# KNOWLEDGE, PERCEPTION AND HEALTH-SEEKING BEHAVIOUR RELATING TO CHILDHOOD DIARRHOEA AMONG MOTHERS OF UNDER-FIVE CHILDREN IN ENI-OSA COMMUNITY IBADAN, OYO STATE, NIGERIA.

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## ABSTRACT

Concurrent field work experiences have revealed that childhood diarrhoea constitute a major public health concern in Eni-Osa. Mothers of under-five in this community have pivotal roles to play in the prevention and management of childhood diarrhoea. Childhood diarrhoea is one of the leading causes of death among under-five, appropriate preventive practices including seeking for health care are rarely taken by mothers. However, evidenced based information on diarrhoea related health seeking behaviour as well as the associated knowledge and perception have not been fully investigated. This study was therefore, designed to investigate the knowledge, perception and the health-seeking behaviour relating to childhood diarrhoea among mothers of under-fives in Eni-Osa.

A descriptive cross-sectional design was adopted and a four-stage sampling technique was used to select 397 mothers of under-five children. A validated semi-structured- interviewer administered questionnaire, was used for data collection. The instrument included questions on the following: socio-demographic characteristics; respondents living condition; knowledge of diarrhoea; perception of diarrhoea; experiences of diarrhoea, health-seeking behaviour relating to childhood diarrhoea; and the treatment pathways relating to childhood diarrhoea. Respondents' knowledge and perception were measured using 44-and-12 points scales respectively. Knowledge scores of <22, 22-< 33.0 and >33.0 points were rated as poor, fair and good respectively. Perception scores of < 6 points indicates 'risky/Unfavourable perception' while scores of >6 points indicated 'favourable/Non-risky perception' Data were analysed using descriptive statistics, T-test, F-test and Chi-square test with level of significance set at 0.05.

Respondents' mean age was 28.7 ± 5.8 years; slightly over half of them (50.9%) were Christians, 46.6% were Muslims and 88.9% of the respondents were Yoruba. Respondents mean knowledge score was 30.5 ± 8.0, with 49.0% having fair knowledge; 30.0% had good knowledge while 21.0% had poor knowledge. Perception of diarrhoea was found to be favourable (6.5 ± 2.0). The perception 92.2% mothers relating to the seriousness of diarrhoea was in line with the biomedical world view. Respondents who perceived their under-five children to be vulnerable to diarrhoea constituted 53.4%. The prevalence of diarrhoea among under-five children was 64.9%. Majority (76.1%) of respondent was aware of SSS, but only 29.0% was knowledgeable about the steps for preparing it.

Oral Rehydration Solution or Salt Sugar Solution (54.1%) constituted the most common first aid care for childhood diarrhoea among mothers. The treatment pathways adopted by respondents can be differentiated into two typologies- formal facility-based health care (70.5%) and use of informal health care (29.5%) facilities. Some (20.8%) respondents used antibiotics.

There were gaps in respondent's knowledge of diarrhoea and some inappropriate perceptions and management practices related to childhood diarrhoea were noted. Training, clinic-based patient education and community based public enlightenment strategies are needed to address the identified concerns.

**Word count:** 443

**Keywords:** Mothers of under-five; Diarrhoea prevalence; treatment-seeking behaviour; Diarrhoea-related perception; Diarrhoea- related knowledge.

## DEDICATION

This research work is dedicated to Almighty God who is my strength and my fortress. All glory be to Him.

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## CERTIFICATION

I hereby certify that this study was carried out by Jennifer Amarachi ADIELE in the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria under my supervision.



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| | | |
|---|---|---|
| NPC | - | National Population Commission |
| HSB | - | Health seeking behaviour |
| IDS | - | Institute of development studies |
| IMCI | - | Integrated management of childhood illnesses |
| U5MR | - | Under-five mortality rate |
| IVAC | - | International vaccine access centre |
| NBS | - | National Bureau of Statistic |
| MICS | - | Multiple index cluster survey |
| ORS | - | Oral rehydration solution |
| SSS | - | Salt sugar solution |
| SPSS | - | Statistical Package for Social Sciences |
| UNICEF | - | United Nations International Children's Emergency Fund |
| WHO | - | World Health Organization |

## OPERATIONAL DEFINITION OF TERMS

**Under: five children:** Children aged 0 and 59 months.

**Mother:** Within the context of this study it refers to biological mother of under-five children.

**Childhood diarrhoea**: Diarrhoea among children

**Antecedent factors:** These are predisposing, enabling and reinforcing factors which influences behaviours.

**Health-seeking behavior:** Health seeking behaviour refers to an action or any set of actions taken by an individual in response to a health problem or illness state in order to find an appropriate remedy, **(**Institute of Development Studies IDS, 2005).

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

Children constitute the most vulnerable age group to several health conditions in any country. Diarrhoea is one of the major causes of childhood morbidity and mortality worldwide, (UNICEF&WHO 2015). Child mortality rate is widely used as a demographic measure and an important indicator of the level of welfare or development in countries (National Population Commission, 2013).

Diarrhoea has adverse effects on health directly or indirectly. (Mattew, Amodu, Sani and Solomon,2009; Mokomane, Kasvosve, Emilia de Melo, et al., 2015). The adverse health effects of diarrhoea include growth shortfalls (trouble growing), diminished cognitive capacity, delayed achievement at school (Mokomane, Kasvosve, Emilia de Melo, et al., 2015) and various kinds of morbidity- states and death.

Diarrhoea, a major public health problem in most developing countries of the world, including Nigeria, is often associated with overcrowded settlement, poor access to clean water and poor or inadequate sanitation (UNICEF, 2009). It is estimated that there are about two billion cases of diarrhoea yearly worldwide; of these 1.9 million children younger than 5 years of age died as a result of it each year mostly in developing countries (WHO & UNICEF, 2012); these countries include Nigeria. In fact, diarrhoea is ranked as one of the major killers of children in Nigeria (UNICEF, 2018).

A study conducted in 2012 shows that of all child deaths relating to diarrhoea, 78% occurred in Africa and South-East Asian, (Farthing, 2012). In 2016, it was recorded that the proportion of under-five death due to childhood diarrhoea was estimated to be 10% in Nigeria (UNICEF, 2018). The UNICEF also reported that about 74,785 children in Nigeria died in the year 2016 due childhood diarrhoea (UNICEF, 2018). The development and growth of infants and young children depends not only on the availability of food and health services but also on the

pattern of health-seeking behaviours of their caregivers (UNICEF, 2015). The caregivers include biological mothers and others who directly provide one form of care or the other at the family level. The Health Seeking Behaviour (HSB) of care givers refers to any set of actions taken by an individual in response to a health problem or ill-state in order to find an appropriate remedy, **(**Institute of Development Studies - IDS, 2005).

In Low and Middle-Income Countries (LMICs), gastrointestinal infections in children are often associated with poor hygienic conditions (Jagai, Smith, Schmid, *et al., 2014*). Poor sanitation, lack of access to clean water supply and inadequate personal hygiene are said to be responsible for 90% of diarrhoeal occurrence (Gebru, Taha & Kassahun 2014). Inadequate drinking water, poor sanitation and hygiene are important risk factors that drive diarrhoea diseases in low-income settings (Prüss-Ustün, Bartram, Clasen, *et al*. 2014; Sima, & Elimelech 2013); this is in addition to socio-economic and age-related risk factors (Sima, & Elimelech 2013). Inequality still exists in rural and peri-urban areas. It is reported that 40% of the urban population access improved sanitation in sub-Saharan countries; while only 23 % of people in rural areas have access to improved sanitation and portable drinking water (WHO, UNICEF 2015).

In Nigeria many people do not seek any care (Olakunle et al., 2012). Certain factors have however been identified to influence health-seeking behaviours; these include attitude of health care workers, perception of illness, poor geographic access to health services, severity of illness, poor quality of care, as well as financial and non- financial barriers (Ellis, Doumbia, & Traoré et al., 2013). The WHO and UNICEF recognize the importance of seeking for early care and this led to the development of the Integrated Management of Childhood Illnesses (IMCI) strategy (FMOH 2008, WHO 2017 &UNICEF 2008). This strategy places emphases on appropriate health behaviours as crucial for improving the health status of children and decreasing childhood mortality in the majority of developing countries (Bryce et al., 2005).

The provision of sanitation in Ibadan, Nigeria's largest city and capital of Oyo State in the southwest of the country is grossly deficient (Oloruntoba, Folarin & Ayede 2014); this is a risk factor for diarrhoea diseases. Eni-Osa community in Ibadan is a rural area with several of the factors which can predispose children to childhood diarrhoea and other childhood illness.

It is necessary to enhance the capacity of nursing mothers to be involved in the prevention, treatment and control of childhood diarrhoea. The antecedent factors which should be known and used to design such interventions have not been adequately explored in rural areas like Eni-Osa community; yet concurrent field work experiences conducted by the postgraduate students of the Department of Health Promotion and Education have shown that childhood diarrhoea is one of the major childhood problems in the community. It is this situation that has necessitated the design of the Study.

## 1.2 **Problem Statement**

Diarrhoea is the second leading cause of mortality in under five children worldwide and every year, an estimated 2.5 billion cases of diarrhoea are reported in children under five years of age and these result in death and huge economic burden worldwide, (WHO, 2013). Despite interventions such as oral rehydration therapy and zinc supplementation there is still an increase in the prevalence of the condition and under five mortality.

The heaviest burden of diarrhoea related deaths is found in sub-Saharan Africa including Nigeria where 1 in 12 children die before the age of 5 years (UNICEF, WHO and World Bank 2015). In 2015, the Millennium Development Goal 4 was formulated to reduce childhood mortality by 50%; Nigeria was unable to meet this target.

Each day, Nigeria loses about 2,300 under-fives from diarrhoea (International Vaccine Access Centre IVAC. 2015). According to the multiple index cluster survey, South West region of Nigeria was ranked second for non-health-seeking behaviour with a percentage of 43.5%; this implies that care seeking advice or treatment was not sought by care-givers from health facilities or health providers (National Bureau of Statistic -NBS- & UNICEF, 2017). Also, data from NBS (2017) reveals that in-appropriate health-seeking behaviour is more prominent in rural than urban areas. The report also revealed that inappropriate health-seeking behaviour

was common among mothers with children under the age of 11 months, mothers with no formal education and mothers with the poorest wealth index quintile.

Mothers of under-five have key roles to play in the management, control and prevention of childhood diarrhoea. However, their health-seeking behaviour relating to diarrhoea, their knowledge and other antecedent factors related to the disease condition have not be well studied especially in rural areas or peri urban communities which are usually medically underserved; Eni-Osa is one of such rural communities. Preliminary community diagnosis by postgraduate students of the Department of Health Promotion and Education, University of Ibadan has shown that childhood diarrhoea is a public health concern in Eni-Osa. This awareness stimulated the need to design this study to investigate the knowledge, perception and health-seeking behaviours relating to childhood diarrhoea among mothers of under-fives in Eni-Osa community, Oyo state Nigeria.

### 1.3 Justification of Study

The results obtained from this study constitute baseline information for the development of educational interventions and materials aimed at enhancing the capacity of mothers to be involved in the prevention, control and home management of diarrhoea. The results are also potentially useful for the formulation of evidence-based policies relating to the control and prevention of childhood diarrhoea in the study area and similar settings.

### 1.4 Research Questions

The questions formulated to guide the study were:

1. What is the level of knowledge of childhood diarrhoea among mothers of under-fives?
2. What is the perception of childhood diarrhoea among mothers of under-fives?
3. What is the experience of diarrhoea among mothers of under-fives?
4. What are the health-seeking behaviours of mothers of under-fives relating childhood diarrhoea?
5. What are the antecedent factors which can influence the health seeking behaviours of mothers relating to childhood diarrhoea?

## 1.5 Research Objectives

***Broad objectives***

The broad objective was to investigate the knowledge, perception and health-seeking behaviour relating to childhood diarrhoea among mothers of under-fives in Eni-Osa community Ibadan Oyo state Nigeria.

***Specific Objectives***

The specific objectives of the study were to:

1. Assess the level of knowledge of mothers of under-fives relating to childhood diarrhoea.
2. Assess the perception of childhood diarrhoea among mothers of under-fives.
3. Determine the experiences of diarrhoea among mothers of under-fives.
4. Determine the health-seeking behaviours of mothers of under-fives relating to childhood diarrhoea.
5. Identify other antecedent factors which have potential for influencing the health-seeking behaviours of mothers of under-fives relating to childhood diarrhoea.

## 1.6 Hypotheses

The hypotheses formulated to guide the study were as follow:

$H_{01}$: There is no significant relationship between knowledge and perception of mothers of under -fives on diarrhoea.

$H_{02}$: There is no significant relationship between knowledge and age of mothers of under-fives on diarrhoea.

$H_{03}$: There is no significant relationship between diarrhoea knowledge of mothers of under-fives and their health-seeking behaviour.

## 1.7 Study Variables

Two categories of variables were measured. They were dependent and independent variables:

***Independent Variables***

The independent variables were the following socio-demographic characteristics: age, religion, ethnicity, level of education, number of under-five children and age of under-five children.

***Dependent variables***

The dependent variables are the knowledge, perception, experiences, health-seeking behaviour and factors influencing the health seeking behaviours.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.0 Overview of Childhood Diarrhoea

Under-five children is defined by the oxford dictionary as those in their early childhood, they are in the period which roughly covers the first five years of life, prior to entry into school. According to Hodges (2001) childhood is a period of rapid physical growth, including the development of the brain almost to its full adult size, and is also a critical period for the development of cognitive functions. He further stated that the key factors for child growth and development are adequate care, good health, nutrition and stimulation (Hodges 2001). The knowledge and practice of adequate and quality childhood care could lead to healthiness of the child in terms of prevention and early childhood diseases (Bhutta 2011). There should therefore be great emphasis on the importance of children getting a good start in life, for future growth and development in cognitive, psycho-social terms and physically (Wilson, Ouédraogo, Lea Prince, Ouédraogo, Hess, & Rouamba, 2012). The growth and development of children can be compromised by diarrhoea diseases.

Diarrhoea is the frequent passage of unformed, loose, or watery stools, usually three or more times in a 24-hour period (Palombo, 2006, WHO 2017). Acute diarrhoea starts suddenly and may continue for several days if not promptly treated. The factors that contribute to persistent diarrhoea in children younger than 5 years include poor nutrition, environmental contamination, inappropriate feeding practices and early non-adherence to exclusive breastfeeding (Hill, Kirkwood 2011). Complications such as dehydration develop in children younger than five years when the signs and symptoms of diarrhoea are not detected early and treated promptly by parents (Hill, Kirkwood & Karen 2011). The pathogens and other factors that causes diarrhoea are highly varied. They include bacteria, viral and parasitic organisms, most of which are spread by faeces-contaminated water and even chemical contamination (WHO 2017).

