

ASSESSMENT OF DIETARY DIVERSITY AND HYGIENE PRACTICES OF LACTATING MOTHERS ATTENDING IMMUNIZATION CLINIC AT UMARU SANDA GENERAL HOSPITAL BIDA, NIGER STATE NIGERIA

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Abstract

Dietary diversity is important for adequate nutrition and health. The intake of diversified foods is often advised to prevent the body from lacking important micronutrients. Hygiene practices plays a crucial role in the wellbeing and nutritional state of lactating mothers by decreasing infection and promoting good health and appetite. The aim of this study was to assess the dietary diversity and hygiene practices of the respondents. A cross-sectional study was conducted on 150 lactating mothers attending immunization at Umaru Sanda General Hospital Bida, Niger State. A well-structured, questionnaire was used to obtain information on socio-economic and demographic characteristics, dietary diversity and hygiene practices of the respondents. Data was analyzed using

Introduction

Nutritional requirements during lactation are greater than during pregnancy. If a mother is well nourished during pregnancy, she will have adequate fat and other nutrient reserves that can be used to compensate partially for her additional (Seid *et al.*, 2022). Mothers should be counseled about the need for an adequate diet in order to achieve optimal lactation and sustain it without depleting their own nutrient stores (Dearden *et al.*, 2021). Particular attention should be

descriptive statistics (frequencies and percentages) while Pearson's correlation coefficient was used to find association between educational level and hygiene practices. Result from the socio-economic and demographic characteristics revealed that majority (83.3%) of the respondents were Nupe. Respondents occupation showed that 34.0% were traders while 35.3% were full time house wives.. The result from dietary diversity indicated that 65.3% of the respondents consumed ≤ 3 food groups daily (low dietary diversity), 32.7% consumed 4 to 5 food groups (medium dietary diversity) and only 2% of the respondent consumed ≥ 6 food groups (high dietary diversity). The study for hygiene practices revealed that 66.0% wash their hands before and after breast feeding, 87.3% wash their hand after changing baby's diapers and 98.7% use safe and clean water at home. Correlation showed significant association between the educational status of lactating mothers and their hygiene practices. The study recommends women empowerment and nutritional enlightenment programs geared toward improved food choices.

Keywords: dietary diversity, hygiene practices, lactating mothers, Bida and Assessment.

Given to intakes of protein, calcium and vitamins as the quantity and quality of milk depends very much on the mother's diet since food absorbed by a nursing mother not only fulfills her own nutritional needs which are greater during the postnatal period, but also enables her to produce milk (Agyei *et al.*, 2021). Lactating mothers require increased caloric intake (approximately 500 additional calories per day) and a balanced diet rich in macronutrients (proteins, fats, carbohydrates) and micronutrients (vitamins and minerals). Key food groups include Fruits and vegetables, Whole grains, Protein sources such as legumes, fish, poultry, and dairy products. (Bitew *et al.*, 2021)

Dietary diversity (DD) is the variety of foods consumed over a specific period of time that will ensure an adequate intake of nutrients that can support good health, physical and mental development of individuals (Gitagia *et al.*, 2019). Dietary diversity (DD) is universally recognized as a key component of healthy diets. Evidence from a multicounty analysis suggests that household-level DD diversity is strongly associated with household per capital income, suggesting that DD could be a useful indicator of food security (Shumayla *et al.*, 2022). Food diversity is important for adequate nutrition and health. The intake of diversified foods is often advised to

prevent the body from lacking important vitamins, and minerals(Shrestha *et al.*,2021). Women are more likely to suffer from nutritional deficiency than men for several reasons, including their reproductive biology, low social status, poverty and lack of education in addition, socio-cultural traditions and disparities in household work patterns can also increase women's chance of being malnourished(Ochieng *et al.*,2017).

