEY WORD: weaning practices, Lactating Mothers, Lamingo, Nigeria

INTRODUCTION

Weaning is defined as the transition of an infant from breastfeeding and commencement of nourishment with other foods.[1]Its practice varies among breastfeeding mothers. It could be gradual weaning (infant-led weaning), abrupt weaning (mother-led weaning) or partial weaning. [2]Abrupt weaning is the sudden stoppage of breastfeeding. It is usually mother-led and least desired and most difficult for both mother and the child. It is highly associated with

physical discomfort to both mother and child [3]Gradual weaning is a much slower process that can take weeks to months. It allows for the gradual introduction of weaning foods. It is best if it is gentle, patient, flexible, and respectful of the child's need [4]Partial weaning is an alternative to total weaning. One method of partial weaning is night weaning, which eliminating night time, is nursing from the time the child goes to sleep to a period of at least seven hours. [3]

Weaning can be commenced from six months as recommended by the World Health Organization due to the fact that the enzymes necessary to digest the complex structure of food are developed. Biting is an accomplishment that also becomes possible at about six months of age.

West African mothers usually breastfeed for twelve months. Many urban poor and rural women breastfeed for up to eighteen to twenty-four months. The first solid food and most popular weaning food is a thin cereal gruel that is called by different names in various parts of Nigeria.[5]These names include "*pap", "akamu","ogi", or "koko"* and is made from maize-"*zea mays",* millet-"*pennisetum americanum"* or guinea corn- "*sorghum species* [5]After the successful introduction of cereal gruel, other staple foods in the family menu are given to the child.

The effects on weaning could be on both the mother and the infant. To the infant, abrupt weaning can lead to a feeling of rejection, especially if co-sleeping was part of breastfeeding time.[6]There are also physical changes for the child which include decrease in the consistency and frequency of bowel movements [6]Early weaning increases the risk of asthma, eczema, allergies and obesity later in life [6].To the mother, weaning has both physical and emotional effects. Physically, weaning, especially mother-led, leads to very painful side effects and eventually mastitis, if not well treated.[6]Other physical effects include nausea, mood swings and headaches and are due to hormonal fluctuations. Gradual weaning can decrease the risk of developing these side effects. Emotionally, discontinuing breastfeeding relationship can trigger the feeling of depression in the mother.[6]This weaning induced depression is due to a decrease in the hormone prolactin, which though responsible for lactation is also responsible for feeling of calmness in the mother.

Proper weaning successfully ushers the baby into a time of nutritional independence from breastfeeding and ensures proper growth and development. Appropriate weaning takes into consideration caloric need, right timing, adequate food consistency, frequency and hygiene. If weaning is not properly done, failure to thrive can be a complication which can contribute to infant mortality and morbidity.

Predictors of weaning practices vary between and within countries. Urban and rural differences, age, breast problems, societal barriers, insufficient support from family, knowledge about good breastfeeding practices, mode of delivery, health system practices and community or cultural beliefs have all been found to influence breastfeeding and weaning. Unwillingness of the child to eat while exerting preference to drink rather than eating, allergic reactions and health problems with infants including vomiting, abdominal colic and diarrhoea may arise due to wrong feeding practices adopted by mothers.[7]

Research conducted in Hong Kong, reported that the main reason for early weaning practices among breastfeeding mothers was "returning to work". This study showed that 75% of all women of childbearing age were employed full time and 73.7% of breastfeeding mothers adopt abrupt weaning practices due to lack of support for breastfeeding at workplaces. [8]

A study in Mombasa district, Kenya showed that a common misconception among breastfeeding mothers is that early introduction of weaning foods to children increases the child's weight and health. Other contributory factors include lack of knowledge and support for breastfeeding mothers, inappropriate training of Medical personnel about weaning practices and adoption of Western beliefs such as immodesty of breastfeeding. These beliefs and misconceptions have all contributed to the decline of breastfeeding and adoption of early weaning practices.[9]Economic challenge is another problem affecting weaning practices. Most women in developing countries are not financially empowered and are usually not capable of affording good weaning foods for their babies. This makes them either delay weaning, or feed the child on foods with poor nutritional value, such as cereal based diets like pap, which have lower protein content and predisposes the child to malnutrition.