According to the WHO (WHO 2008, WHO 2017), early detection, prompt and appropriate health care seeking could reduce childhood deaths by 20% and Oral Rehydration Solution

(ORS) is recommended for the treatment of diarrhoea at home. According to Hill *et al* (2011) that the success in reducing childhood mortality requires a partnership between health workers and families. They stressed that all family's needs to know how to feed their children appropriately and how to prevent and respond to common illnesses (including knowing when to seek care) and to follow treatment advice given to them by health workers.

Every year nearly 11 million children die before reaching their fifth (5th) birthday, and 98% of these deaths were reported in developing countries in 2002 with more than half being due to acute respiratory infection, diarrhoea, measles, malaria and malnutrition (Hill et al, 2011). Diarrhoea is the second most serious cause of mortality in children under-five years causing about 30-50% of deaths in developing countries (WHO 2013). According to UNICEF, diarrhoea is a leading killer of children, accounting for approximately 8 per cent of all deaths among children under age five worldwide in 2016 (UNICEF 2013). This translates to over 1,300 young children dying each day, or about 480,000 children a year, despite diarrhoea been a preventable disease.

Diarrhoea is also an important contributor to childhood morbidity and poor growth and development (Hill *et al,* 2011, WHO 2016, UNICEF 2013). According to the WHO (2017) Each year diarrhoea kills around 525 000 children under five. Globally, there are nearly 1.7 billion cases of childhood diarrhoeal disease every year. Reports by other authors indicate that each under five children in the sub-Saharan Africa has five episodes of diarrhoea per year and 800,000 die each year from diarrhoea and dehydration (Yilgwan & Okolo 2012; Seyal & Hanif 2009).

The global burden of disease indicates that diarrhoea will continue to be one of the major contributors to child deaths in 2020 unless significant efforts are made to control them (UNICEF 2008). The main features of diarrhoea are frequent loose or watery stools, risk of dehydration, damage to intestine (especially when there is bloody diarrhoea) and loss of appetite with or without vomiting (Clifton, Lougee, Jorge, & Murno 2016). Victoria et al, (2000) asserted that signs of dehydration might not be evident until there is acute fluid loss of approximately 4 – 5 per cent of body weight. The signs and symptoms of dehydration include

sunken fontanelle (WHO 2014), dry mouth (Farthing 2013), throat, fast and weak pulse, loss of skin elasticity and reduced amount of urine (Farthing et al 2013). The under-five who presents with these signs and symptoms usually experience loss of enormous fluid and electrolyte from the body. This loss could lead to shock and untimely death of the under-five (Greenbaum 2011). According to Werner (2001) and WHO (2017) noted that dehydration takes its heaviest toll on children under the age of five.

## 2.1 The Global Burden of Diarrhoea with Specific Reference to Nigeria

Sustainable development goals (SDG) in January 2016 took effect succeeding MDGs that ended by 2015 and 47 countries of which 34 are in Sub-Saharan Africa would not meet the intended Sustainable development goal target of 25 deaths per 1000 live births by 2030 if they maintain their present trends in decreasing under-5 mortality (You D et al 2015). More than half of under-5 child deaths are due to diseases that are avoidable and curable through simple, reasonable interventions (You D et al 2015). These diseases include diarrhoea (WHO, 2017). Khalil et al (2016) carried out a study on the burden of Diarrhoea in the Eastern Mediterranean Region, 1990–2013. The study looked at diarrhoea in both sexes and all ages, and this was done by calculating Disability-Adjusted Life Years (DALYs), which are the sum of years of life lost and years lived with disability. The study further estimated that over 125,000 deaths (3.6% of total deaths) were due to diarrhoea disease in 2013, with a greater burden of the disease being in low- and middle-income countries. The results of the study highlighted a highly inequitable burden of diarrhoea disease which was mainly driven by the lack of access to essential resources such as safe water and good sanitation.

Every single day, Nigeria loses about 2,300 under- five and this makes the country the second largest contributor to the under–five mortality rates in the world (UNICEF 2018). Preventable or treatable infectious diseases such as malaria, pneumonia, diarrhoea, measles and HIV/ AIDS account for more than 70 per cent of the estimated one million under-five deaths in Nigeria (UNICEF 2018). The incidence of diarrhoeal diseases varies greatly with the seasons and a child's age. The youngest children are most vulnerable with incidence been highest in the first two years of life though declines as the child grow older (Boschi-Pinto, Velebit, and Shibuya 2008 & WHO 2017). The infection is endemic and outbreaks are not unusual in

Nigeria. In the last quarter of 2009, it was speculated that more than 260 people died of cholera, the acute form of diarrhoea, in four Northern states (Igomu, 2012). The 2010 outbreak of cholera and gastroenteritis in some regions of Nigeria: Jigawa, bauchi, Gombe, Yobe, Borno, Adamawa, Taraba, FCT, Cross River, Kaduna, Osun and Rivers brought about the vulnerability of poor communities and most especially children to the infection (Gyoh, 2011). Lack of safe water, basic sanitation and hygiene may account for as much as 88% of the disease burden due to diarrhoea (Environmental health programme (EHP), 2012). Sanitation provision in Ibadan (Nigeria's largest city and capital of Oyo State in the southwest of the country) is grossly deficient, as in most cities in sub-Saharan Africa (Oloruntoba, Folarin & Ayede 2014). Most people do not have access to a hygienic toilet; large amounts of faecal waste are discharged into the environment without adequate treatment; this is likely to have major impacts on infectious disease burden and quality of life (Hutton, Haller and Bartram 2007).

### 2.1.1. ***Sanitation, Hygiene and Diarrhoea***

Diarrhoea is more prevalent in low and middle-income settings as a result of the absence of safe drinking water, poor sanitation and hygiene, and poor health and nutritional status (UNICEF &WHO 2009, WHO 2017). Unhygienic settings allow diarrheoa-causing pathogens to multiply and spread more quickly (UNICEF & WHO 2009 & EHP 2012). Access to safe drinking water sources in rural settings is of great concern or challenge, and individuals using an improved water source still need to travel for long distances to get it (UNICEF 2016). A high number of children in urban regions are raised in overcrowded unsanitary houses and districts. Although urban areas are home to the majority of modern-day health services, several urban children are deprived of basic facilities (Mills, Cumming & UNICEF 2016). What are needed to prevent or control diarrhoea among children in these settings are at a high risk of health collapse due to inadequate access to safe adequate drinking water (Mills, Cumming & UNICEF 2016), diarrhoea remains a main killer though it is preventable (Mihrete, Alemie & Teferra 2014). Thus, improved water, sanitation and hygiene play an essential role in preventing deaths in children under 5 (WHO 2017). It was anticipated in 2012, that a total of 842,000 diarrheal deaths resulted from poor Water, Sanitation and Hygiene (WASH) occurred, as a result of contaminated water, poor sanitation and poor hand

hygiene practices (Mills, Cumming & UNICEF 2016). Based on what is known about disease transmission routes and probable barriers, the latest assessment implies that adequate WASH can prevent the deaths of 361,000 children under the age of five (Clasen et al 2014). A different estimate, which involves WASH in addition to other interventions, for example oral rehydration management and exclusive breastfeeding, indicates that 95% of diarrheal mortalities in children under the age of five can be avoided by 2025 by directed scale-up of effective prevention and control interventions (Khalil et al 2013).

The Federal Government selected some States for special intervention by the UNICEF on Programme on Education, Health, Nutrition and Water Supply. Oyo State is one of the selected States for these UNICEF Programme. The Programme for Water Supply is under UNICEF – Assisted Water and Sanitation (WATSAN) Project.

The OYO RUWASSA commenced with the software components (Community Mobilization/Hygiene Education, Sanitation etc) in 1992 in the Ministry of Health and later moved to the Governor's Office. The hardware components are Geophysical Survey, Drilling Operation, Platform construction, Pump Installation, Latrine construction. Drilling operation commenced on 23rd February, 1993. Which has been going on ever since then especially in rural and peri urban areas (OYSG 2017).

## 2.2 Prevalence/Experience of Diarrhoea Among Under-five Children

A number of studies relating to the prevalence of childhood diarrhoea disease in various parts of Africa have been reviewed in the sub-section. The review also focused on the determinants of diarrhoea diseases among under-five children. The reviewed studies included those conducted in the following countries: Senegal, Sudan, Burundi, Cameroon, Tanzania and Nigeria. An overview of the studies will be presented one after the other.

The epidemiology of diarrhoea was investigated in a systematic review conducted by Lamberti, Walker, & Black (2012) to generate estimates of duration and severity outcomes for individuals aged 0-59 months, 5-15 years, and ≥ 16 years, and for 3 severity indices: mild, moderate, and severe. It was noted that moderate and severe episodes constitute a substantial portion of the cumulative number of diarrhoea episodes among children under-five (35.2%; about 588 million episodes).

A 23-year longitudinal study on risk factors for childhood diarrhoea in sub-Sahara countries conducted by Bado, Susuman and Nebie (2016) revealed that the proportion of diarrheal morbidity among under-five children varied considerably across the number of births at a rate of 10% to 35%. The proportions of diarrheal morbidity were higher in Niger compared with Burkina Faso, Mali, and Nigeria. The risk factors for diarrheal morbidity varied from one country to another, but the main factors included the child's age, size of the child at birth, the quality of the house floor material, mother's education and her occupation, type of toilet, and place of residence.

Thiam *et al.* (2017) in a cross-sectional study on the prevalence of diarrhoea and, risk factors among children under five years old in Mbour, Senegal revealed that the prevalence of diarrhoea among children under the age of five during the 2 weeks preceding the survey was 26%. Without adjustment, the highest diarrhoea prevalence rates were observed in the peri-central and urban central zones. There were significant associations between diarrhoeal diseases and unemployment of mothers, use of open bags for storing household waste, evacuation of household waste in public streets, lack of treatment of stored drinking water and use of shared toilets.

Siziya, Muula & Rudatsikira (2013) determined the correlates of diarrhoea among children aged below five years in north Sudan and noted that boys were 3% more likely to have diarrhoea compared to girls. When compared, it was found that the younger children below age of 2 years had higher prevalence of diarrhoea. Children in urban areas were 6% more likely to have diarrhoea. Children from households with 1 or 2 people per room were 8% less likely to have diarrhoea compared to children from households with more than 3 people per room.

The overall prevalence of diarrhoea in children under five years of age in rural Burundi was found to be 32.6%. It was found that a lower prevalence of diarrhoea was noted in children whose primary caretakers received hygiene education (17.9%), boiled water prior to its utilisation (19.4%) and were aged 40 or older (17.9%). Diarrhoea was associated with factors such as the mother's age being less than 25 years and the perception that diarrhoea could not

be prevented. No gender differences were detected regarding diarrhoea prevalence or the caretaker's decision to treat (Diouf, Tabatabai, Rudolph, & Marx, 2014).

An assessment of the prevalence of diarrheal diseases among under-five children in Serbo Town, Jimma Zone South West Ethiopia revealed that prevalence of childhood diarrhoea was 14.9%, high rate in under 2 years and with no sex variation. The proportion of acute watery diarrhoea was 92.3% of those children and 76.9% were treated in health institutions. The age of caretakers was assessed and those who were 20-39 years of age had children with the highest rate at 65.4% of the two weeks diarrhoea prevalence. Mothers of children who had completed 1-6 grade had children with the highest rate 11 (42.3%) of two weeks diarrhoea prevalence ( Kasye, Garoma, & Kassa, 2018).

In a cross-sectional study carried out in Tiko town, Cameroon, it was a community household survey across a total of 602 households in the year 2012. It was noted that the prevalence of diarrhoea was 23.8% was among the under-five and children under 24 months were more affected. Increased diarrhoea prevalence was found in children from households with two or more siblings and whose mothers/caregivers never had the knowledge of safe sources of drinking water. However, children using their respective household main toilet and other types of toilet facilities such as bushes, pit latrines, and streams and usage of narrow-mouth container for storage of drinking water were less likely to suffer from diarrhoea (Tambe, Nzefa, & Nicoline, 2015).

A study conducted in Tanzania by Kabhele, New-aaron, Kibusi, & Gesase (2018) on the Prevalence and Factors Associated (PFA) with Diarrhoea among Children between 6 and 59 months of age in Mwanza City revealed that prevalence of diarrhoea was at 20.4%. Diarrhoea was found to be associated with type of settlement with unplanned settlement being significantly associated with childhood diarrhoea. Other factors associated with childhood diarrhoea were behaviour of mother such as washing hands before preparing food, washing hands after changing child's napkins.

A study was conducted by Mihrete, Alemie and Teferra (2014) to identify the determinants of diarrhoea in under five children in Benishangul Gumuz Regional State, western Ethiopia. It was noted that low level of maternal education, absence of toilet facility, improper child stool

disposal methods, having more than two under five children, higher birth order and the age of children were risk factors for childhood diarrhoea after adjusting for other variables. It was also noted children of mothers who had no education were the most vulnerable in the absence of toilet facilities.

Dairo, Ibrahim and Salawu (2017) designed a study to determine the prevalence and determinants of diarrhoea among infants in Kaduna North Local Government Area (KNLGA), Nigeria. The prevalence of diarrhoea in the two weeks preceding the study was 21.1%. Only 11.7% of mothers had poor knowledge of diarrhoea. About 76.3% of mothers always washed their hands with soap after cleaning infants' perineum. Majority of infants (84.6%) completed age appropriate immunization while 31.6% were exclusively breastfed. However, the prevalence of diarrhoea was found to be determined by mothers who sometimes or never washed their hands with soap after cleaning the infants, it was also observed that those with incomplete age appropriate immunization were more likely to have diarrhoea.

Ndukwu, Onah, Ebenebe and Osuorah (2016) carried out a study to determine the proportion of under-five children presenting with diarrhoeal disease, and the clinic-demographic variables associated with the outcome at the emergency paediatric ward (CHER) of the Nnamdi Azikiwe University Teaching Hospital, Nnewi, South-east Nigeria. It was found that acute diarrheal disease accounted for 32% morbidity while 38% accounted for mortality in under-five children, with a case fatality rate of 18.3%. The mean age at presentation was 11.96 months with a male to female ratio of 1.4 to 1. Presentation with fast breathing, convulsion, loss of consciousness, increased severity of dehydration, presence of one or more comorbidities and a co-diagnosis of sepsis significantly affected the outcome. Educational status of the mothers also significantly affected the outcome.

A study was carried out by Nwaoha, Ohaeri, & Amaechi (2017) in Umuahia, Abia state Nigeria aimed at identifying the most common parasites and potential risk factors for diarrhoea among children 0-5 years attending Abia State Specialist hospital and Federal Medical Centre, Umuahia, in South Eastern Nigeria. It was observed that more males than females were infected in nearly all age groups in both diarrhoeal and control groups. Main clinical features were watery depositions over 3 times a day, diarrhoea lasting for days, fever,

vomiting, and dehydration. Mothers learned about the problem through health workers, television and in medical centres. Risk of diarrhoea infection was correlated with mother's education, occupation, latrine type, waste water disposal, hand washing, kitchen cleaning; sources and storage of water; and bottle milk.

