



PERSPECTIVES OF NURSING MOTHERS IN IBADAN MARKETS REGARDING MANAGEMENT OF CHILDHOOD DIARRHOEA: A QUALITATIVE STUDY

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ABSTRACT:

Introduction: Diarrhoea is a gastrointestinal disorder characterised by the passage of three or more loose or liquid stools per day or more frequently than a normal individual should have. It can be short-term (acute) or long-term (chronic), varying from mild to severe.

Aim: The study aimed to explore the perspectives of nursing mothers in Ibadan North East local government markets regarding childhood diarrhoea management.

Method: A qualitative study was conducted among mothers of children between 0-59 months at Ibadan, precisely Ibadan Northeast Local Government. The study was conducted in selected Ibadan North East Local Government markets. The selection of these markets for the study was based on their high population of women with children and the moderate commercial activities. A purposive sampling technique was used to select 29 nursing mothers who were interviewed until data saturation was reached. Data was analysed using the QSR NVIVO 12 software program. Verbatim transcription was conducted while listening to the recording. The thematic analysis method was used for data analysis.

Results: This study revealed that a significant diarrhoea management pattern is using herbal mixtures and several concoctions. The primary determinant factor for this management is the strong cultural belief of the Yoruba in this herbal mixture, and Yorubas were the most populous in this research setting. Subthemes that emerged include management options and the mother's level of knowledge, traditional management of different types of childhood diarrhoea and actions taken during managing childhood diarrhoea.

Conclusion: This study shows that the majority of nursing mothers in Ibadan markets have a wrong perspective of childhood diarrhoea management, and this could be linked to their age, culture, education, and financial capability. Hence there need for further research on Intervention studies to identify bad behavioral practices performed by those Nursing mother and in the market and to render proper health Education on those practices.

KEYWORDS: Diarrhoea, Nursing mothers, Children, Management.



INTRODUCTION

Globally, diarrhoea is a leading killer disease in children, resulting in 9% of all deaths among children less than five years of age worldwide (Ogugua & Ciejina, 2021). In African countries, most especially Nigeria, diarrhoea still remains one of the most common causes of gastroenteritis in both children and adults. In developing countries, most especially where safe drinking water and/or adequate hygiene are not available, diarrhoea has remained, in recent times, the most common cause of infant mortality. Diarrhoea is the second most common cause of infants worldwide (World Health Organization, WHO, 2018).

A child's nutritional status is affected by the diarrheal disease, with associated health and socioeconomic consequences; 25 percent of stunting in children under the age of five could be due to five or diarrhoea episodes (Benamba, 2019). The majority of deaths from diarrhoea are among children under five years of age living in low and middle-income countries. Early and correct identification of diseases and prompt initiation of management play a crucial role in reducing diarrhoea-related mortality. Mothers play vital roles in health promotion, disease prevention and patient care (Dodicho, 2016).

According to the World Health Organization (WHO), diarrhoea is the passage of three or more loose or liquid stools per day or more frequently than a normal individual should have (WHO, 2018). Diarrhoea is caused by the faecal-oral passage of a pathogen (e.g. *Salmonella*, *E. coli*, *Shigella*, etc.) through contaminated food or water from the stool of one infected person to the mouth of a new host. Various kinds of bacteria, viruses and parasitic organisms are responsible for the cause of diarrhoea disease. Major causes of diarrhoea are bacterial infections like *Campylobacter*, *Salmonella*, *Shigella* and *Escherichia coli*. Sometimes, diarrhoea is also caused by viral infections. These are Rotavirus, Cytomegalovirus, Norwalk, Hepatitis and Herpes simplex. Some food intolerances and intestinal parasites cause diarrhoea, mostly protozoa like *Cryptosporidium Parayum*, *Giardia lamblia*, and *Entamoeba histolytica*, among others.