The practice of abrupt weaning, which is made effective by wrong cultural practices such as painting the nipple with gentian violet and complete separation by sending the child to stay with relatives is a practice that is problematic and should be discouraged. There are variations on how weaning is practiced. These are mainly due to differences in cultures and beliefs.

This study was conducted to assess the knowledge of weaning practices among lactating mothers in Lamingo, Jos, Plateau State, Nigeria. It also determined weaning practices among them, assessed factors responsible for various weaning practices among the respondents and obtained recommendations from them on improving weaning practices.

MATERIALS AND METHODS

Nigeria is a Federal Constitutional Republic comprising 36 States and its Federal Capital Territory, Abuja. It is located in West Africa and shares land borders with The Republic of Benin in the west, Chad and Cameroon in the east, and Niger in the north. With approximately 174 million inhabitants, Nigeria is the most populous country in Africa and seventh most populous country in the world. The country is inhabited by over 500 ethnic groups of which the largest are Hausa, Igbo and Yoruba.[10]

Plateau State is the twelfth largest State in Nigeria with an estimated population of 3,178,712[10]It is celebrated as "The Home of Peace and Tourism", roughly located in the centre of the country and was created in February 1976

with Jos as the capital [10]].Lamingo, a fast growing semi-rural community has a total population of 13,355 consisting of 2,938 women within the chid bearing age of 15 -49 years, and 534 children under the age of 1 year.

Permission was gotten from the Village Head after presenting the letter of introduction obtained from the Head of Department, Community Medicine, University of Jos containing the aims and objectives of the study. After introduction and proper explanation of the aims and objectives of the study, assurance of confidentiality of the information provided was given and written, informed consent was gotten from each respondent.

This was a descriptive, cross-sectional, community-based study conducted among 219 lactating mothers of children aged six to twenty-four months of age, in Lamingo. Those included in the study were married mothers aged 15-49 years of age who have resided in Lamingo for at least one year. The households were systematically selected and from every selected household, respondents who meet the inclusion criteria and gave their consent were recruited until the required sample size was obtained. Data was collected using pre-tested, semi-structured, interviewer-administered questionnaires which consisted of four sections; A-bio-data, B- knowledge of weaning practices among breastfeeding mothers' C- weaning practices among breastfeeding mothers, D- factors associated with weaning practices and E- Recommendations for weaning practices.

Data obtained was analysed using the statistical software, Epi info version 3.5.4.Quantitative and qualitative data obtained were analysed and represented using frequency tables. Quantitative data were represented using means and standard deviation. A total of 5 questions were asked to ascertain mother's knowledge on weaning practices. For each correct answer, a respondent was awarded a score of 1 point. The highest score was 5 points and the lowest was 0. The results were categorized as follows: 0-1 point as poor weaning knowledge, 2-3 points as fair weaning knowledge and a score of 4-5 points as good weaning knowledge.

Using the Chi-square test, the relationship between weaning knowledge grade and level of education was determined.

A confidence interval of 95% was used in this study and a p- value of ≤0.05 was considered statistically significant.

RESULTS

Table 1: Socio-demographic Characteristics of Lactating Mothers and their Children

Characteristics	Frequency n=219	Percentage (%)
Age(years)		
15-19	3	1.4
20-24	64	29.2
25-29	70	32.0
30-34	57	26.0
35-39	23	10.5
40-44	2	0.9
Ethnicity		
Jarawa	101	46.1
Afizere	81	37.0
Igbo	8	3.7
Mwagavul	8	3.7
Berom	8	3.7
Idoma	6	2.7
Yoruba	4	1.8
*Others	3	1.4
Marital status		
Married	212	96.8
Widowed	2	0.9
Separated	4	1.8
Single	1	0.5
Type of marriage		
Monogamy	215	98.2
Polygamy	4	1.8