Old study by Afulenhin, Akerele, Fabayo, Ndili &Samuel (1987) in Oyo state Nigeria aimed determine the prevalence of diarrhoea in Pako, Agbole and Igboora community. It was observed that over one-quarter of 250 pre-school children studied had diarrhoea in the past months. It was also observed that it was more common in females (38%), than males (21%). The peak age of prevalence/experience was within the 3-4 years age group (42%).

### 2.3 Knowledge and Perception of Childhood Diarrhoea Involving Under-fives.

Mumtaz, Zafar, & Mumtaz (2014) investigate the knowledge, attitude and practices of mothers relating to Diarrhoea in Children under-5 years in Pakistan. The study revealed that mothers' knowledge regarding the causes of diarrhoea was very low. About signs of dehydration, 40% mothers could give unspecific signs, 26% mentioned sunken eye as the only. Mothers who knew how to prepare Oral Rehydration Solution were 80%.

A similar study was conducted to determine the knowledge, attitude and practice regarding diarrhoeal illness, its prevention and management among 125 mothers of under- five children in India. The most commonly mentioned perceived causes of diarrhoea were contaminated food and drinking water. Majorly (83%) mothers were of the belief that clean drinking water prevents diarrhoea. However, water treatment was practiced by only 36%. Less than a third of the mothers could recognize critical signs of dehydration. Many, (42%) mothers had incomplete knowledge regarding proper preparation of ORS. The mothers had poor knowledge relating to the symptoms of dehydration and relevance of ORS as primary management component. (Chaudhary, Basu, Dzeyie, Gulla, & Khade, 2014).

Shah, Ahmad, Khalique, Afzal, Ansari and Khan (2012) in a study carried out in India reported that 80% of mothers and caregivers were knowledgeable of at least one danger sign of diarrhoea; 85% showed good knowledge of watery stools as symptom of diarrhoea and 54% of repeated vomiting. On the knowledge about ORS however, there was lack of adequate

knowledge on method of preparation. Only a few mothers knew how to give the ORS correctly.

Singh, Gupta and Bhatt (2012) found that correct method of preparation of ORS and sugar salt solution at home was not known to most of the mothers. 73% of the mothers believed that frequency of feeding must be decreased at the time of diarrhoeal episode while investigating the knowledge, attitude and practices of mothers regarding acute diarrhoea management in the urban population of India.

Assessment of mothers' knowledge, attitude and practices related to symptoms and signs of Integrated Management of Childhood Illnesses (IMCI) was conducted by Juma (2011) in Tanzania. It was noted that diarrhoea was one of the childhood diseases that they were knowledgeable about and could recognize its features.

A study was carried to assess mother's knowledge of childhood diarrhoea in Tanzania. The study revealed that mother's knowledge of the predisposing factors associated with diarrhoea was poor. Their level of knowledge of the disease was correlated directly with the mother's level of education. Only about one-third of the respondents (31%) who were aware of risk factors for childhood diarrhoea cited poor sanitation and unsafe water as the main role factors. (Mwambete & Rejitha, 2010).

A study conducted by Othero, Orago, Groenewegen, Kaseje and Otengah (2008) in Kenya showed that 76.4% of mothers/ caregivers were not able to mention any danger signs of diarrhoea. Only 3.1% of mothers knew all the danger signs. Yet knowledge of danger signs is vital for early referral of very sick children.

A study was conducted by Olakunle, Valentine, Kamaldeen & Buhari, (2012) among mothers of child bearing age in Ilorin, Nigeria. It revealed that a large portion of the mothers had good knowledge of diarrhoea. Majorly (78.5%) of them were able to define diarrhoea correctly while 55.5% could state the causes of diarrhoea. The knowledge of ORT was poor. The control measures mentioned by the respondents included environmental hygiene, provision of adequate health care delivery services and prompt treatment of infection. Method of sewage disposal and respondents' level of education were found to have an influence on incidence of diarrhoea.

Raji, Abdullahi, Raji, Oladigbolu, Kaoje and Awosan (2017) carried out a study assessing caregivers' knowledge, home treatment of diarrhoea disease and predictors of child diarrhoea disease in a semi-urban community of Sokoto, Nigeria. Results revealed that most of the caregivers had good knowledge of diarrhoea disease. More than half of them (60.5%) gave their children drugs like antibiotics meant to stop diarrhoea and few of them give traditional medication to children with diarrhoea disease. Being single was the main predictor of having diarrhoea disease among the children.

Osonwa, Eko and Ema (2016) carried a study among nursing mothers in Cross Rivers state, Nigeria. Most (95.5%) of respondents claimed that they have heard about diarrhoea, respondents' sources of information about the disease conditions included health workers (45.7%), television/radio (21.2%), books/newspaper/magazine (4.8%) and poster/handbills (4.3%). It was also noted of 10.5% had no knowledge of the causes of diarrhoea while 10.4% had no knowledge of any signs and symptoms of dehydration. The identified signs and symptoms of diarrhoea by few of the respondents were sunken eyes (35.1%), dry tongue (21.8%), dry lips/tongue (15.2%), body weakness (10.4%) and irritability (7.6%). Majority (62%) of mothers declared that they have heard of ORT/ORS/SSS, 38% had no knowledge of the composition of ORS/SSS and only 17.5% could give an acceptable description of how to prepare the ORS/SSS.

The hospital records of children seen from January 2013 to December 2014 in Ahmadu Bello University Teaching Hospital, Zaria were reviewed. The analysis of the socio-demographic characteristics showed there was a preponderance of male children that presented with diarrhoea (55.4%). More children aged 12-23 months topped the list (36.8%) of diarrhoeal cases (36.8%) (Ucheh, Eleojo, Tyoalumun, & Nanpen, 2018).

Bello, Yunusa, Abdulrashid and Umar (2015) carried out comparative studies of the practices of care-givers regarding home management of diarrheal diseases among under-five children in two communities with different demographic characteristics in Kano State. The results indicated that majority of the care givers had adequate knowledge of the timely management of diarrheal diseases. The rate of Oral Rehydration Salt (ORS) use was 37.6% in Dorayi

quarters and 33.1% in Nasarawa G. R. A. while use of Salt-Sugar Solution (SSS) was 24.0% in both communities. More than half of respondents in Dorayi quarters and Nasarawa G.R.A were knowledgeable about the preparation of SSS correctly. Continued breastfeeding during diarrhoea was practiced by 23.6% in Dorayi and 23.8% of respondents in Nasarawa G. R. A. Mothers in Nepal also have some perception which are not in line with the scientific world views. According to Budhathoki Bhattachan, Yadav, Upadhyaya and Pokharel (2016) the Nepalese mothers believe that diarrhoea is part of the childhood experience caused by evil spirits, or supernatural forces, and so traditional healing method are mostly suited for managing it.

Community and individual myths, perceptions and attitudes toward diarrhoea do influence the decisions and practices relating to the prevention and management of the disease. It is in light of this that Nduba, Nyagero, Mbiti, Akach, Kung'u, Kabaka and Wanyoike (2015) explored these myths and perception relating to diarrhoea in Kenya. It was found that the community believes, teething, breast feeding while pregnant, and having too much sex while breast feeding can cause diarrhoea. The use of special herbs was believed to be better for preventing and treating diarrhoea compared with modern drugs.

According to Bedford *et. al* (2014) many caregivers in Kenya sought the services of a spiritual healers or pray to God, before seeking help at a health care facility. It was reported that some caregivers make use of herbal medicines to treat diarrhoea. Palaian and Ibrahim (2009) have reported that caregivers had different traditional practices relating to the home-based management of childhood diarrhoea. These included the reduction in breastfeeding; restriction of foods and fluids, the use of enemas and herbs, as well as the belief in the use of magical power or supernatural interventions.

Recent study by Adimora, lkefuna, and Ilechukwu. (2011) on home management of childhood diarrhoea: Need to intensify campaign showed that most Nigerian mothers had poor understanding of what causes diarrhoea and only 9.9% used ORS in treatment of diarrhoea. According to a study conducted in Ibadan, Nigeria by Ajuwon, Agbolade, and Dipeolu (2015) showed that despite the fact that majority of the women surveyed reported that they were

aware of ORS and knew how to make it, less than half of the them used ORS at home to treat diarrhoea case. The knowledge and perception of mothers about the seriousness of diarrhoea, as with other diseases, is an important precursor for their seeking appropriate healthcare for their sick children.

### 2.4 Treatment Seeking Behaviour in Respect to Under-five Diarrhoea

A systematic review relating to diarrhoea and other childhood diseases was carried out in Low- and Middle-Income Countries (LMIC). The review showed that a median of 73.0% of caregivers sought care outside the home. Care seeking from community health workers and the use of oral rehydration therapy were low. Oral rehydration therapy was disappointingly low. It was also noted, the reported levels of care seeking from community health workers was low even though global action plans to address these illnesses promote community case management (Geldsetzer *et al.*, 2014).

The treatment seeking process of caregivers in Brazil includes taking the child to the hospital at the first sign of diarrhoea (57.3%), use of medication (68.1%) and the withholding of solid foods (63.7%). Only 40.8% knew how to prepare oral rehydration solution (Santos, Correia & Falbo, 2014). Mumtaz *et al* (2014) also found that regarding health care seeking practices, less than 5 in every 10 Pakistani mothers took the child to the doctor after 2 days of the onset of diarrhoea while 3 out of 10 mothers did self-medication.

A study was designed and conducted to explore the health care seeking knowledge, perceptions and practices relating to childhood diarrhoea and pneumonia in a rural Pakistani community. It was found that most family caregivers recognize main signs and symptoms of diarrhoea. Care seeking from "Lady Health Workers" remained negligible. Many caregivers overwhelmingly prefer to seek care from doctors and most caregivers sought care from private providers compared to public providers (Aftab et al., 2018).

Several surveys were conducted in sub-Sahara Africa. The results showed that the prevalence of good diarrhoea management was low in 11 of the 12 analysed surveys, varying from 17 % in Cote d'Ivoire to 38 % in Niger. The exception was in Sierra Leone, where prevalence of good practice was 67 %. Diarrhoea care seeking from health facilities or community providers

was associated with higher odds of good management than care from traditional/informal sources or no care (Carvajal-vélez *et al.*, 2016).

Diaz, George, Rao, Bangura, Baimba, McMahon and Kabano (2013) assessed health care seeking behaviour of caregivers of children with diarrhoea, malaria and pneumonia in 4 poor rural districts in Sierra Leone. They found that over 85% of children were brought for care in health facilities for all conditions. According to them, the use of traditional treatments was significantly associated with not seeking outside care for all three conditions. Qualitative data showed that traditional treatments were used due to preferences for locally available treatments and barriers to facility care that remain even after Free Health Care Initiatives.

In a study carried out by Saha (2012) in Dhaka, Senegal, it was established that 93.6% of mothers sought treatment for diarrhoea in a health care facility, while 58.7% went to the pharmacist or drug dealers for medicine. Mothers did not seek treatment for diarrhoea at a traditional healing home.

Godana and Mengistie (2013) have found that around 14% of outpatient visits and 16% hospital admissions were due to diarrhoea in Ethiopia. Also in South Africa, Essombia *et al*. (2015) found that most parents (51.8%) of children with diarrhoea seek hospital attention first, 20.1% had given metronidazole as an antibiotic and 8.3% had given their children mebendazole which is a deworming tablet.

According to Cooke and Cotton (2013), 1382 children were admitted with diarrhoea during a 16-month period to the Tygerberg Children's Hospital in Cape Town, South Africa. Prior to admission to the hospital 6 caregivers did not seek medical advice at primary level, 58 had one primary care visit and 50 were referred after 2 visits to a health care provider. Out of all the caregivers, 78.8% attended a free local clinic, while 12.7% went to a general practitioner and 1.4% sought advice at a pharmacy.

According to a Ugandan study carried out by Rutebemberwa, Pariyo, Peterson, Tomson, and Kallander (2009), they opined that caregivers who perceived their child to be severely ill (with illnesses which include diarrhoea) were more likely to visit a public care outlet, because they believed workers at these facilities to be more experienced and qualified to treat serious illnesses.

Bagbi, Obieche and Enato (2015) assessed caregivers' health seeking behaviour for under five years old children with malaria and other childhood illnesses in some communities in Edo State, Nigeria. The frequently reported first port of call for care seeking was health centres and patent medicine stores. Oral re-hydration therapy was reportedly used in 66% of cases of diarrhoea, while preventive health care was most frequently practiced for childhood diarrhoea (Bagbi, Obieche & Enato, 2015).

## 2.5 Factors Influencing Treatment Seeking in Under-five Diarrhoea

Sarker, Sultana, Mahumud, Sheikh, Meer and Morton (2016) in Bangladesh found that the overall diarrhoea prevalence among children <5 years old was found to be 5.71%. Some factors found to significantly influence the health care–seeking pattern were age and sex of the children, nutritional score, age and education of mothers, wealth index, and access to health care service.

Bruce, Pope, Arana, Shiels, Romero, Klein and Stanistreet (2014) identified barriers to care seeking for diarrhoea among rural Guatemalan children. They noted that formal care was sought for 31% for severe diarrhoea. At multivariable analysis, reveals that factors independently associated with formal care seeking were knowing the Community Emergency Plan, mother's perception of illness severity, recognition of World Health Organization's danger signs, distance from the health centre, and having someone to care for family in an emergency.

Aftab *et al.* (2018) further explained that the care of children with diarrhoea mostly begins with home remedies and sometimes self-prescribed medicines. They noted that treatment delays occur because of caregiver inability to recognize disease, use of home remedies, financial constraints, and low utilization of community based lay health worker (LHW) services. Caregivers do not seek care from LHWs because of lack of trust and LHWs' inability to provide medicines. If finances allow, private doctors, who caregivers perceive as more responsive, are preferred over public sector doctors. Financial resources, availability of time, support for household chores by family and community determine whether, when, and from whom caregivers seek care (Aftab *et al.* 2018).

Siziya (2013) carried out a study of factors relating to diarrhoea diseases in Sudan. He stated that treatment seeking behaviour was fairly high among mothers (55%). It was observed that factors that influenced treatment seeking behaviour included availability of medical services distributed by ministry of health and Shendi University Hospitals and health centres, family size and educational variations that strongly influence mothers and community's awareness and attitudes towards diarrheal diseases programs.

A qualitative study was carried out by Bedford & Sharkey (2017) in Kenya, Nigeria and Niger to determine the barriers caregivers face in accessing treatment for diarrhoea. The identified barriers were determined to include the following: financial barriers; distance and location of health facilities; socio-cultural barriers; gender dynamics; knowledge and information barriers; health facility restrictions. Participant suggested solutions which ranged from community-level actions to facility-level and more policy-oriented actions, as well as actions to change underlying problems such as social perceptions, practices and gender dynamics.

The findings of an Ethiopian study carried out by Degefa, Gebreslassie, Meles and Jackson (2018) showed that the determinants of delay in timely treatment seeking by mothers/caregivers of under-five children with diarrheal diseases included children <24months; fail to attend school; being female children; preferring government health facility for the treatment of children with diarrheal diseases; lack of past history taking children to health facility and lack of counselling.