Factors responsible for diarrhoea include poor hygiene practices, unsafe human waste disposal, poor sanitation, and consuming contaminated drinking water and food, failure to breastfeed for the first six months of life and continuing to breast-feed until the child is at least one year, using unsterilised infant's feeding bottles, storing cooked food at room temperature, drinking water that is contaminated with faecal material, failure to wash hands before handling food after defecating and poor sewage disposal. Clinical manifestations of childhood diarrhoea include watery stool, weakness/fatigue, abdominal pain, swelling (bloating), increased thirst, sunken eye, loss of appetite, fever, bloody stool, weight loss, loss of body fluids (dehydration), dizziness, and incontinence. These cause malnutrition, delayed physical development, early childhood mortality, and loss of water and essential minerals (Dodicho, 2016). The most severe threat of diarrhoea is dehydration. During diarrhoea episodes, fluids and electrolytes (sodium, chloride, potassium, and bicarbonate) are lost through liquid stool, vomit, sweat, urine, and breathing. When these nutrients are not replaced, consistent dehydration sets in. There is early dehydration, which does not exhibit signs or symptoms, and moderate dehydration, which involves thirst, restlessness, decreased skin elasticity and sunken eyes. Severe dehydration results in shocks, altered consciousness, pale skin and low blood pressure. Studies have shown that bacterial agents are essential causes of infantile diarrhoea in many developing countries. Prolonged diarrhoea persisting for more than two days may indicate a more severe problem and pose the risk of dehydration (Katiribe et al., 2018).



Statement of Problem

In some continents, the diarrhoea-related mortality rate declined around 2010-2015; however, there is still an increase in some African regions like the Central African Republic, Gabon, Ivory Coast, Zimbabwe and Nigeria. The infant and childhood mortality rates in Nigeria are 69 and 128 per 1,000 live birth count, which puts Nigeria among the highest globally (WHO, 2018; Fasasi & Jegede, 2021). It has been demonstrated in previous studies that diarrhoea infection is more severe in younger children, and the occurrence is highest in the six months following childbirth (Owoseni et al, 2021).

Research has shown that among urban dwellers, there have been some indications of irrational, unprescribed use of antibiotics, herbs, and concoctions during diarrhoea episodes. Also, studies carried out in part of rural communities, slums, and markets across the state have established that many mothers are ignorant of best practices options in managing diarrhoea, which does not reflect in the maternal management of diarrhoea at the household level, community and individual level (Tobin, et al., 2019).

According to Fasasi and Jegede (2020) and Mwambete and Joseph (2015), traditional items used in the management of diarrhoea like guava (*Myrtaceae Psidium guagava*), locally known as *Mpera*, other local means such as fruits like *Mangifera indica*, *Annona senegalensis*, *Anacardium accidental*, *Punica granatum*, *Solanuincanium*, *Cajanus cajani* and *Tamarindus indica*, combination of wheat flour with mixture of water and ash and green beads were spoken as effective means of alleviating diarrhoea. Some of these leaves were boiled.

Furthermore, with various health education/programs, the reduction/minimisation of childhood diarrhoea was not successful because the programs are ethnically unsuitable. They are initiated without proper knowledge of the problems in the target community. (Fasasi & Jegede, 2020). However, there appears to be limited research on knowledge and perception of feeding practices during and after episodes of childhood diarrhoea. It was revealed that mothers in the Ibadan metropolis have low knowledge of feeding patterns and food prescriptions which have cultural origins during and after diarrhoea episodes. This is because of misconceptions about feeding methods and choice of feeds due to socio-cultural interaction. It is necessary to explore feeding styles, food choices and habits during diarrhoea episodes. Therefore, this study aims to investigate cultural norms and abuses in the traditional management of childhood diarrhoea.

Research Objectives

The general aim of the study is to explore the perspectives of nursing mothers in Ibadan North East local government markets regarding childhood diarrhoea management. The specific objectives are:

1. To identify the traditional herbs available to mothers in managing childhood diarrhoea;
2. To explore the traditional methods of managing different types of childhood diarrhoea; and
3. To examine the perception of mothers on feeding patterns, food prescriptions exhibited during the period of childhood diarrhoea management and certain cultural beliefs about diarrhoea.