Personal hygiene is concerned with matters relating to health of an individual. It can also be said to be the keeping of oneself from disease and infection. (UNICEF 2020). Studies (Marinelli and Lawrence 2020) suggest that in order to ensure good and safe health of the mother and her baby, women should endeavor to take their bath at least twice daily, clean their vagina thoroughly with tepid water and keep their finger nails short so as not to harbor germs and dirt's. Global statistics have also shown that over 1.8 billion people use unimproved drinking water which consequently increases the risk of contracting diseases such as diarrhea, typhoid, dysentery, cholera and other water-borne diseases (WHO 2021). Unhygiene practices during lactation,increase the risk of contracting diseases such as diarrhea (Guja *et al.*, 2021).

Lactating women from developing countries are considered nutritionally vulnerable groups because this period places a high nutritional demand on the mother (Weldehaweria *et al.*, 2016). Inadequate maternal diet during this period will lead to poor secretion of nutrients in breast milk and this can have long term impact on the child's health. (Singh *et al.*, 2020). During the lactation period, mothers are at an increased risk of nutritional deficiencies due to improper dietary patterns, physiological changes, and various socio-demographic factors. Estimates have shown that over 73% of enteric disease and diarrheal disease burden is largely associated with poor access to hygiene facilities(Moro *et ai.*, 2020). The general objective of this study is to evaluate the dietary diversity and hygiene practices of lactating mothers attending immunization clinic at Umaru Sanda General Hospital, Bida Niger state

Specific Objectives of the Study

- i. To describe socio-economic & demographic characteristic of the respondent
- ii. To evaluate the dietary diversity (DD) scores of the respondent.
- iii. To assess hygiene practices of the respondent.
- iv. To find association between socio-economic status and hygiene practices of the respondents.

MATERIALS AND METHODS

Study Area/Location

This research was carried out at Umaru Sanda General Hospital Bida Niger State.

Study Design

The study design adopted was descriptive and cross sectional study

Target Population

The target population was lactating mothers attending immunization clinic at Umaru Sanda.General Hospital Bida Niger State

Informed Consent

Consent was obtained from the respondents after explaining the purpose of the research to them and information was kept official and confidential.

Method of Data Collection

A well-structured questionnaire with the following sections was administered

- i Socio Economic and Demographic characteristics .
- ii Hygiene practices
- iii Dietary Diversity Practices

Statistical Analysis

Data was analyzed using IBM, statistical package for the social science, (SPSS) software version 25.0. The data generated was analyzed using descriptive statistics such as frequency and percentages

RESULTS AND DISCUSSION

Table1: socio- economic and demographic characteristics of respondents

VARIABLES	Frequency (n=150)	PERCENT %
AGE OF RESPONDENTS		
18 – 20 YEARS	25	16.7
21 – 29 YEARS	46	30.7
40 YEARS ABOVE	34	22.7
ETHICAL GROUP		
NUPE	125	83.3
YORUBA	1	0.7
IGBO	3	2.0
OTHERS	21	14.0

VARIABLES	Frequency (n=150)	PERCENT %
RELIGION		
ISLAM	138	92.0
CHRISTIANITY	4	2.7
OTHERS	8	5.3
MARITAL STATUS		
SINGLE	1	0.7
MARRIED	145	96.7
DIVORCED	3	2.0
WIDOWED	1	0.7
TOTAL FAMILY INCOME		
N <20,000	40	26.7
N 20,000 – 50,000	41	27.3
N 51,000 – 100,000	36	24.0
N >100,000	33	22.0
MOTHERS OCCUPATION		
CIVIL SERVANT	24	16.0
FULL TIME HOUSE WIFE	53	35.3
FARMER	13	18.7
TRADER	51	34.0
OTHERS	9	6.0
MOTHERS EDU.. QUALIFICATION		
NONE	36	24.0
PRIMARY EDUCATION	26	17.3
SECONDARY EDUCATION	30	20.0
TERTIARY EDUCATION	58	38.7
AGE OF BREAST FEEDING		
21 MONTHS	.14	9.3
1 – 6 MONTHS	27	18.0
7 – 12 MONTHS	60	40.0
1 YEAR	49	32.7

Table 2: hygiene practice of respondents

Variables	Frequency (n=150)	Percent (%)
DO YOU USE SAFE AND CLEAN WATER AT HOME		
YES	148	98.0
NO	2	1.3
DO YOU PROPERLY CLEAN YOUR ENVIRONMENT		
YES	149	99.3
NO	1	0.7
BREAST WITH SALT TEPID WATER SOLUTION BEFORE AND AFTER BREAST FEEDING		