## 2.6 Theoretical Framework

Several schools of thought have described a conceptual or theoretical framework as an abstract, logical structure of meaning which guides the development of a study and enables the researcher to link the findings and can lead to more powerful effects than interventions developed without theory (Ammerman, Lindquist, Lohr, and Hersey, 2002; Legler, 2002; Burns & Grove, 2011).

The PRECEDE framework was adapted by the researcher for this study. The PRECEDE PROCEED can be thought of as a road map, presenting all the possible avenues to follow. The main purpose of the PRECEDE-PROCEED Model is not to predict or explain the relationship among factors thought to be associated with an outcome of interest. Rather, its main purpose is to provide a structure for applying theories and concepts systematically for planning and evaluating health behaviour change programs. The PRECEDE framework was first developed Green, Kreuter, Deeds and Partridge (1980). The acronym PRECEDE stands for Predisposing, Reinforcing, and Enabling Constructs in Educational/Environmental Diagnosis and Evaluation. It is based on the premise that, just as medical diagnosis is used to guide treatment plan, so should educational diagnosis precede and be used to guide a health education intervention plan.

The PRECEDE has the following components – the Environmental, predisposing, enabling and reinforcing groups of factors.

### 2.6.1 Environmental factors

The environment factors refer to factors that are external to an individual that influence health conditions. In the context of this study, these factors include environmental sanitation practices and hygienic practices of caregivers with special reference to hand washing practices and pre- and post-faecal hygienic practices of mothers.

### 2.6.2 Predisposing factors

These are factors which motivate or provide a reason for behaviour; they include knowledge, attitudes, cultural beliefs, norms, values, perceptions and readiness to change. In the context of this study, these factors are caregivers' perceptions of diarrhoea and their knowledge of diarrhoea, its causes and symptoms.

### 2.6.3 Enabling factors

The enabling factors are factors which relate to resources and the following: policies, assistance, and services. The enabling issues measured included the following: free training in the health facilities on the preparation of home-made salt- sugar -solution, availability and access to ORS, and access to health care.

### 2.6.4 Reinforcing factors

Reinforcing factors are those that relate to the influence of significant others that encourage repetition or persistence of behaviours by providing continuing rewards or incentives. Social support, praise, reassurance, and symptom relief might all be considered reinforcing factors. In the context of this study, the reinforcing factors measured were social support, wellness of child after visitation, re-assurance of well-being of child and incentives from health centre visited.

It is to be noted that the variables associated with the PROCEDE framework were adopted to guide the design of the questionnaire (See appendix I).

The application of the model to guide the design of the study with special reference to the selection of variables contained in the questionnaire is depicted in figure 2.1

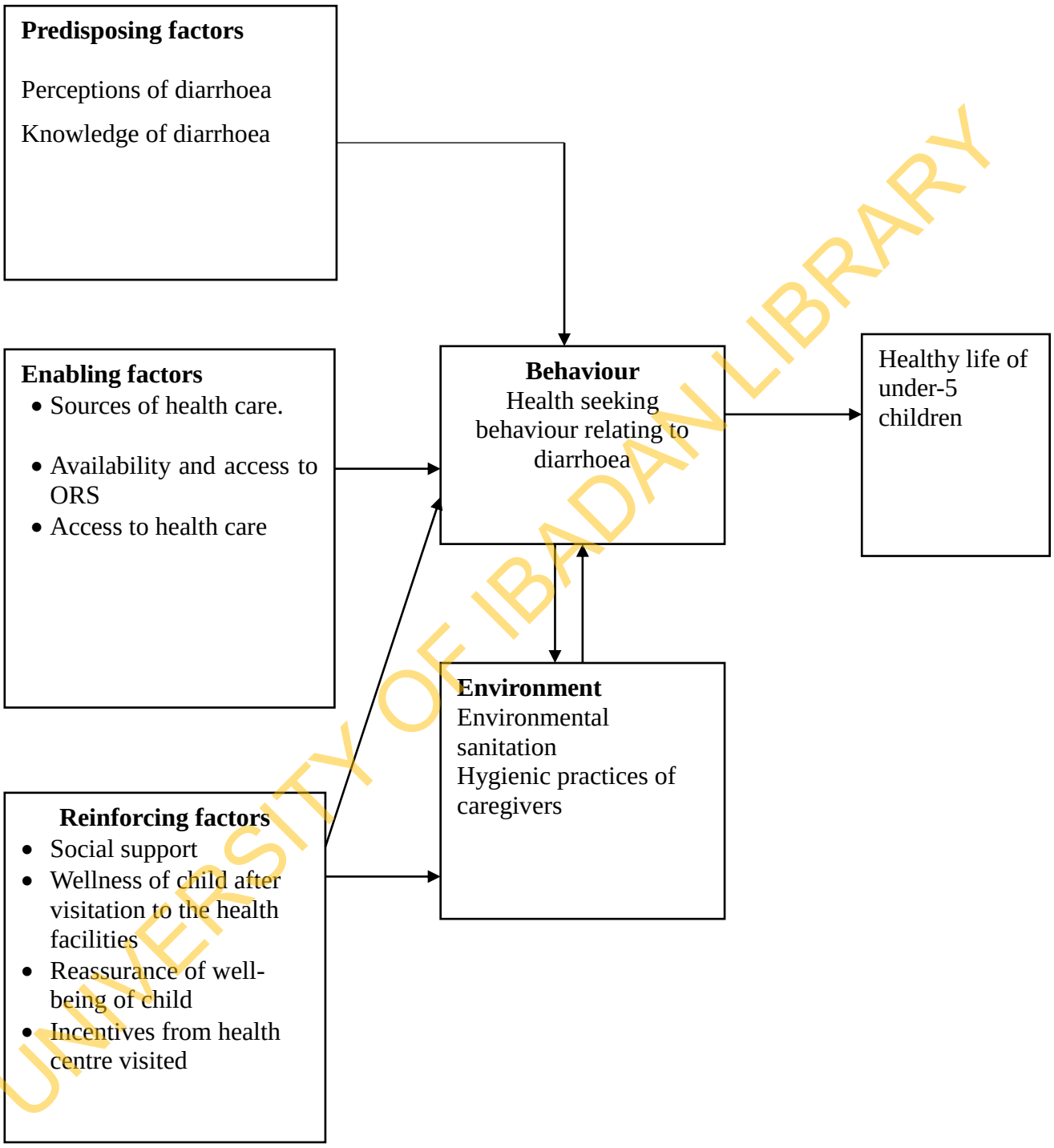


***Fig 2.1: PRECEED framework adapted to guide the study.***

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# CHAPTER THREE
# METHODOLOGY

## 3.1 **Study Design and Scope**

This study was a descriptive cross-sectional survey carried out among mothers of under -fives. It was limited in scope to knowledge, perception, experiences and health seeking behaviour relating to childhood in under-five.

## 3.2 **Description of Study Setting**

Eni-Osa is a rural settlement with a land area of 310.850 square kilometres. It is said to have been in existence for over fifty years. The community spans across two Local Government Areas (LGAs)-Lagelu and Akinyele in Oyo state. The two LGAs are rural and peri-rural LGAs in Ibadan. The community is divided into two parts by a road.

Oral tradition has it that *Eni-Osa community* derives its name from the intolerable childhood mortality situation in the settlement. It was stated that it was very common for most children to die before attaining the age of puberty in the community. It came to pass that one family delivered a child and the family decided to take the child to the ‘‘***Osa’’*** shrine to pray for protection of the child against death. The child was then named Eni-Osa. The child survived and grew to be a prosperous farmer and hunter. The name of the settlement was thereafter named after the child (*Eni-Osa)* that was protected by ***Osa*** from dying. There are forty-seven (47) villages in Eni Osa. The community is headed by a traditional ruler with a traditional royal title of “Baale”.

The community residents speak different languages which include Yoruba, English and Igede. However, the most common language is Yoruba. Majority of the settlers in the inner-core area of the community are farmers while those in the transitory area are mostly civil servants. Most farmers engage in subsistent farming and a few in commercial hunting. The crops grown include in the community maize, cocoa, kolanut, yam, cassava, and pepper. A few of the residents are involved in poultry farming.

Eni- Osa community is divided into two parts by a road. One part consists of 7 zones called Eni-Osa 1, the other part consists of eight zones called Eni-Osa 2. The community thus,

consist of 15 zones. A zone is cohorts of house ranging from 8 to 15 houses. The development of the community is facilitated by the Landlord and Tenant's Association. The association is headed by an elected chairman.

The community has one government primary school and two private secondary schools. Eni-Osa has one health care facility. It is a primary health care centre which was upgraded to a comprehensive health centre in 2017. The most common illnesses experienced in the community are malaria, hypertension, peptic ulcer, diarrhoea and upper respiratory tract infections. The mode of transportation within the community is mainly by motorcycle locally called *Okada*.

### 3.3 Study Population

The study population consisted of mothers of under-five children in Eni-Osa community. The socio-demographic characteristics of the mothers were highly varied in terms of age, marital status, level of education and religion.

### 3.4 **Sample Size Determination**

The minimum sample size was calculated using the Leslie and Kish formula for descriptive studies

$n = [Z^2P(1-P)/d^2]$

n = minimum sample size

Z = Z is the standard variation corresponding to the confidence level. At a confidence level of 95%, Z=1.96

P = prevalence of health seeking behaviour of 44% =0.44 on average (National Bureau of Statistics (NBS) and UNICEF, 2017)

q = 1-p, then, q=1- 0.44 =0.56

d = 5% level of significance

$$n = \frac{1.96^2 \times 0.44 \times 0.56}{0.05^2} = 378$$

A non-response/attrition rate of 10% of 378 was added using the following formula: $q = \frac{1}{1-f}$

Where q= calculated sample size

f = estimated non-response rate of 10% = 0.1 therefore (1-0.1=0.9)

therefore, 378 = $\frac{1}{0.9}$ = 420

**3.5 Sampling Procedure**

The multi-stage sampling technique was adopted which involved 4 stages. The stages are as follow:

**Stage 1**: It is to be noted that there are 15 zones in Eni-Osa. So, the residential houses that were studied were stratified into 15 natural clusters.

**Stage 2**: The sample size for each of the zones was then proportionately determined using the following formula:

$$S = \frac{M1 \times N}{M2}$$

Where S=sample size for each zone

M1 = number of houses in the zone; and M2= total number of houses in all the zones

And N = calculated sample size,

So, to determine the number of houses to be interviewed in Ifesowapo cluster, for instance, the following calculation was done:

$S = \frac{51 \times 420}{454} = 47.18$ (Table 3.1)

A similar approach was used to calculate the sample sizes of the remaining zones. See table for details.

**Stage 3:** In each of the clusters/ zones systematic sampling procedure was used to select the required number of houses. This was done by dividing the total number of houses in the zones by the desired number of houses to be selected. A sample interval of three (3) was obtained hence, every third house was selected in a systematic sequence. For instance, in Ifesowapo cluster every third house within the cluster was eligible for the study. A similar exercise was used to select houses in other clusters.

**Stage 4**: In each selected house one mother of under-five was selected for interview. Where there was more than one under-five, balloting was used to select one eligible mother for interview.

**Table 3.1. Proportionate Sampling of Respondents**

| S/N | Zones/Clusters | Number of houses | Proportionate sampling of respondents | Number of respondents Sampled per zone |
|---|---|---|---|---|
| 1 | Ifesowapo | 51 | 51/454×420=47.18 | 47 |
| 2 | Glory | 11 | 11/454×420=10.17 | 10 |
| 3 | Success | 20 | 20/454×420=18.50 | 19 |
| 4 | Temidire | 29 | 29/454×420=26.82 | 27 |
| 5 | Isokan | 37 | 37/454×420=34.22 | 34 |
| 6 | Grace and mercy | 25 | 25/454×420=23.12 | 23 |
| 7 | Alafia | 23 | 23/454×420=21.27 | 21 |
| 8 | Zion goodwill | 35 | 35/454×420=32.37 | 32 |
| 9 | Obanijesu | 45 | 45/454×420=41.62 | 42 |
| 10 | Ogo-oluwa | 40 | 40/454×420=37.00 | 37 |
| 11 | Ayagaga | 21 | 21/454×420=19.42 | 19 |
| 12 | Kotilo | 17 | 17/454×420=15.72 | 16 |
| 13 | Favour | 25 | 25/454×420=23.12 | 23 |
| 14 | Abaepo | 40 | 40/454×420=37.00 | 37 |
| 15 | Alada | 35 | 35/454×420=32.37 | 32 |
| **Total** | 15 | 454 | 419.9 | **420** |

### 3.6 Inclusion and Exclusion Criteria

***Inclusion criteria***

Only mothers of under-fives who were permanent residents of the study area and who were willing to participate in the study were studied.

A permanent resident was defined as some one who had been living in the community continuously for five or more years.

***Exclusion Criteria***

Mothers who do not have children under the age of five years and mothers of under-fives who are not permanent residents of the study area were excluded from the study.

### 3.7 **Instrument for Data Collection**

The research instrument used for data collection was a semi-structured-interviewer-administered questionnaire. The questionnaire contained the following sections:

**Section A**: Socio-demographic characteristics;

**Section B**: Living situation of participants;

**Section C**: Knowledge of diarrhoea. (This section of the questionnaire contains a 44-point knowledge scale for assessing respondents' knowledge of childhood diarrhoea. (also see Appendix VIII)

**Section D**: Perception of diarrhoea. (This section of the questionnaire contains a 12-point perception scale). (also see Appendix IX)

**Section E**: Experience of diarrhoea;

**Section F**: Health seeking behaviours of mothers of under-five relating to childhood diarrhoea;

**Section G**: Treatment options or pathways among mothers of under-five relating to childhood diarrhoea.

### 3.8 Recruitment of Research Assistants, Validity and Reliability of the Instrument

#### 3.8.1 *Recruitment of Research Assistants*

Five Research Assistants (RA) were recruited. One of the major criteria for their recruitment was their proficiency in both English and Yoruba languages. Four females and one male RA were recruited. The recruited RA were post-graduate students of health promotion and

education. The training focused on the following issues: overview of the study including the objectives; study population, the sampling procedures and sampling process; data collection techniques; interviewing skills; including ways of how to establish rapport with respondents; and ethical issues that should be respected or taken into consideration during the study. The training methods included lecture, role-play and discussion.

3.8.2 ***Validity of the Instrument***

The validity of the study instrument (i.e. questionnaire) was ensured through literature review. Th review exercise was used to guide the selection of variables for measurement. The draft questionnaire was subjected to review by my supervisor. Comments from him and other experts in the fields of community medicine, child health and paediatrics based at the University College Hospital were used to fine-tune the questionnaire. The questionnaire was designed in English and translated into Yoruba language in order to address the need of participants who do not understand the English language. The translation process was as follows: Firstly, it was given to a translator who is versed in both English language and Yoruba to translate to Yoruba; secondly, the Yoruba version was given to another translator who is also versed in the two languages to translate it back to English. Thirdly, the two versions were then compared by a third person who is versed in the two languages. The translation process was embarked upon to verify the accuracy of the translation.