CONCEPTUAL FRAMEWORK UNDERPINNING THE RESEARCH WORK

Mosley-Chen Conceptual Framework.

The Mosley and Chen conceptual framework is a model used to understand the factors influencing diarrhoea management. The framework was originally developed for child survival but has been adapted to various public health issues, including diarrhoea management. (Mosley & Chen, 1984).

It consists of four components which include:

S/N	Components	Variables
1	Predisposing factors	Demographic characteristics, socioeconomic status, cultural beliefs and practices
2	Enabling factors	Access to health care services, availability of resources, social support networks
3	Reinforcing factors	Healthcare provider-patient relationship, community and family support, media and health promotion campaign
4	Behavioural factors	Knowledge and awareness of diarrhoea management, attitudes and beliefs about diarrhoea treatment, skills and self-efficacy in managing diarrhoea.

This framework reveals different factors associated with diarrhoea management and can guide the development of interventions and programs aimed at diarrhoea treatment and prevention (Mosley & Chen, 1984).

METHODOLOGY

Research Setting

The study was conducted in selected Ibadan North East Local Government markets. Ibadan is the capital and most populous city of Oyo state, Nigeria. It is the third largest city by population after Lagos and Kano, with a population of 3,649,000 as of 2021 and over 6 million people within its metropolitan area. The economic activities of Ibadan include agriculture, commerce, handicrafts, manufacturing and service industries. Ibadan North East Local Government area is located in Idi Ape, Iwo Road, Ibadan, and comprises districts of Orita Bashorun, Iyaganku, GRA, Iwo Road, Total Garden and Monatan. This local government was created out of the defunct Ibadan Municipal Government in 1991 and has common boundaries with Ona-Ara, Ibadan South East, and Egbeda local government areas. It is subdivided into 12 functioning wards headed by 12 elected councillors.

The study used markets within this local government, such as Oje, Bashorun, Agodi, Amuda, Iwo Road, Academy, and Monatan. These markets were selected for the study based on their high population of women with children, the moderate commercial activities facilitating ample opportunities for data collection through interactions, and the fact that no study has been conducted in these settings.



Research Design

A qualitative study was conducted among mothers of children between 0 and 59 months at the Ibadan, specifically the Ibadan Northeast local government.

Study Population

All nursing mothers with children within 0-59 months and are traders in the selected markets in Ibadan Northeast Local Government were recruited for this study. Traders in these markets do business with their young children, especially those under five.

Inclusion Criteria

- Traders in the selected markets
- Nursing mothers with children between 0- and 59 months old were selected.

Exclusion Criteria

- Nursing mothers whose children are not between 0- 59 months' old

Sample Size Determination

Twenty-nine nursing mothers were selected based on the inclusion criteria.

Sampling Technique

A purposive sampling technique was used to select 29 nursing mothers who were interviewed until data saturation was reached.

Research Instrument

Qualitative data was collected using a crucial informant interview guide. Questions were asked in Yoruba, then transcribed and recorded in the interviewer template before being analysed.

Method of Data Collection

Three interviewers with bachelor's degrees conducted the interviews in collaboration with the researcher. The principal investigator trained these interviewers before the data collection. All the necessary information about the study was provided to all participants. After that, they were encouraged to sign the written consent form. Demographic data was collected with a self-designed demographic data sheet. The interviews were conducted separately in a quiet area in the market.

Method of Data Analysis

Data were analysed using the QSR NVIVO 12 software programme. Verbatim transcription was conducted while listening to the recording. The thematic analysis method was used for data analysis. This method has six phases: familiarising with the data (this is the first stage of thematic analysis and it involves taking a broad look at the data and examining it as a whole), generating initial code (it involves methodically coding the data's notable characteristics and applying labels that explains what the data entails), searching for themes (this involves compiling several codes into a theme), reviewing themes (this is to confirm that the themes



generated appropriately and accurately represent the data), defining and naming the themes (this involves giving names and definition to each theme) and producing the report (this consists in putting the findings into writing). (Braun & Clarke, 2006). The consolidated criteria for reporting qualitative research guidelines (COREQ) were adhered to in the reporting of this study.