Variables	Frequency (n=150)	Percent (%)
YES	99	87.3
NO	51	12.7
DO YOU WASH YOUR HAND BEFORE AND AFTER BREAST FEEDING THE BABY'S DIAPERS		
YES	131	87.3
NO	19	12.7
DO YOU BATH AT LEAST TWICE A DAY		
YES	112	74.7
NO	38	25.3
DO YOU ADEQUATELY WASH YOUR VEG., FRUITS AND OTHER FOOD ITEMS BEFORE CONSUMPTION		
YES	91	60.7
NO	59	39.3
DO YOU COVER YOUR COOKED FOODS AGAINST RODENTS AND VECTORS		
YES	136	90.7
NO	14	9.3
DO YOU WASH YOUR COOKING UTENSILS BEFORE AND AFTER USE		
YES	145	96.7
NO	5	3.3
IS IT GOOD TO USE LATRINE AND NOT DEFECATE OPENLY		
YES	144	76.0
NO	6	4.0
DO YOU WASH YOUR HANDS AFTER DEFECATING		
YES	145	96.7
NO	5	3.3

Table 3: dietary diversity score

Variables	Frequency	Percentage
LOWEST DIETARY DIVERSITY (3 FOOD GROUPS)	98	65.3%
✓ CEREALS ✓ GREEN LEAFY VEGETABLES ✓ VITAMIN A RICH FRUITS		
MEDIUM DIETARY DIVERSITY (4 AND 5 FOOD GROUPS)	49	32.7%
✓ CEREALS ✓ GREEN LEAFY VEGETABLES ✓ VITAMIN A RICH FRUITS ✓ OIL		
HIGH DIETARY DIVERSITY (≥ 6 FOOD GROUPS)	3	2%

- ✓ CEREALS
- ✓ GREEN LEAFY VEGETABLES
- ✓ VITAMIN ARICH FRUIT
- ✓ OIL
- ✓ OTHER VEGETABLES
- ✓ FISH
- ✓ LEGUMES, NUT AND SEEDS

FAO (2021)

Table 4: Association between educational level and hygiene practices

Variable	Correl (r)	coeff P value
DO YOU USE SAFE AND CLEAN WATER AT HOME	0.02	0.75
DO YOU PROPERLY CLEAN YOUR ENVIRONMENT	0.01	0.8
DO YOU CLEAN YOUR BREAST WITH A CLEAN WATER SOLUTION BEFORE BREAST FEEDING	-0.56	0.00
DO YOU WASH YOUR HANDS BEFORE AND AFTER BREAST FEEDING	0.55	0.00
DO YOU WASH YOUR HANDS AFTER CHANGING BABY DIAPER	-0.29	0.00
DO YOU BATH AT LEAST TWICE DAILY	-0.49	0.00
DO YOU WASH YOUR FRUIT AND VEGETABLE	-0.54	0.00
DO YOU COVER YOUR COOKED FOODS AGAINST RODENTS AND VECTORS	-0.19	0.01
DO YOU WASH YOUR UTENSILS BEFORE AND AFTER USE	-0.17	0.03
IS IT GOOD TO USE LATRINE AND NOT DEFECATE OPENLY	-0.26	0.00
DO YOU WASH YOUR HANDS AFTER DEFECATING	-0.14	0.07

****CORRELATION IS SIGNIFICANT AT 0.05 LEVEL 2 TAILED**

DISCUSSION

The assessment of dietary diversity and hygiene practices among lactating mothers is crucial for understanding maternal and child health outcomes (Getacher *et al.*, 2020). Lactation is a critical period where nutritional needs are heightened, and proper hygiene practices are essential to prevent infections that could affect both the mother and infant. (Aserese *et al.*, 2020) Studies (Marinda *et al.*, 2020) have shown that many lactating mothers do not meet the recommended dietary diversity scores. This is similar to the findings of this study which shows that a significantly low percentage (2%) consume up to 6 food groups and 37.7% consume 4-5 five food groups daily, which can lead to deficiencies in essential nutrients necessary for both maternal health and breast milk quality. This is could be due to economic constraints limiting access to a variety of foods and cultural practices that may restrict certain