3.8.3 **Reliability of the Instrument**

The reliability of the instrument was assessed through pretesting and use of the Cronbach Alpha statistical tool. The pre-test involved administering copies of the questionnaire to 10% of the total sample size in another representative population. The exercise was carried out among mothers of under-five in Ido a peri-urban community in Ido LGA. After the pre-test, the copies of the questionnaire were coded, guided by a coding guide and data they contain were fed into a computer and analysed. The Cronbach alpha coefficient was used to determine the reliability of the instrument. In this technique, a minimum coefficient score of 0.5 indicates that the instrument is reliable to some extent. The higher the coefficient score (i.e. as it approaches 1), the more reliable it is. In this study, the Cronbach alpha coefficient score obtained was 0.633 indicating it was reliable.

### 3.9 Data Collection Process

The data were collected using copies of the semi-structured questionnaire. Copies were administered by the researcher and the RA.

Permission to conduct the study was sought from the *Baale* of the community and the chairman of the Landlord association; this step paved way for easy access into the community. The researcher visited each zones/cluster in the study area during the weekdays and weekends.

Houses to be visited for interview were selected by systematic random sampling in all zones; house numbers were assigned to each house in all zones, For instance, a house which is given number 1 in Ifesowapo zone was selected for interview after which the next house to be selected was house numbered (4) in that zone giving a space of (3) houses interval. By chance if there were no eligible participant in the selected house the next house was selected and the process continues from there. Where there was more than one participant in the selected house balloting was used to select an eligible participant.

Data collection was done from 9am to 12pm and from 4pm to 6pm during the week days and weekends for 3 weeks. Consent of the participants was sought before administration of the questionnaire. The request for consent to participate in the study was preceded by an explanation relating to the purpose of the research, time that would be spent to complete the questions, importance of the research and other ethical issues. Each questionnaire was cross-checked for accuracy/completeness before and after respondent had been interviewed. Attention of respondents was drawn to any case of omission or inappropriate response in the questionnaire.

### 3.10 Data Management and Analysis

Each questionnaire was given a serial number for easy identification and recall if the need arises. All the copies of the administered questionnaire were checked individually and edited for purpose of completeness and accuracy. A coding guide was developed after a careful review of responses in the copies of the questionnaire to facilitate coding and data entry.

The data contained in the copies of the questionnaire were coded and entered into the computer. A template was designed using the Statistical Package for the Social Sciences (SPSS version 21) software to facilitate the entry of the coded data and analysis. The data entered into the computer were analysed using descriptive statistics such as percentages, means and inferential statistics such as Chi-square test, t-test and f-test at p = 0.05.

The knowledge of respondents was determined and their knowledge scores categorized. Scores of 0 to less than 50 percentiles (i.e. 0 - <22 points) was categorized as poor, 50 to less than 74 percentiles (22 - <33.0 points) was categorised as fair while 75 percentile and above (33 points and above) was categorised as good knowledge. Perception scores were also categorized as favourable or unfavourable. Favourable perceptions are those in-line with the biomedical world-view. A 12-point perception scale was used where 0 – 50 percentiles (0-6 points) was categorized as unfavourable and scores above 50 percentiles (>6 – 12 points) were categorized favourable. The results of the analysed data are presented in tables and charts in chapter four.

### 3.11 **Ethical Consideration**

Ethics approval was obtained from the Oyo State, Research Ethics Review Committee (AD/13/497/1054 see appendix iii). Participants were informed that participation in the study is voluntary and that they would not suffer any adverse consequences or penalized in anyway if they chose not to participate. Participants were also briefed about the following:

***a. Confidentiality of data***

They were informed that serial numbers and not their names would be written on the copies of the questionnaire to maintain confidentiality. Names and number of houses used were not also written on the copies of the questionnaire; rather codes were used to ensure confidentiality. The respondents were assured that their responses would be kept confidential and the questionnaires would be kept safe in a locked cupboard. Participant were also told that information related to the study contained in the computer system used would be password-protected and accessible to the invigilator only.

***b. Beneficence to Participants***

The participants were told that the study would not be of direct benefit to them. The findings of the study would rather be forwarded to relevant stake-holders in the community and Local Government Area authorities as well as the ministry of Health with a view to assisting them to formulate policies relating to the prevention and control of childhood diarrhoea among under-five children.

***c. Non-maleficence (non-harmful) to Participants***

The participants were told that that study is non-invasive and does not involve any procedure that can physically harm participants. It was disclosed to participant that there were some questions, which might be uncomfortable for them to answer as they may be related to their privacy.

***d. Right to decline/withdrawal from the study without loss of benefits***

The participants were assured that they were free to decide not to participate and that they could choose to withdraw from the study at any time during the interview. In addition, they were informed that they would not suffer any loss of benefits or privileges or any consequences whatsoever if they chose not to participate.

# CHAPTER FOUR

# RESULTS

## 4.1 Respondents' Socio-Demographic Characteristics

Overall, 397 mothers participated in this study. Table 4.1 shows the distribution of the socio-demographic characteristics in terms of age, religion, ethnic group, level of education, marital status, number of children under the age of five years and age of youngest child. Respondents' age ranged from 14 -56 years with a mean of 28.7 ± 5.8 years. Majority of the respondents (60.95%) were aged 25- 34 years, followed by those aged 14-24 years (23.43%). Slightly over half of the respondents (50.9%) were Christians, 46.6% were Muslims and 2.5% were adherents of the Traditional African Religion (TRA). A majority (88.9%) of the respondents were Yoruba. Over half (56.2%) of the respondents had secondary education; recipients of tertiary education constituted 21.7%.

Many respondents (34.9%) had NCE followed by those with BSc (27.9%). Most respondents (91.9%) were married. Respondents who had one under-five child topped (53.8%) the list while those who had two under-five children accounted for 40.9%. The ages of respondents' youngest children ranged from 1- 5 years with a mean of 1.9 ± 1.1. (see table 4.1 for additional details).

**Table 4.1 Social Demographic characteristics of respondents'**

| Socio-demographic characteristics | № | % |
|---|---|---|
| Age (N= 397) * | | |
| 14-24 | 93 | 23.43 |
| 25-34 | 242 | 60.95 |
| 35-44 | 57 | 14.4 |
| ≥ 45 | 5 | 1.3 |
| Religion (N= 397) | | |
| Christianity | 202 | 50.9 |
| Muslim | 185 | 46.6 |
| Traditional worshipper | 10 | 2.5 |
| Ethnic group (N= 397) | | |
| Igbo | 20 | 5.0 |
| Yoruba | 353 | 88.9 |
| Hausa | 11 | 2.8 |
| Igede | 11 | 2.8 |
| Cotonu | 2 | 0.5 |
| Level of Education (N= 397) | | |
| No formal education | 26 | 6.5 |
| Primary | 62 | 15.6 |
| Secondary | 223 | 56.2 |
| Tertiary | 86 | 21.7 |
| Level of tertiary education(N=86) | | |
| NCE | 30 | 34.9 |
| HND | 13 | 15.1 |
| BSC | 24 | 27.9 |
| B.Ed | 2 | 2.3 |
| Marital status (N= 397) | | |
| Married | 365 | 91.9 |
| Single | 25 | 6.3 |
| Divorced | 2 | 0.5 |
| Widowed | 5 | 1.3 |
| Number of children < 5 years (N=394) + | | |
| One | 212 | 53.8 |
| Two | 161 | 40.9 |
| Three | 19 | 4.8 |
| Four | 2 | 0.5 |
| Age of youngest child (N=394) ** | | |
| One | 197 | 50.0 |
| Two | 88 | 22.3 |
| Three | 71 | 18.0 |
| Four | 33 | 8.4 |
| Five | 5 | 1.3 |

* Respondents' Mean age = 28.7 ± 5.8 years ** Mean age of youngest child = 1.9 ± 1.1years
+Mean number of children aged < 5 years = 1.5± 0.6

## 4.2 Respondents' Living Situation

Table 4.2 shows the different living situations of the respondents, their sources of water supply and sanitation facilities. The highest proportion of the respondents (39.3%) lived in a *face-me-I-face-you* house, followed closely by respondents who lived in flats (34.8%) with 3 or more bedrooms. Majority of the respondents (62.7%) obtain their water from wells while 32.5% obtain their water from borehole/deep well with installed pumps. Majority (89.7%) of the respondents had toilet facilities in their houses with Water Closet type accounting for 56.9% followed by pit latrines (32.7%). Cement flooring is the most common form of flooring (74.1%) among respondents, followed by use of tiles (13.9%). Majority of the respondents (65.5%) prefer burning as a form of waste disposal (see table 4.2 for more details).

**Table 4.2 Respondents' Living Situations (Housing, water and sanitation facilities).**

N=397

| | № | % |
|---|---|---|
| **Respondents' type of house** | | |
| Flats (3 or more bed room | 138 | 34.8 |
| Face me I face you house | 156 | 39.3 |
| One room apartment | 28 | 7.1 |
| Two room apartments | 52 | 13.1 |
| A room and a parlour | 23 | 5.8 |
| **Sources of drinking water** | | |
| Well | 249 | 62.7 |
| Borehole/Deep well with pump | 129 | 32.5 |
| Stream | 2 | 0.5 |
| River | 17 | 4.3 |
| **Presence of toilet** | | |
| Yes | 356 | 89.7 |
| No | 41 | 10.3 |
| **Kinds of toilet** | | |
| Pit latrine | 130 | 32.7 |
| Water closet | 226 | 56.9 |
| Not Applicable | 41 | 10.3 |
| **Kinds of flooring in the house** | | |
| Cement floor | 294 | 74.1 |
| Bare floor (uncemented floor) | 45 | 11.3 |
| Tiles | 55 | 13.9 |
| Marble floor | 3 | 0.8 |
| **Mode of refuse disposal** | | |
| Burning | 260 | 65.5 |
| Dumping of the refuse on the street or on the road | 16 | 4.0 |
| Disposing twice a week to the waste disposal drum/container | 32 | 8.1 |
| Dumping the refuse in the stream or during flood when it is raining | 38 | 9.6 |

### 4.3 Respondents' Knowledge of Diarrhoea

Respondents' knowledge relating to concept or definition of diarrhoea was determined using an open-ended question. The results are shown in table 4.3. It was noted that only 35.3% correctly explained what diarrhoea is as ''frequent watery'' or ''loose stooling'' for more than three times per day. Stooling due to ''teething'' topped (37.0%) the list of the incorrect definitions of diarrhoea, followed by those who defined diarrhoea as stooling which results from the consumption of sugary foods (25.7%). (Table 4.3 for more details).

Table 4.4 presents respondents' knowledge relating to the features of diarrhoea. Majority of the respondents (81.4%) correctly stated that vomiting is a feature of diarrhoea while 63.5% stated that general body weakness is also a feature of diarrhoea. Slightly over half (56.4%) of the respondents correctly stated that sunken fontanelle is a major feature of diarrhoea among under five children. The Mean knowledge score of respondents on diarrhoea was 5.1 ± 1.7 based on an assessment involving the use of a 9-point knowledge. The correct features of diarrhoea are differentiated into two- correct minor and correct core/ major features. (Table for details).

Respondents knowledge of factors that could lead to diarrhoea are depicted in table 4.5. Slightly over half of the respondents (51.8%) correctly knew that diarrhoea could be caused by an infection. Most (94.9%) respondents correctly stated that poor hygiene could predispose under-five children to diarrhoea. The mean score of respondents' knowledge on causes of diarrhoea was 3.4 ± 1.1 based on a 5-point scale. (see table 4.5 for more details).

Table 4.6 presents respondents' knowledge of the possible consequences of diarrhoea. Most (97.4%) respondents correctly mentioned dehydration to be a possible consequence of diarrhoea while 96.9% correctly noted that death could be a consequence of diarrhoea. The mean score of respondents' knowledge of the consequence of diarrhoea was 3.7 ± 1.1 out of a maximum score of 5-points.

**Table 4.3 Respondents' Knowledge of Diarrhoea**

N=397

| Correctness of stated concept/definition of diarrhoea | № | % |
|---|---|---|
| *Correctness* | | |
| Correct responses (*frequent watery or loose stooling for more than three times per day)* | 140 | 35.3 |
| Incorrect responses | 257 | 64.7 |
| | | |
| *Details of incorrect responses:* (N= 257): | | |
| Stooling due to teething | 95 | 37.0 |
| Stooling as result of eating sugary foods *(jedi jedi)* | 66 | 25.7 |
| Watery stool that has mucus | 40 | 15.6 |
| Stooling and vomiting due to drinking of unclean water | 30 | 11.6 |
| Stooling as result a of eating contaminated /dirty food | 26 | 10.1 |

Mean score: 0.4 ± 0.5

**Table 4.4: Respondents' knowledge of the features of childhood diarrhoea**

N=397

| Features of childhood diarrhoea | True №(%) | False №(%) |
|---|---|---|
| Vomiting | 323 (81.4) * | 74 (18.6) |
| Cough | 119 (30.0) | 278 (70.0) * |
| Swelling of the stomach | 284 (71.5) * | 113 (28.5) |
| Fever | 83 (20.9) * | 314 (79.1) |
| Loss of appetite | 178 (44.8) * | 219 (55.2) |
| General body weakness | 252 (63.5) *+ | 145 (36.5) |
| Frequent watery stooling | 135 (34.0) *+ | 262 (66.0) |
| Malaria | 141 (35.5) | 256 (64.5)* |
| Sunken fontanelle | 224 (56.4) *+ | 173 (43.6) |

*correct minor features Mean score: 5.1± 1.7

*+ Correct core/Major features

**Table 4.5 Respondents' knowledge of factors that can lead to diarrhoea**

N=390

| Factors | True № (%) | False №(%) | Not sure №(%) |
|---|---|---|---|
| Infection | 202 (51.8) * | 165 (42.3) | 23 (5.9) |
| Poor hygiene | 370 (94.9) * | 16 (4.1) | 4 (1.0) |
| Teething | 301 (77.2) | 53 (13.6) * | 36 (9.2) |
| No cause/No factor | 14 (3.6) | 371 (95.1) * | 5 (1.3) |
| Malnutrition | 320 (82.1) * | 59 (15.1) | 11(2.8) |

*correct responses Mean score: 3.4 ± 1.1

**Table 4.6 Respondents' knowledge of the possible consequences of diarrhoea**

N=392

| Consequences of diarrhoea | True № (%) | False № (%) |
|---|---|---|
| Dehydration | 382 (97.4) * | 10 (2.6) |
| Reduction in weight | 344 (87.8) * | 48 (12.2) |
| Increase in height | 148 (37.8) | 244 (62.2) * |
| Malnutrition | 116 (29.6) * | 276 (70.4) |
| Death | 380 (96.9) * | 12 (3.1) |

*correct responses Mean score: 3.7 ± 1.1

### 4.4 Respondents' Knowledge of Dehydration Related Symptoms and ORS/SSS

The knowledge of respondents on the symptoms of dehydration associated with diarrhoea is presented in Table 4.7. Majority (77.1%) of the respondents correctly listed *dry skin* as a symptom of the condition while 82.6% correctly mentioned *'dry mouth'* as a symptom. The mean score of respondents on the symptoms of dehydration was 3.3 ± 1.7 out of a maximum score of 5.