RESULTS/FINDINGS

Socio-Demographic Characteristics of Respondents

Twenty-nine respondents participated in this study. The majority of the respondents (27.6%) were between the ages of 30 and 34. Most (72.4%) were traders, the majority (86.2%) were from Yoruba, almost half (44.8%) had secondary education, and the majority were Christians (58.6%). The majority (31.0%) had two children. A few of the respondents (6.9%) earned #30,000-39,999 as average monthly income, used a pit latrine (6.9%) and used well water (3.4%).

Table 1: Sociodemographic Data

Variables	Frequency (n)	Percentage (%)
Age		
20-29	3	10.3
25-29	6	20.7
30-34	8	27.6
35-39	7	24.1
40-44	4	13.8
45-49	1	3.4
Occupation		
Artisan	2	6.9
Traders	21	72.4
Professionals	4	13.8
Others	1	3.4
Students	1	3.4
Tribe		
Yoruba	25	86.2
Igbo	2	6.9
Hausa	1	3.4
Other's	1	3.4
Educational Status		
No school	2	6.9
Basic School	3	10.3
Secondary school	13	44.8
Vocational	1	3.4
Tertiary school	10	34.5
Religion		
Christian	17	58.6
Muslim	11	37.9



Others	1	3.4
Parity		
1	8	27.6
2	9	31
3	7	24.1
4	5	17.2
Average Monthly Income		
<10,000	13	44.8
10,000 - 19,999	9	31.0
20,000 - 29,999	3	10.3
30,000 - 39,999	2	6.9
40,000 and above	2	6.9
Father's Education		
No school	1	3.4
Basic School	1	3.4
Secondary school	10	34.5
Vocational	1	3.4
Tertiary school	16	55.2
Toilet Disposal		
Water closet	18	62.1
Bowl Latrine	5	17.2
Short put	3	10.3
Pit	2	6.9
Other's	1	3.4
Type of water use		
Packaged sachet water	16	55.2
Pipe borne water	7	24.2
Well water	4	13.7
Boiled water	1	3.4
Rain water	1	3.4

Themes and Subthemes

Three major themes emerged: traditional management of different childhood diarrhoea, perception of mothers on feeding patterns, food prescriptions taken during the period, childhood diarrhoea management, and cultural norms and abuses associated with diarrhoea. These themes were further elaborated into various sub-themes:

Table 2: Themes and Subthemes

Themes	Subthemes
Management options available and mothers' level of knowledge	<ul style="list-style-type: none"> Management options available in the treatment of diarrhoea Level of knowledge of mothers on those management options



Traditional management of different types of childhood diarrhoea	<ul style="list-style-type: none"> ● Management with herbal concoction ● Herbal plant management options
Actions taken during management of childhood diarrhoea	<ul style="list-style-type: none"> ● Reduction of proteinous foods ● Avoidance of beverages and vegetables ● Continuous breastfeeding ● Use of drugs

Theme 1: Traditional Herbs Options Available in the Management of Childhood Diarrhoea

Mothers in this study listed different diarrhoea management options, such as the use of herbs and orthodox medicine.

"Management options available are OseEyin, Black soap with Eru, also Egunmolemoni then ORS is also used." "Management options include herbs, Egboigi, Agbo jedi, Baby rex, ORS."

"lotions, herbs, homemade fluids. Also, herbs like Tapa, AgboAkogun"

"Management options include Herbs (Agbo jedi, Agbo Tapa), Anti-diarrhea drug, Antibiotics, (Flaggy), ORS."

"Different herbs are used to treat diarrhoea (Igbearunsun, IgbeOrinrin, gburuu, eyin, tapa), Agbo jedi, Cafura with menthol. All these are used every day. But if it is teething, one can use ORS, salt sugar solution, and antibiotic drug but no use of zinc." "Management options, Tutu, Lapalapa pupa, Efinrin, salt sugar solution, ORS. I don't know anything about Zinc."