Educational Status		
Secondary	162	74.0
Primary	26	11.9
Tertiary	24	11.0
**Others	7	3.2
Religion		
Christian	219	100
Islam	0	0
Atheist	0	0
Occupation		
Farmer	29	13.2
Petty Trader	43	19.6
Unemployed	57	26.0
Laborer	10	4.6
Business	42	19.2
Civil servants	18	8.2
***Others	20	9.1
Children's Age (months)		
6-10	80	36.5
11-15	122	55.7
16-20	17	7.8
21-24		
Sex		
Female	113	51.6
Male	106	48.4
Monthly income (Naira)		
1000≤	18	8.2
2000-4000	40	18.3
5000-6000	91	41.6
≤7000	70	32.0
Source of income		
Husband	162	73.9
Self	40	18.3
Children	1	0.5
**** Others	16	7.3

**Jukun, Fulani; ** No formal education, ***Tailor, Hairdresser, Caterer; ****Brothers, Uncle, grandparents.*

The age distribution of the respondents ranged from 15- 44 years of age with a mean age of 29±5 years. Majority; 70(32.0%) of the respondents were aged 25-29 years of age, 212(96.8%) were married and 215(98.2%) were from a monogamous family; with the highest proportion 162(73.9%) of the husbands being the main source of income. Afizere 81(37%) and Jarawa 101(46.1%) were the highest occurring ethnic groups and all; 219(100%) of the respondents were Christians. Most; 162(74%) of the respondents had attained secondary level of education, while 24(11%) attained tertiary level of education. Over half; 122(55.7%) of the children were in the age group 11-15 months with a mean age of 12 ±5 months of age. The highest proportion; 113(51.6%) of children were females, while the lowest 104 (48.4%) were males.

Table 2: Respondents' Knowledge on the Meaning of Weaning

Meaning of Weaning	Frequency	Percentage (%)
Process of giving the child first food after birth	5	2.3
Process of giving food to the child after stoppage of Breast Feeding	29	13.2
*Process of giving the child food other than BM	63	28.8
No idea	122	55.7
Total	219	100

**Correct Answer, BM-Breast Milk*

Majority; 122(55.7%) of the respondents were ignorant about the meaning of weaning, while 63(28.8%) correctly said weaning was "the process of giving the child food other than breast milk."

Table 3: Weaning Age of Respondents' Children

Weaning Age (months)	Frequency	Percentage (%)
1-3	15	6.8
4-6	167	76.3
7-9	33	15.1
10-12	4	1.8
Total	219	100

Majority; 167(76.3%) of the respondents introduced weaning foods to their infants from 4- 6 months of age, while 15(6.8%) and 33(15.1%) of the mothers introduced weaning foods from 1-3 months and 7-9 months of age, respectively.

Table 4: Weaning Practice Knowledge Grade of Respondents

Grade	Frequency	Percentage (%)
Poor	33	15.1
Fair	82	37.4
Good	104	47.5
Total	219	100

Majority; 100(46.1%) of the lactating mothers had a good knowledge grade on weaning practices, while the minority; 27(12.3%) had a poor knowledge grade.

The highest proportion; 13(54.2%) of the respondents with tertiary education had a high weaning knowledge grade. Respondents with primary education had the highest; 4(57.1%) proportion of respondents with poor weaning grade and the lowest proportion; 7(26.9%) of mothers with high weaning grade.

Table 5: Relationship between Weaning Practice Knowledge Grade and Level of Education

Weaning Knowledge Grade	Highest No formal Education	Level of Primary
Good	2(28.6)	7(26.9)
Fair	1(14.3)	15(57.7)
Poor	4(57.1)	4(15.4)
Total	7(3.2)	26(12.0)

Fischer's Exact=0.0045

Table 6: First Foods Given to Children by Mothers

First foods given	Frequency	Percentage (%)
Water	49	22.4
"Gwete"	87	39.7
Cow's milk	20	9.1
Infant formula	45	20.5
"Kunun gyeda"	18	8.2
Total	219	100

Majority; 87(39.7%) of the respondents gave their children "gwete", a local porridge made from hungry rice with vegetables" as the first food. A smaller proportion; 49 (22.4%) gave water as the first food, while 45(20.5%) gave infant formula as the first food. Twenty (9.1%) and 18(8.2%) gave cow's milk and "kunun gyeda", another local cereal made from groundnut flour.