Respondents awareness and knowledge related to Salt Sugar Solution (SSS) and Oral Rehydration Salt (ORS) are presented in table 4.8. Majority (76.1%) of the respondents had heard of SSS while 90.4% had heard of ORS. Only 27.2% could state that there is a difference between SSS and ORS. Table 4.8 for details.

Table 4.9 highlights respondents' knowledge of the major ingredients for preparing SSS. Majority (79.1%) of the respondents correctly listed water as an ingredient, while salt and sugar were correctly listed by 79.6% and 77.8% respectively. The mean knowledge score of respondents on the ingredients for preparing SSS was 3.3 ± 1.8 out of a maximum score of 5.

**Table 4.7 Respondents' knowledge of the symptoms of dehydration associated with diarrhoea**

N=397

| Symptoms | True № (%) | False № (%) | Don't Know № (%) |
|---|---|---|---|
| Dry skin | 306 (77.1) * | 29 (7.3) | 62 (15.6) |
| Dry mouth | 325 (81.9) * | 10 (2.5) | 62 (15.6) |
| Sunken eyes | 328 (82.6) * | 7 (1.8) | 62 (15.6) |
| Dizziness | 240 (60.5) * | 93 (23.4) | 64 (16.1) |
| Malaria | 229 (57.7) | 101 (25.4) * | 67 (16.9) |

*correct responses Mean score: 3.3 ± 1.7

**Table 4.8 Respondents' awareness and knowledge of salt sugar solution and oral rehydration solution (SSS/ORS)**

N=397

| Awareness/ knowledge on SSS/ORS | Yes № (%) | No № (%) |
|---|---|---|
| Ever heard of salt sugar solution | 302 (76.1) + | 95 (23.9) |
| Ever heard of oral rehydration salt | 359 (90.4) + | 38 (9.6) |
| Whether difference exists between ORS/SSS | 108 (27.2) * | 289 (72.8) |

***knowledge related response**
**+ Awareness related response**

**Table 4.9 Respondents' knowledge of the major ingredients for preparing salt sugar solution (SSS)**

N= 397

| Ingredients + | True № (%) | False № (%) |
|---|---|---|
| Water | 314 (79.1) * | 83 (20.9) |
| Salt | 316 (79.6) * | 81 (20.4) |
| Glucose | 187 (47.1) | 210 (52.9) * |
| Sugar | 309 (77.8) * | 88 (22.2) |
| Lime | 226 (56.9) | 171 (43.1) * |

*correct responses Mean score: 3.3 ± 1.8

+ respondents' who were able to mention the three ingredients (water, salt, sugar) = 178(44.8%)

## 4.5 Respondents' knowledge of expected hygiene practices, and steps related to the preparation and use of SSS/ORS

Respondents' knowledge of hygiene practices for preparing SSS/ORS is shown in table 4.10. Majority of the respondents (80.4%) correctly listed the washing of the spoon for the preparation of SSS/ORS with soap and clean water. A high proportion (78.8%) correctly listed the washing of the container/plastic before using it to prepare SSS/ORS. The mean knowledge score was 3.7 ± 1.8 out of a maximum score of 5. (Table 4.10 for details).

Table 4.11 presents the correctness of respondents' knowledge of the steps involved in the preparation of salt sugar solution. The proportion of the respondents who were able to state the steps correctly were 29.0%. Respondents who incorrectly listed ''salt and little sugar and ordinary water'' was 19.8%; this was followed by 13.8% who incorrectly listed "1 bottle of table water 3 level spoon of sugar and 3 level spoons of salt".

The assessment of the respondents' knowledge relating to the appropriate time for giving SSS/ORS during an episode of diarrhoea was done. A majority (85.9%) correctly stated that it is often "after every watery stool". The mean knowledge score was 1.2 ± 0.8 out of a maximum score of 5. (Table 4.12 for more details).

It is revealed in table 4.13 that most respondents (84.4%) correctly stated that ORS/SSS expires after the first day of preparation. The mean knowledge score was noted to be 1.5 ± 1.4 out of a maximum score of 4 points.

Figure 4.1 shows the categories of knowledge scores with 30% with good knowledge, 21% having poor and 49% having fair knowledge respectively.

The overall level of knowledge of respondents on diarrhoea was assessed using a 44-point rating scale with scores of 33 points and above categorised ''very good knowledge'', scores of 22 points to 33.0 points, were categorised as fair knowledge and scores below 22 points indicating poor knowledge respectively. Respondents mean knowledge score was 30.5 ± 8.0 and the categories of knowledge scores are shown in figure 4.1.

**Comparisons of Respondent's Knowledge and socio-demographic characteristics**

Table 4.14 summarizes the comparison of respondents' knowledge by socio demographic characteristics. The result shows a statistically significant difference in the mean knowledge scores of respondents by age group; respondents aged 14-24 years had a mean score of 27.12±6.45 and those aged ≥25 and above had a mean score of 31.51±8.18 with a p-value of 0.007. There was also a statistically significant difference in respondents' level of education compared with their mean knowledge scores with a p-value of 0.002. There was no statistically significant difference in respondents' mean knowledge score and the following socio-demographic characteristics: religion, marital status, number of children aged <5years and age of youngest child.

**Table 4.10 Respondents' knowledge of expected hygiene practices for preparing salt sugar solution and oral rehydration salt.**

N=339

| Knowledge of Hygiene practices | Yes № (%) | No № (%) |
|---|---|---|
| Washing of hands with soap and clean water before the preparation | 294 (74.1) * | 45 (11.3) |
| Washing of the container/ plastic before use | 313 (78.8) * | 26 (6.5) |
| Washing of the spoon with soap and clean water | 319 (80.4) * | 20 (5.0) |
| Washing of hands with only water | 70 (17.6) | 269 (67.8)* |
| I don't wash my hand or any other material before use | 81 (20.4) | 258 (65.0)* |

*correct practices related to knowledge Mean score: 3.7 ± 1.8

**Table 4.11 Respondents' knowledge relating to ingredient for preparing SSS.**

N= 397

| Correctness of steps for preparing salt sugar solution | № | % |
|---|---|---|
| *Correctness* | | |
| Correct responses | 115 | 29.0 |
| Incorrect responses | 282 | 71.0 |
| | | |
| Summary of correct responses (N=115) | N | % |
| Six (6) level teaspoons of Sugar | 115 | 29.0 |
| Half (1/2) level teaspoon of Salt. | | |
| One litre of clean drinking or boiled water and then cooled | | |
| | | |
| *Details of Incorrect responses (N= 282):* | | |
| Never prepared before | 79 | 28.0 |
| Salt and sugar (little quantity) into ordinary water | 56 | 19.8 |
| 1 bottle of table water, 3 level spoon of sugar and 3 level spoons of salt | 39 | 13.8 |
| 1 bottle water 1 spoon of salt, 2 spoons of sugar | 37 | 13.1 |
| 1 bottle of water, 1 teaspoon of sugar and ½ teaspoon of salt | 30 | 10.6 |
| Boiled/ warm water, 5 cubes of sugar, 1 teaspoon of salt. | 24 | 8.5 |
| 1 bottle of water, 1 spoon of glucose, 1 spoon of salt and 1 spoon of sugar. | 10 | 3.5 |
| 1 big bottle water, 3 spoon of sugar, 2 spoons of salt and ½ cup of lime | 7 | 2.4 |

**Table 4.12 Respondents' knowledge of the appropriate time for giving ORS or SSS during episode of diarrhoea.**

***N=397***

| Time ORS/SSS Should be introduced during diarrhoea episode | True/Yes № (%) | False/No № (%) |
|---|---|---|
| Morning and night | 341 (85.9) | 56 (14.1) * |
| After each watery stool * | 341 (85.9) * | 52 (13.1) |
| Before each stool | 359 (90.4) | 38 (9.6) |
| Three to four times a day | 385 (97.0) | 12 (3.0) |

*correct response Mean score = 1.2 ± 1.0

**Table 4.13 Respondents' knowledge relating to the expiration of prepared ORS/SSS**

N= 374

| Expiration of ORS/SSS | True №(%) | False №(%) |
|---|---|---|
| After the second day of preparation | 275 (69.3) | 99 (24.9) * |
| After the first day of preparation | 335 (84.4) * | 39 (9.8) |
| It does not expire | 280 (70.5) | 94 (23.7) * |
| When the child finishes the solution | 288 (72.5) | 86 (21.7) * |

***correct responses** **Mean score =** 1.5 ± 1.4

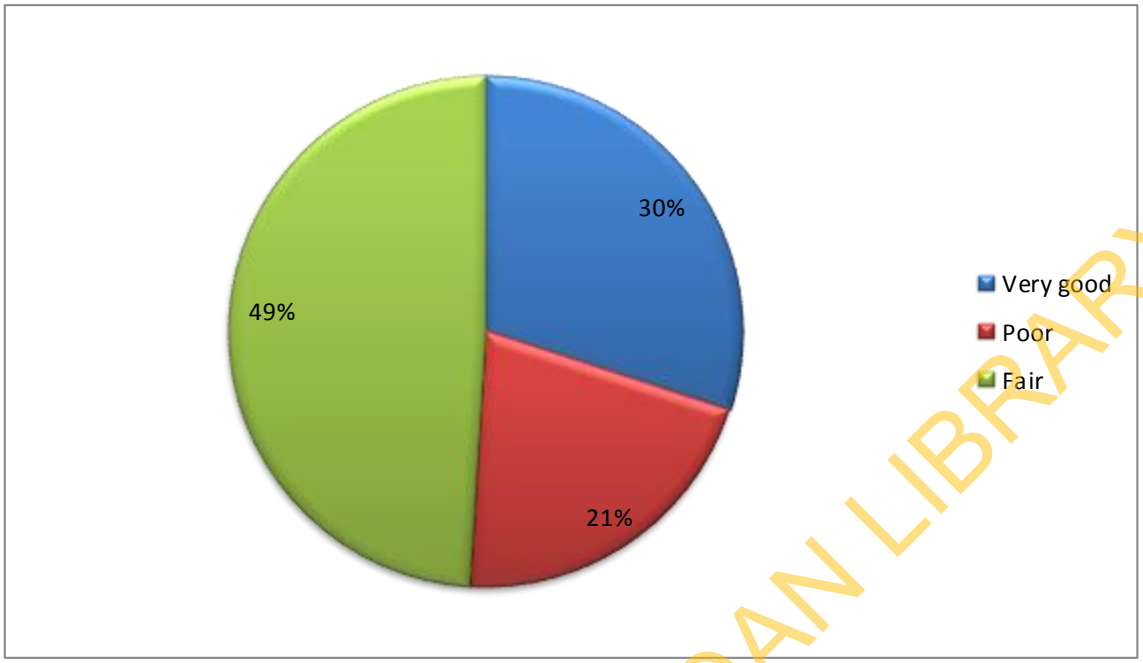


Figure 4.1: Categories of knowledge score

Mean score = 30.5 ± 8.0

**Table 4.14 Comparison of respondents' knowledge by socio-demographics characteristics**

| | No | $\bar{x}$ knowledge Score | Std Deviation | Df | F/t-test | P Value |
|---|---|---|---|---|---|---|
| **Age group** | | | | | | |
| 14-24 | 93 | 27.12 | 6.455 | 395 | 7.457 | 0 .007* |
| ≥25 | 304 | 31.51 | 8.181 | | | |
| **Religion** | | | | | | |
| Christianity | 202 | 31.19 | 8.183 | 2, 394 | 2.764 | 0.064+ |
| Muslim | 185 | 29.96 | 7.820 | | | |
| Traditional | 10 | 26.00 | 6.880 | | | |
| Total | 397 | 30.48 | 8.023 | | | |
| **Ethnic group** | | | | | | |
| Ethnic minorities | 44 | 30.64 | 8.806 | 395 | 0.134 | 0.154 |
| Yoruba | 353 | 30.46 | 7.933 | | | |
| **Level of education** | | | | | | |
| No formal education | 26 | 26.69 | 8.216 | 3, 393 | 5.150 | 0 .002* |
| Primary | 62 | 30.66 | 8.010 | | | |
| Secondary | 223 | 29.93 | 8.297 | | | |
| Tertiary | 86 | 32.94 | 6.546 | | | |
| Total | 397 | 30.48 | 8.023 | | | |
| **If tertiary** | | | | | | |
| NCE | 30 | 33.92 | 6.486 | 2, 83 | 6.785 | 0.002 |
| Higher Education | 26 | 29.70 | 5.826 | | | |
| Polytechnic | 30 | 35.33 | 6.144 | | | |
| education | 86 | 32.94 | 6.546 | | | |
| Total | | | | | | |
| **Marital status** | | | | | | |
| Married | 365 | 30.41 | 8.118 | 395 | 1.524 | 0.218 |
| Sigle parent | 32 | 31.28 | 6.901 | | | |
| **Number of children** < 5 years | | | | | | |
| One | 212 | 30.62 | 7.870 | 391 | 0.488 | 0.576 |
| ≥2 | 181 | 30.23 | 8.195 | | | |
| **Age of youngest** | | | | | | |
| child | 197 | 28.52 | 7.239 | 385 | -4.781 | 0.035 |
| One | 190 | 32.32 | 8.367 | | | |
| ≥2 | | | | | | |

### 4.6 Perception of Respondents Relating to diarrhoea

This section presents the typologies of respondents' perception relating to diarrhoea. These are perceived seriousness of diarrhoea and perceived vulnerability to diarrhoea among mothers of under-five children. The perception are categorized into favourable /non-risky perception (i.e. those in line with biomedical view) and unfavourable/ risky perception (i.e. those not in line with biomedical view point).

The respondents' perceived seriousness of diarrhoea is presented in table 4.15. The table indicates that most (95.2%) of the respondents were of the perception that diarrhoea is a serious illness. Nearly half (49.1%) of the respondents shared the perception that diarrhoea is a normal developmental phase that a child has to pass through. Majority (83.1%) of the respondents perceived diarrhoea to be a condition that can expose a child to other illnesses like malaria and typhoid. In addition, 61.2% perceived malnutrition as a health condition that can put a child at risk of having diarrhoea (Table 4.15 for more details).

Table 4.16 highlights respondents' perception of vulnerability of under-five children to diarrhoea. Slightly over half of the respondents (53.4%) were of the view that they live in a clean house/ environment and so their children cannot experience diarrhoea. The perception of 73.8% was that giving good food to children can help prevent childhood diarrhoea while 76.6% of the respondents shared the perception that giving clean water prevents childhood diarrhoea.

Figure 4.2 shows respondents' overall perception scores with 72% having favourable perception i.e. perception in line with the biomedical world view. The overall level of perception of respondents was rated on a 12- point perception scale. Based on this scale a score lower that 6 points indicates 'risky/Unfavourable perception' while a score of 6 points and above indicated 'favourable/Non-risky perception'. The mean perception was noted to be 6.5± 2.0 (Figure 4.2 for more details).