"Normally, I always give my child Agbo jedi, Agbo tapa every day. I believe in concoction because that is what I was raised with. I use herbs like Agboile, Tutu, Lapalapa pupa, Efinrin with others."

Theme 2: Traditional Managements of Different Types of Childhood Diarrhoea

Some respondents identified several types of 'faeces' and as a result, prefer the use of 'herbs' such as 'Agbo' to 'drugs' in the treatment of frequent 'stooling'.

"These are kinds of stool we have. If my child is teething, I give my child egunilele called (Daguro). If it is a male child, he will use egunilele with also eru alasan mesan. We pound it and then use soap (Black soap) ose abuwe after pound. After pounding it, we put it inside the container. Then, we use it to bathe the child. After that, we bathe with it every day."

Igbe Arunsu (Purging) it means defecating it and, at the same time, pain. One can use two things like ororomalu (Spleen of a cow with dry pepper). Water of the cow spleen with Ataare, then you miss it for the child to use or use efunle or white colour (Lilo) then you grind it then you put it inside the pap for the child to drink."

"I use local herbs concoction, Oseeyin (Black soap with Eru (inside herbs). I use Egunmolemoni mole. Then, I will pound it at the passage or from the room."



"I use herbs like Egboigi and Agbo-jedi. I give lotions, herbs, and homemade fluids to my baby. I give my child different herbs, like Agbo Akogun, and Agbo tapa, every day in order to prevent defecation or diarrhoea.

"Normally, I always give my child Agbo jedi, Agbo tapa every day. I believe in concoction because that is what I was raised with. I use herbs like Agboile, Tutu, lapalapa pupa, Efinrin with others." "faeces are of different types... One can use lapalapa pupa to treat a child with igbeArunsun and Orinrin; one can use Ago jedi to cure it. Tapa, Cafura and menthol can be used to cure igbeorinrin.

Theme 3: Perception on Feeding Pattern during the Period of Childhood Diarrhoea Management

In this study, some mothers skip proteinous foods while some reduce their intake of certain fruits and vegetables to avoid purging. Some mothers use homemade fluids to supplement the herbs that were given. Some mothers identified breastfeeding and the use of some medications.

"During that period, I tried to avoid giving my baby some foods like Ewa, Moinmoin, and sweets; likewise, I am the mother because this kind of food affects the stomach's alimentary canal and digestion."

Another respondent says, "I use Cafura with Alubosa with Ayu every day for my child, and it is beneficial. I avoid the intake of tea, oranges, beans, and vegetables."

Another mother says: *"During this period, I stop breastfeeding my child continuously, I increase my water intake, I stop giving my child beans, and I minimise the rice intake during the period."*

"I use Bonababe, Titolin. Also, I give my child Flaggy with the ORS, then breastfeed my child more. I continue with all the food I eat."

"Also, during that time, I reduce the intake of some foods like oranges and beans; I take Pap with breast milk".

Culture and Beliefs that Are Associated with Diarrhoea

Mothers believe that there are various types of diarrhoea, like *igbe arunsun* that come from stomach upset. *Igbe Orinrin*, faeces that are watery and frequent; *igbe gburu* (faeces in large quantity); *Igbe eyin* (faeces that occur when the child is about to bring out teeth), *igbe tapa* (the faeces is coming out but within a moment is gone and back again). From one of the respondents

"Different herbs to treat (Igbearunsun, IgbeOrinrin, gburuu, eyin, tapa), Agbo jedi, Cafura with menthol. All these are used every day. But if it is teething, one can use ORS, salt sugar solution, or Antibiotic drug but not use Zinc. Management option includes, like Agboile, Tutu, Lapalapa pupa, Efinrin, salt sugar solution, ORS. I don't know anything about Zinc.



DISCUSSION

The primary aim of this study was to determine patterns and determinant factors affecting the choice of childhood diarrhoea management among nursing mothers in Ibadan North east local governments. This study revealed that a significant diarrhoea management pattern is using herbal mixtures and several concoctions. The primary determinant factor for this management is the strong cultural belief of the Yoruba in this herbal mixture, and Yoruba were the most populous in this research setting.