Table 7: Recommendations on Improving Weaning Practices by Respondents

Recommendations	Frequency	Percentage (%)
Health education	4	1.8
Mothers should exclusively breastfeed their babies	2	0.9
Introduction of weaning education in the ANCs	2	0.9
Extension of maternity leave	1	0.4
No recommendations	210	95.9
Total	219	100

Majority; 210(95.9%) of the respondents had no recommendation, while a smaller proportion; 4(1.9%) of them suggested "health education on weaning practices." Two (0.9%) said weaning education should be introduced in the Antenatal Clinics (ANCs). "Extension of maternity leave" was suggested by one (0.4%) of the respondents.

DISCUSSION

Most of the respondents were aged 25 -29 years with a mean age of 29±5 years. This was similar to a study carried out in Sudan where majority of the respondents were between the ages of 20-29 years.[11]It was also similar to that reported in a study carried out in Ondo State, Nigeria among low income nursing mothers where 53% of the respondents were between the ages of 25-34 years with a mean age of 29±5 years.[12]Ninety four point nine percent of the respondents who participated in a study in Ayete, Oyo State in Nigeria were Yoruba, as opposed to this study in which 101(46.1%) of the respondents were Jarawa by tribe. This difference may be largely geographic. There was a great contrast in mothers' educational status when compared to a study carried out in Ibadan, Nigeria where majority (70%) had no formal education, while 22% had primary and secondary education and less than 10% had attained tertiary level of education.[13]This is opposed to this study where majority of the respondents had attained secondary level of education and this finding may be as a result of increased level of civilization in the study area.

From this study, majority of the respondents were ignorant on the meaning of weaning, while minority defined correctly, 'weaning as the process of giving child food other than breast milk'. Most of the respondents however, had adequate knowledge on the appropriate age of weaning which is at 6 months of age. Weaning therefore was a term most respondents weren't familiar with. On the contrary, in a study in Egypt, as high as 92.5% of the respondents defined weaning as cessation of breastfeeding with only 33.6% of respondents knowing that 6 months is the suitable age for initiating weaning. [14].Forty two point six percent did not know the appropriate age to start weaning. The major reason for this was the general belief by mothers in Egypt that weaning foods should be introduced to children as early as possible, as breast milk alone is not enough to meet the child's needs.

Most of the respondents weaned their children on locally prepared foods such as 'gwete', 'kunun gyeda' and cow's milk with 20% giving the child commercial infant formula. The source of the food was from the market or from their farmland. The reason for the preference for locally prepared food was advice by health workers and the belief that homemade foods have higher nutritional value.A study in South Africa showed that weaning foods given by most participants was locally prepared, mainly maize meal soft porridge.[15]A study comparable to this index study was carried out to assess the weaning foods in West Africa and

it showed that the general weaning foods were locally prepared foods [5]The major reason found in this study was financial constraint, as infant formula was more expensive. [5]

Findings from this study showed that majority of the respondents had no recommendations on improving weaning practices. This could largely depend on the fact that most were ignorant on what weaning is.

Introduction of health education on weaning practices in the ANCs was suggested, to provide adequate information on the benefits of appropriate weaning practices, weaning techniques and also various ways of dealing with problems associated with weaning. This was similar to a study carried out in Isoko North and South Local Government Areas in Delta State, Nigeria where it was found that most of the mothers inadequately fed their infants and so should be educated on appropriate weaning practices. [16]

Returning to work was a strong predictor of early weaning, 'Extension of maternity leave' was therefore suggested. This was similar to a study carried out in Hong Kong among breastfeeding mothers, where about 73.7% of the mothers cited return to work as the reason for early weaning. [17]

CONCLUSION

Findings from this study showed that majority of the respondents had no idea on what weaning was, though they had good knowledge on its practices. Certain factors like education had a positive influence on weaning practices. Inappropriate weaning practices can be a major contributory factor to malnutrition, especially protein energy malnutrition. Much care and attention should be given to infants' nutrition, especially during the weaning period to ensure good health status and a positive child's development.

ACKNOWLEDGEMENT

We are grateful to the following students who assisted with data collection.

Ogwuche, I.Muonanu, J and Adefemi, O.T.

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