**Comparison of respondents' knowledge by perception and socio-demographic characteristics**

The comparison of respondents' mean knowledge scores by perception is shown in table 4.17. The mean knowledge score was 29.3±7.4 among those with unfavorable perception, while the mean score among those with favorable perception was 30.9±8.1 which is not significantly different (P = 0.071).

Table 4.18 summarizes the comparison of respondents' perception by socio demographic characteristics. The result shows a statistically significant difference in the mean perception score compared with respondents' religion and level of education with a p-value of 0.008 and 0.044 respectively. There was a statistically significant difference in the mean perception score based on age of respondents' youngest child with a p value of 0.002; those whose youngest child were less than two years old had a score of 6.61±2.25 while those whose youngest child were greater than two years had a score of 6.40±1.78. (Table 4.18 for more details).

**Table 4.15 Respondents' Perception of seriousness of childhood diarrhoea**

**N= 397**

| Perceived seriousness of childhood diarrhoea | Agree №(%) | Undecided №(%) | Disagree №(%) |
|---|---|---|---|
| Diarrhoea is a serious illness | 378 (95.2) + | 3 (0.8) | 16 (4.0) |
| Diarrhoea does not kill | 85 (21.4) | 46 (11.6) | 266 (67.0) + |
| Diarrhoea is a normal phase a child has to go through | 195 (49.1) | 47 (11.8) | 155 (39.0) + |
| Diarrhoea can expose a child to other illness like malaria, typhoid | 330 (83.1) + | 42 (10.6) | 25 (6.3) |
| Diarrhoea can hinder the development of a child | 294 (74.1) + | 47 (11.8) | 56 (14.1) |
| Only children who are teething can have diarrhoea | 100 (25.2) | 45 (11.3) | 252 (63.5) + |
| Malnutrition can put a child at risk of having diarrhoea | 243 (61.2) + | 85 (21.4) | 69 (17.4) |
| It is not necessary to use any formal health-care facilities when an under 5 has diarrhoea | 78 (19.6) | 35 (8.8) | 284 (71.5) + |

+ favourable perception (i.e perception in line with biomedical world view)

**Table 4.16 Respondents' perception of vulnerability of under-fives to diarrhoea**

**N=397**

| Perceived vulnerability of childhood diarrhoea | Agree №(%) | Undecided № (%) | Disagree № (%) |
|---|---|---|---|
| Only under-five children from low socio-economic level can have diarrhoea | 26 (6.5) | 26 (6.5) | 345 (86.9) + |
| I live in a clean house/ environment so my child cannot experience diarrhoea | 212 (53.4) | 60 (15.1) | 125 (31.5) + |
| Giving good/uncontaminated food can prevent childhood diarhoea. | 293 (73.8) + | 33 (8.3) | 71 (17.9) |
| Giving clean water prevents childhood diarrhoea | 304 (76.6) + | 29 (7.3) | 64 (16.1) |

+ favourable perception (i.e. perception in line with biomedical world view)

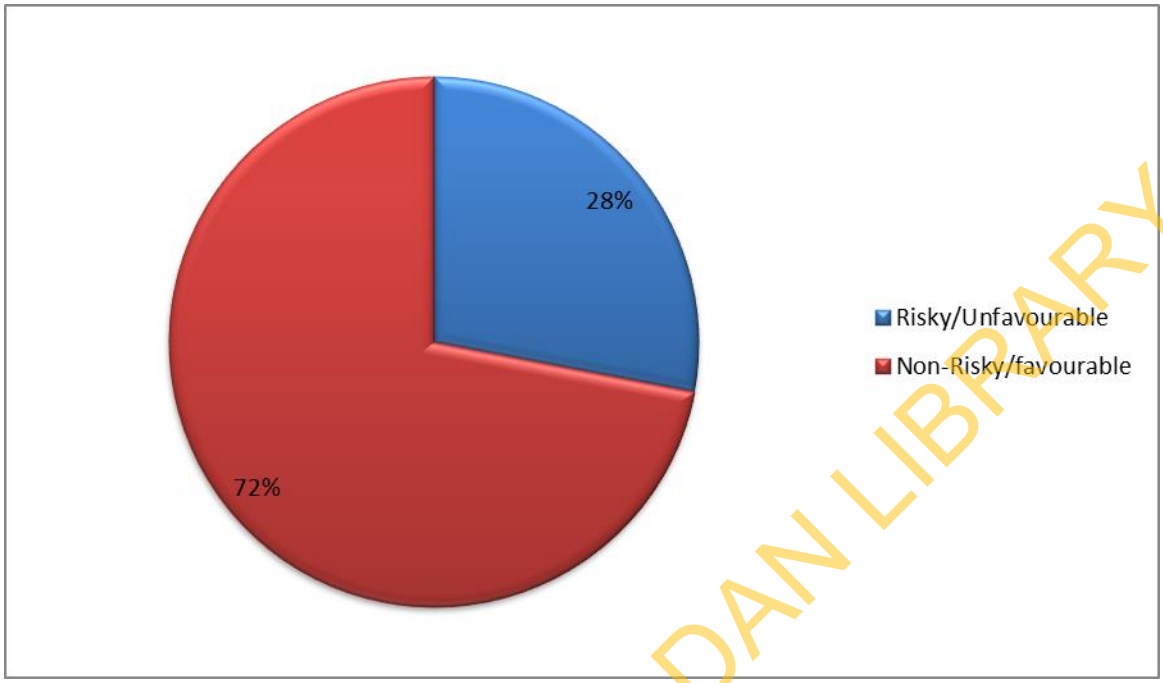


Figure 4.2 Categories of perception of diarrhoea among the respondents

Mean score = 6.5 ± 2.0

**Table 4.17 Comparison of respondents' knowledge by typologies of perception**

| Typology of perception | No | $\bar{x}$ knowledge Score | Std deviation | Df | t-test | P value |
|---|---|---|---|---|---|---|
| Risky/Unfavourable | 110 | 29.31 | 7.452 | 395 | 1.811 | 0.071* |
| Favourable/Non-risky | 287 | 30.93 | 8.199 | | | |

*Not significant at p<0.05

**Table 4.18 Comparison of respondents' perception by socio-demographics characteristics.**

| | No | $\bar{x}$ perception Score | Std deviation | Df | F/t-test | P value |
|---|---|---|---|---|---|---|
| Age group | | | | | | |
| 14-24 | 93 | 5.871 | 2.232 | 354 | -3.620 | 0.116 |
| ≥ 25 | 263 | 6.75 | 1.938 | | | |
| | | | | | | |
| Religion | | | | | | |
| Christianity | 202 | 6.74 | 1.927 | 2, 394 | 4.913 | 0.008 |
| Muslim | 185 | 6.43 | 2.094 | | | |
| Traditional worshiper | 10 | 4.80 | 2.740 | | | |
| Total | 397 | 6.55 | 2.048 | | | |
| | | | | | | |
| Ethnic group | | | | | | |
| Ethnic minorities | 44 | 6.50 | 1.758 | 395 | -0.177 | 0.311 |
| Yoruba | 352 | 6.55 | 2.084 | | | |
| | | | | | | |
| Level of education | | | | | | |
| No formal education | 26 | 6.15 | 2.344 | 3, 393 | 2.717 | 0.044* |
| Primary | 62 | 6.31 | 2.251 | | | |
| Secondary | 223 | 6.46 | 1.981 | | | |
| Tertiary | 86 | 7.08 | 1.911 | | | |
| Total | 397 | 6.55 | 2.048 | | | |
| | | | | | | |
| If tertiary | | | | | | |
| NCE | 30 | 6.80 | 1.799 | 2, 83 | 0.744 | 0.478 |
| Higher education | 26 | 7.04 | 2.077 | | | |
| Polytechnic education | 30 | 7.40 | 1.845 | | | |
| Total | 86 | 7.08 | 1.911 | | | |
| | | | | | | |
| Marital status | | | | | | |
| Married | 385 | 6.62 | 2.014 | 395 | 2.321 | 0.158 |
| Single parent | 32 | 5.75 | 2.286 | | | |
| | | | | | | |
| Number of children < 5 years | | | | | | |
| One | 212 | 6.62 | 2.043 | 391 | 2.419 | 0.971 |
| ≥2 | 181 | 6.28 | 2.045 | | | |
| | | | | | | |
| Age of youngest child | | | | | | |
| One | 197 | 6.61 | 2.259 | 385 | 1.032 | 0.002* |
| ≥2 | 190 | 6.40 | 1.784 | | | |
| Total | | | | | | |

*Significant at 0.05

### 4.7 Respondents' behaviour and experiences related to childhood diarrhoea

Table 4.19 presents respondents experiences relating to childhood diarrhoea. The under five children (64.9%) of the respondents had ever experienced diarrhoea. The number of times respondents 'children experienced diarrhoea in the three months preceding the study ranged from 1-6 times. Majority (67.2%) of the children experienced diarrhoea 1-2 times.

The mean number of times respondents' children experienced diarrhoea was 1.5 ± 1.2. The experience of childhood diarrhoea for less than 7 days topped (42.1%) the list with the mean duration being 3.8± 3.7. (Table 4.19 for more details).

### Comparisons of Respondents' knowledge by experience of diarrhoea

Table 4.20 depict the comparison of the respondents' level of knowledge by experience of diarrhoea among their children. The mean knowledge scores of respondents whose children had ever experiences diarrhoea was 29.7±7.5 while among respondents whose children had never experienced diarrhoea the mean knowledge score was 31.8±8.7 with a significant difference of 0.032.

### Health seeking behavior of respondents

The key behaviours among the respondents' which have implications for diarrhoea control are presented in table 4.21. the proportion of respondents who delivered their youngest under-five child in a private hospital was 39.8% followed by 23.7% who delivered in a general hospital. Traditional Birth Attendants facilitated the delivery of 5% of the respondents'. The children of slightly over half (55.4%) of the respondents had been given a vaccine for preventing/ controlling diarrhoea (i.e. Rota virus vaccine). Majority (74.3%) of the respondents breastfeed their under-five children, while about two third (61.8%) of the respondents breastfeed their children as usual when their children were experiencing diarrhoea (Table 4.21 for more details).

### 4.8 Comparison of respondents' knowledge by health seeking behaviors

Table 4.22 presents the variation in the level of knowledge of diarrhoea among respondents by the health seeking practices. It was noted that there was a significant difference in the level of knowledge of respondents by place of delivery of youngest child. The knowledge score of those who delivered in a traditional birth attendants' home was 36.4±7.4. closely followed by those who delivered in a general hospital.

The mean knowledge score of respondents by places visited for treatment of diarrhoea is also presented in the table. The mean knowledge scores of those who visited a health center topped (32.6±8.1) followed by those who visit a general hospital (32.4±6.5). (i.e. details are contained in the table).

Table 4.23 shows the comparison of respondents' knowledge versus place of delivery involving formal health care facilities (general hospital+ private hospital +primary health care Centre) 30.22 ± 7.74 by informal facilities (home or traditional birth attendant) 31.81±9.23 the result showed that there was no significant different with a p-value of 0.139. Also presented in the table is the comparison of respondents' knowledge versus place visited for treatment of diarrhoea involving formal facilities (general hospital + health center + private hospital 31.20 ± 8.146 by informal facilities (traditional healer+ relative /friends +self-medication+ chemist/pharmacy) 28.79 ± 7.475 the results showed a significant difference with a p-value of 0.006.

Table 4.24 shows the comparison of respondents' knowledge by pattern of adoption of the Rota virus vaccine. The mean knowledge score among those whose children had received the vaccine was 30.9±6.4 while those whose children had never received the Rota virus vaccine were 29.8±9.6. The results showed a significant difference in the pattern of adoption of Rota virus vaccine

**Table 4.19 Respondents' diarrhoea related experiences.**

| Experience of childhood diarrhoea | № | % |
|---|---|---|
| Have child aged <5 years ever had diarrhoea(N=390) | | |
| Yes | 253 | 64.9 |
| No | 137 | 35.1 |
| Number of times youngest child had diarrhoea in the last three months (N=253) + | | |
| One | 121 | 47.8 |
| Two | 49 | 19.4 |
| Three | 29 | 11.5 |
| Four | 11 | 4.4 |
| Five | 6 | 2.37 |
| Six | 1 | 0.39 |
| None | 36 | 14.23 |
| Duration of diarrhoea episode experienced by the youngest child* | | |
| < 7 days | 167 | 42.1 |
| 7-14 days | 35 | 8.8 |
| 15-21 days | 3 | 0.8 |

+ Mean number of times = 1.5 ± 1.2 *Mean duration in days = 3.8 ± 3.7

**Table 4.20 Comparison of respondents' knowledge by experience of diarrhoea**

| Experience of diarrhoea by child aged <5 years | No | $\bar{x}$ knowledge Score | Std | df | T-test | P value |
|---|---|---|---|---|---|---|
| Yes | 253 | 29.73 | 7.581 | 388 | 2.500 | 0.032 |
| No | 137 | 31.85 | 8.704 | | | |

(P<0.05)

**Table 4.21 Key health seeking behaviour among respondents with implication for diarrhoea control.**

| | | N=397 |
|---|---|---|
| Health related practices | № | % |
| ***Place of delivery of youngest under-five*** | | |
| General hospital | 94 | 23.7 |
| Private hospital | 158 | 39.8 |
| Home delivery | 47 | 11.8 |
| Health centre | 78 | 19.6 |
| Traditional birth attendant | 20 | 5.0 |
| ***Whether child had been given any vaccine for preventing/ controlling diarrhoea (i.e. Rota virus vaccine)*** | | |
| Yes | 220 | 55.4 |
| No | 177 | 44.6 |
| ***Whether breastfeed child*** | | |
| Yes | 295 | 74.3 |
| No | 102 | 25.7 |
| ***Pattern of breastfeeding when child has diarrhoea*** **(N=387)** | | |
| Less than usual | 113 | 29.2 |
| About the same | 239 | 61.8 |
| More than usual | 35 | 9.0 |

**Table 4.22 Comparison of respondents' knowledge by health seeking behaviours**

| Health seeking behaviour | No | $\bar{x}$ knowledge Score | Std Deviation | Df | F-test | P value |
|---|---|---|---|---|---|---|
| **Place of delivery of youngest under five** | | | | | | |
| General hospital | 94 | 32.69 | 6.690 | 4, 392 | 6.518 | 0.000* |
| Private hospital | 158 | 28.96 | 8.142 | | | |
| Home delivery | 47 | 30.11 | 9.467 | | | |
| Health centre | 78 | 29.62 | 7.354 | | | |
| Traditional birth attendant | 20 | 36.40 | 7.408 | | | |
| Total | 397 | 30.48 | 8.023 | | | |
| **Place visited for treatment of diarrhoea** | | | | | | |
| General hospital | 52 | 32.42 | 6.467 | 6, 390 | 3.838 | 0.001* |
| Health center | 124 | 32.60 | 8.132 | | | |
| Traditional healer | 14 | 27.57 | 6.418 | | | |
| Private hospital | 104 | 28.92 | 8.469 | | | |
| Pharmacy/chemist | 88 | 29.10 | 7.476 | | | |
| Relative/friend | 4 | 30.00 | 12.356 | | | |
| Self-medication | 11 | 27.09 | 7.476 | | | |
| Total | 397 | 30.48 | 8.023 | | | |

*significant at <0.05

**Table 4. 23 Comparison of respondents' knowledge by health seeking behaviours (Grouped).**

| Health seeking behaviour | No | $\bar{x}$ knowledge Score | Std Deviation | Df | F-test | P value |
|---|---|---|---|---|---|---|
| **Place of delivery of youngest under five** | | | | | | |
| Formal facilities | 330 | 30.22 | 7.743 | 1, 395 | 2.196 | 0.139+ |
| Informal facilities | 67 | 31.81 | 9.230 | | | |
| Total | 397 | 30.48 | 8.023 | | | |
| **Place visited for treatment of diarrhoea** | | | | | | |
| Formal health care facilities | 280 | 31.20 | 8.146 | 1, 395 | 7.782 | 0.006* |
| Informal health care facilities | 117 | 28.79 | 7.475 | | | |
| Total | 397 | 30.48 | 8.023 | | | |

+ not significant
*significant at <0.05

**Table 4.24 Comparison of respondents' knowledge by adoption of Rota virus Vaccine**

| Adoption of Rota virus vaccine | No | $\bar{x}$ knowledge Score | Std Deviation | Df | T-test | p value |
|---|---|---|---|---|---|---|
| Yes | 220 | 30.96 | 6.406 | 395 | 1.330 | 0.000* |
| No | 177 | 29.89 | 9.650 | | | |

*significant at 0.05

## 4.9 Complementary feeding and childhood diarrhoea management practices.

### Complementary feeding practices

The results relating to the assessment of respondents' complementary feeding practices are shown in table 4.25. Only 38.3% initiated complementary feeding practices when their children attain the age of six months. A smaller proportion (23.7%) did so even after six months. Slightly over half (52.7%) reduced the level of complementary feeding of their under-five children during episode of diarrhoea (Table 4.25 for more details).