Theme 1

In this study, the nursing mothers know there are different types of diarrhoea and management options, but the primary management of diarrhoea is traditional methods using the herbal mixture. The use of drugs and ORS is at a minimal level. This could be due to their level of education and financial capability, as participants in this study are market women whose means of livelihood is from the proceeds of their sales. The mothers have poor management and knowledge of diarrhoea. This is similar to a study by Terefe et al. (2020) where 158(57.2%) of the respondents preferred treating the child personally at home while 46(16.7%) preferred traditional medicine treatment. Only 74(26.8%) of caregivers preferred treatment in a health facility. Respondents were asked to identify ways in which they managed diarrhoea at home; the majority of respondents (60.8%) used herbal medicines to treat diarrhoea at home, followed by fluids like soup (32.2%) and drugs (7%). This is also in line with the study conducted by Asakitipi (2010), which revealed that Ibadan Metropolis uses herbs in treating diarrhoea, and the usage of herbs is irrational; he also discovered from the study that mothers know different types of diarrhoea, which can be cured with different herbs.

Theme 2

In this study, there is an herbal mixture and concoction available to the child for every kind of diarrhoea. The traditional management of diarrhoea is highly profound, possibly due to the cultural belief highly upheld in the research setting. This is supported by Weber's social theory, which states that all human actions, or social actions, are informed by the unique experiences, desires and contexts that every human interacts with. The result of this study is somewhat different from the result of the study by Onasoga et al. (2019), where 73.3% use antidiarrhoeal drugs, 89.3% use ORS, 66.0% use antibiotics and only 41.3% use native medicine. This is also in line with the study by Sarmiento et al. (2016) where traditional medicine is the first line of treatment for diarrhoea.

Theme 3

In this study, most of the actions taken by the mothers are those that are detrimental to the child's health, such as refusing to give vegetables, proteinous food, and fruits. Only some give medications and breastfeeding. This is consistent with the study of Fasasi and Jegede (2021) where findings revealed food prescriptions with cultural origins. There were food restrictions as some food items were considered harmful to a child with diarrhoea. Most of the foods listed were those needed for recovery from the illness and to enhance the child's healthy growth. These include protein food, sugary food, oily food and leafy vegetables. A study by Imran et al. (2019) on mothers' perceptions and attitudes towards dietary approaches in managing childhood diarrhoea revealed that many dietary foods, fruits and herbs are used in treating diarrhoea.



IMPLICATION TO RESEARCH AND PRACTICE

Health education should be organised for these women, including lectures on the causes, management, and prevention of diarrhoea. The use of herbs and concoctions should be discouraged by giving out free drugs and reducing fees in health care facilities.

CONCLUSION

The nursing mothers in this study have poor management of diarrhoea among their children. This could be due to their age, culture, education and financial capability.

Future Research: Future research on cultural beliefs about the management of diarrhea.

Author's Contributions:

Conceptualization of the study: MOA

Data Analysis: MOA, GOA

Compiling first draft: MOA, GOA, OOO, MOO

Critical Revision: MOA, GOA, OOO, MOO

Final Approval of Manuscript: MOA, GAO, OOO, MOO

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Ethical Approval: Ethical approval was sought from the Oyo State Ministry of Health ethical review committee. An introductory letter was collected from the Institute of Child Health College of Medicine University of Ibadan. Respondents were informed about the Confidentiality of their information and the anonymity of their identities. The voluntary participation of the respondent was taken into consideration. This study was conducted without any physical harm to the participants as it does not involve any invasive procedure. Respondents were informed about their freedom to withdraw from the study at any point without any punitive measure taken against them. Respondents who opted to participate were each allowed to decide whether to conduct the face-to-face interviews or not. A consent form was provided and signed by the respondents before their participation. After the collection of data, the electronic data was secured with a password and the hard copies were kept in a safe to ensure the confidentiality of the respondent's information.



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