food types during lactation (Demilew *et al.*, 2020). In Nigeria, a country with diverse cultural practices and socioeconomic conditions, educational status plays a significant role in shaping dietary choices. Education enhances knowledge about nutrition, which is vital for lactating mothers. Mothers with higher educational attainment are more likely to understand the importance of a balanced diet that includes essential nutrients such as proteins, vitamins, and minerals necessary for breastfeeding (Maykondo *et al.*, 2022). Educated mothers are often more aware of dietary guidelines and recommendations from health organizations regarding breastfeeding and complementary feeding practices. This awareness can lead to better food choices that support both their health and that of their infants. (Gitagia *et al.*, 2019) Mothers with lower educational backgrounds may lack essential knowledge about nutrition during lactation (Ochieng *et al.*, 2017). This is in agreement with the findings of this study as 24% of the respondents had no form of education, 17.3% and 20.0% had primary and secondary education respectively. This gap may have resulted in low or inadequate dietary diversity that fails to meet the increased nutritional demands during breastfeeding. However, this finding is similar to the report of (Kang, *et al.*, 2019). Hygiene practices among lactating mothers are vital for ensuring the health of both mother and child. Poor hygiene can lead to infections or diseases that may compromise breastfeeding (Moro & Bertino 2020). Proper hygiene practices help prevent gastrointestinal infections in infants, which can arise from contaminated food or water. This is particularly important given the high rates of diarrheal diseases in Nigeria (WHO, 2021). In this study, 87.3% of the lactating mothers wash their hands before feeding their babies. Also, 96.7% of the respondents wash their hands after defecation. This positive response may be attributed to the health talks given during ante and postnatal clinics as hygiene practices has been a focus of many educational campaigns on different media platforms and at Healthcare facilities where Antenatal Care (ANC) visits are done. Mothers with adequate nutrition education are likely to demonstrate better attitude to key infant and young children feeding practices (Singh *et al.*, 2020). Education influences knowledge, attitudes, and behaviors regarding health and hygiene, which are essential for ensuring the well-being of both mothers and their children (Maykondo *et al.*, 2022). The educational status of lactating mothers plays a crucial role in determining their hygiene practices, particularly during the complementary feeding period for infants aged 6 to 23 months (Nisar *et al.*, 2022). Educated mothers are more likely to understand the importance of maintaining cleanliness during food preparation and feeding. They tend to be aware

of the risks associated with poor hygiene, such as food borne illnesses that can severely impact child health. This knowledge often translates into better practices, such as washing hands before handling food, using clean utensils, and ensuring that food is prepared in hygienic conditions (Teferi *et al.*, 2023). In this study, a statistically significant association was observed between educational status and hygiene practices (cleaning breast before breastfeeding, washing hand before breast feeding, washing hands after changing the baby's diapers and taking bath at least twice a day). This is similar to the findings of (Nisar *et al.*, 2022).

CONCLUSION

The socio economic and demographic characteristics of the respondents reveals that 16.7% of the breastfeeding mothers aged between 18-20 years while 22.7% aged 40 years and above. Educational studies shows that 38.7% of the respondents had tertiary education while 24.6% has No formal educational qualification.

Hygiene practices shows that 74.7% take bath at least twice daily while 25.3% do not. 66.0% wash hands before and after breast feeding while 87.3% of the respondents wash their hands after changing their babies' diapers while 12.7% do not.

Dietary Diversity scores showed that 65.3% of the respondents fall within the low dietary diversity score (consume ≤ 3 food groups), 32.7% fall within medium dietary diversity (consume 4-5 food groups) while only 2% fall within high dietary diversity score (consume ≥ 6 food groups)

The association between education level and hygiene practices shows significant relationship ($r=0.55$, $p=0.00$) between washing of hands before and after breastfeeding.

RECOMMENDATION

The study recommends women empowerment and nutritional enlightenment programs geared toward improved food choices.

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