### Childhood diarrhoea management practices

Table 4.26 summarises respondents' diarrhoea management practices. Majority (71.8%) of the respondents sought for treatment for under five children outside the home. Health centre (31.2 %) topped the list of places visited for treatment by respondents when children has diarrhoea.

The decision in respect of choice of health care facility to take a child to for care was reportedly made by both parents (55.4%). Over half (54.1%) of the respondents give their children ORS/SSS when diarrhoea is first noticed. Only 3.4% gave their child zinc tablets. Antibiotics were irrationally given to children with diarrhoea by 20.8% of the respondents.

The factors which necessitate the use of hospital during an episode of diarrhoea involving under-five children are presented in table 4.26. The factor that topped (49.9%) the list was when stooling in under- fives fails to stop. Several respondents (32.9%) would take their children to the hospital when weakness sets in during an episode of diarrhoea (Details are contained in the table).

**Table 4.25 Complementary feeding practices among the respondents'**

| **Complementary feeding practices** | Yes<br>№(%) | No<br>№ (%) |
|---|---|---|
| ***Time of initiation of complementary feeding (N=397)*** | | |
| At 6 months | 152 (38.3) | 245 (61.7) |
| >6months | 94 (23.7) | 303 (76.3) |
| ***Pattern of giving complementary feeding during diarrhoea episode (N=315)*** | | |
| Less than usual | 166 | 52.7 |
| About the same | 58 | 18.4 |
| Complementary feeding not given during diarrhoea | 73 | 23.2 |
| More than usual | 11 | 3.5 |

**Table 4.26 Childhood diarrhoea management/ treatment practices among respondents**

N=397

| Diarrhoea management/treatment practices | N | % |
|---|---|---|
| **whether usually seek for treatment of diarrhoea outside the home** | | |
| Yes | 285 | 71.8 |
| No | 112 | 28.2 |
| **Place visit for treatment of diarrhoea** | | |
| General hospital | 52 | 13.1 |
| Health centre | 124 | 31.2 |
| Traditional healer | 14 | 3.5 |
| Private hospital | 104 | 26.2 |
| Pharmacy/Chemist | 88 | 22.2 |
| Relative/friend | 4 | 1.0 |
| Self-medication | 11 | 2.8 |
| **Decision maker relating to choose of the use of health facility for managing childhood diarrhoea** | | |
| Mother | 157 | 39.5 |
| Father of child | 20 | 5.0 |
| Both parents | 220 | 55.4 |
| **What given child when diarrhoea is first noticed (N=379) *** | | |
| Herbs | 17 | 4.5 |
| ORS/SSS | 205 | 54.1 |
| Zinc tablets | 13 | 3.4 |
| Rice water | 3 | 0.8 |
| Antibiotics e.g. flagyil | 79 | 20.8 |
| Nothing | 56 | 14.8 |
| Bought drugs | 5 | 1.3 |
| Garri water | 1 | 0.3 |

*Multiple response present

**Table 4.27 Factors which will necessitate the use of a hospital during an episode of Diarrhoea**

N=363

| Factors * | № | % |
|---|---|---|
| Once the child stools and does not stop | 182 | 49.9 |
| Child not able to breastfeed, eat/drink poorly | 23 | 6.3 |
| Child becomes weak | 120 | 32.9 |
| Child develops serious fever | 10 | 2.7 |
| Child vomits and stools at the same time | 27 | 7.4 |
| If drug does not work | 1 | 0.3 |

*There were multiple response present

## 4.10 Test of Hypotheses

**Hypothesis one:**

The hypothesis states ‘‘there is no significant association between respondents’ knowledge and perception on diarrhoea’’.

The results show that there is a statistically significant association between respondents’ level of knowledge and their perception ($X^2$ = 10.503; df = 2; P = 0.005). The null hypothesis is hereby rejected (Table 4.28).

**Hypothesis two:**

The hypothesis states that ‘‘there is no significant association between knowledge and age of respondents’’.

The results indicate that the association between respondents’ level of knowledge and their age is statistically significant ($X^2$ = 43.185; df = 6; P = 0.000). The null hypothesis is hereby rejected (Table 4.29).

**Hypothesis three:**

The hypothesis states that ‘‘there is no significant association between knowledge and health seeking behavior: place visit for treatment’’. The results reveal that there is statistically significant association between respondents’ level of knowledge and their place of visit for treatment during an episode of diarrhoea ($X^2$ = 6.356; df = 8; P = 0.607). The null hypothesis is hereby rejected (Table 4.30).

**Table 4.28 Association between respondents' knowledge and typology of perception relating diarrhoea**

| Knowledge level | Perception type | | Chi-Square | df | P value |
|---|---|---|---|---|---|
| | Risky (%) | Non-risky (%) | | | |
| Poor (<22) | 20(33.9) | 39(66.1) | 10.503 | 2 | 0.005 |
| Fair (22-33) | 65(32.8) | 133(76.2) | | | |
| Good (>33) | 25(17.9) | 115(82.1) | | | |

($p<0.05$)

**Table 4.29 Association between respondents' knowledge relating to diarrhoea and age**

| Age categories in years | Knowledge grade | | | Chi-Square | df | P value |
|---|---|---|---|---|---|---|
| | Poor (%) | Fair (%) | Good (%) | | | |
| 14-24 | 19(32.2) | 66(33.3) | 8(5.7) | 43.185 | 6 | 0.000 |
| 25-34 | 36(61.0) | 104(52.5) | 102(72.9) | | | |
| 35-44 | 4(6.8) | 27(13.6) | 26(18.6) | | | |
| ≥ 45 | 0(0.0) | 1(0.5) | 4(2.9) | | | |

$p<0.05$)

**Table 4.30 Association between respondents' knowledge and health seeking Behaviour: relating to place visit for treatment during episode of diarrhoea**

| Place visit for treatment | Knowledge grade | | | Chi-Square | Df | p value |
|---|---|---|---|---|---|---|
| | Poor (%) | Fair (%) | Good (%) | | | |
| Medical centers | 37(9.3) | 136(34.2) | 107(26.9) | 6.356 | 8 | 0.607 |
| Traditional healer | 3(0.7) | 7(1.7) | 4(1.0) | | | |
| Pharmacy/ chemist | 16(4.0) | 47(11.8) | 25(6.2) | | | |
| Relative/ friend | 1(0.2) | 1(0.2) | 2(0.5) | | | |
| Self-medication | 2(0.5) | 7(1.7) | 2(0.5) | | | |

# CHAPTER FIVE

# DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter focuses on the major findings of the study. It is organized into the following sub-sections: socio-demographic characteristics and basic living situations of respondents; respondents' knowledge of diarrhoea; perception of respondents relating to childhood diarrhoea; diarrhoea related experiences; diarrhoea related health-seeking behavior and respondents management/treatment practices relating to diarrhoea. Other sub-sections are the implications of the findings for health promotion and education, as well as the conclusion and recommendations.

## 5.1 Socio-demographic characteristics and basic living situations of respondents

The respondents' mean age was 28.7 ± 5.8 with majority of them aged 25-34 years. About half of the respondents were Christians and 46.6% were Muslims. It is to be noted that Christianity and Islam are the two dominant religions in the study area. Majority of the respondents were Yoruba; this is attributable to the fact that the study area is in the South Western region of Nigeria, an area predominantly inhabited by the Yoruba. The Literacy level among respondents was high with most of the respondents having some form of formal education or the others. The findings of the study relating to literacy level reflects the data released by the National Bureau of Statistics (2017) which shows that the literacy level in the southwestern region of Nigeria was 92.6%. The literacy level of Oyo state was noted to be 90.7%. Most of the respondents (91.9%) were married; this is to be expected because culturally a woman ought to be married before giving birth to children. The socio-demographic characteristics should be taken into consideration in the design of educational interventions targeted at the study population. This is needed to enhance the appropriateness of such interventions.

There are more respondents living in *a faced-me-I-face-you type of* apartment. This is the kind of houses usually inhabited by people who are not financially buoyant enough to live in a flat

in Nigeria. A face me-I-face you type of house usually contain two rows of independent sleeping rooms separated by a common passage. Such houses are usually characterised by shared toilets, kitchen, and refuse management facilities. This kind of living situation has implications for the occurrence of diarrhoea especially among under-five because of overcrowding and poor-environmental sanitation that often prevails in such houses. Respondents' most common source of water was the well. The sanitary states of the wells and water they contained are yet to be well investigated. A Well whose sanitary status is compromised is a potential source of water related illness such as diarrhoea diseases. A well is said to be sanitary when it has features which include the following: a parapet, apron, a permanent cover, and an attached basin or container for fetching water. A sanitary well should also not be located close to any source of contamination.

Toilet facilities were reportedly present in houses of 89.7% of the respondents with the most common types of toilet facility being the water closet and pit latrine. It should be noted however that the toilets were not observed during the study. Rather, information on them was based only on volunteered responses by respondents. The relative location and distance of the toilet facilities to the available sources of water have not been systematically studied. This is because these fall outside the scope of this study.

### 5.2 **Respondents' knowledge of diarrhoea**

The study revealed that respondents' knowledge of the concept of diarrhoea was poor. The disease condition was attributed to ''teething'' among under-five children. This is a common belief among many Yoruba in southwestern Nigeria (Sarrell, Horev, Cohen, & Cohen 2005 Ige & Popoola 2013.). Several studies also conducted in Ibarapa area of Oyo state a large rural area by Afunlehin, Akerele, Fabayo & Samuel (1987) as well as Obanor, Lawson, Ogunsanya, Ajao, Essien, Amusan, and Ojediran (1986) though old also reveals a similar belief among mothers of under-five. Some other perceived causes of diarrhoea diseases are however, in line with the biomedical world view; these include the beliefs that diarrhoea could be caused by ingestion of contaminated food, the drinking of contaminated water, and poor hygiene. A study conducted by Mwambete *et al.* (2010) in Tanzania and Chaudhary et al (2014) in India similarly revealed that mothers' knowledge of diarrhoea was poor with poor

sanitation and water cited by them as main risk factors. There are however few studies in Nigeria which revealed that mothers had good knowledge of diarrhoea. These studies included those studies conducted by Olakunle et al. (2012) and Raji et al (2017).

The level of knowledge recorded in this study is significantly higher than that found in a study by Mumtaz *et al.* (2014). The proportion of mothers in this study that was able to associate diarrhoea with water stool was (35.3 %). Shah *et al.* (2012) reported that most of the mothers and caregivers they studied in India knew watery stools and repeated vomiting as features of diarrhoea.

Dehydration is a major adverse effect of diarrhoea (WHO 2017). The proportion of respondent in this study that was aware of this was (97.4%). The proportion of mothers who was able to link dehydration with diarrhoea in a study conducted by Chaudhary et al (2014) in India was less than 34%.

More than half of the mothers had heard about ORS and SSS and were aware that they can be used for the home management of diarrhoea. Majority of the mothers listed water 79.1%, salt 79.6% and sugar 77.8% respectively as the ingredients for preparing SSS. However, majority (71.0%) of mothers had little or no knowledge on the preparation of SSS. A study conducted by Osonwa *et al.* (2016) and Santos *et al.* (2014) revealed that few mothers could give an acceptable description of how to prepare ORS/SSS respectively. Mumtaz *et al.* (2014) observed in their study that the mothers they studied had good knowledge on how to prepare ORS. What can be deduced from studies relating to mothers or caregivers with respect to diarrhoea is that their knowledge of the disease condition varies from study to study and from one geographical location to another.

### 5.3 Respondents' perception relating to diarrhoea

The perception of most mothers relating to the seriousness of diarrhoea was in line with the expected biomedical world view. Majority of the respondents for instance were of the view that diarrhoea is a serious illness. A Study conducted in Igboora community in Oyo state by Ogah, Adoki, Babalola, Onabanjo, Ikigho & Yesufa 1975) though old also show that many respondents perceived childhood diarrhoea to be serious.

Opinion was divided among the respondents in respect of the vulnerability of their under-five children to diarrhoea disease. To some mothers, their children cannot experience diarrhoea because they live in a clean environment. This is a perception which has a potential for putting an under-five at risk of diarrhoea. Some other mothers erroneously stated that giving good food and portable water are enough to prevents under-five children from experiencing diarrhoea. Some of the mothers were of the perception that all under-five children can experience diarrhoea irrespective of their socio- economic level/class.

It should be noted that that no one including the under-five children is or are excluded from contacting diarrhoea disease. The probability of under-five children getting diarrhoea disease is always there. This kind of perception is needed as to promote the adoption of preventive and control measures.

### 5.4 **Childhood diarrhoea related experiences, management and health seeking behaviour.**

The Overall prevalence of diarrhoea among the under-fives within the three months preceding this study was 64.9%, thus indicating that at least 6 in every 10 under-five children in this study had experienced diarrhoea. Data from the National Demographic Health Survey - NDHS (NPC 2013) show that the prevalence of under- five children who had had diarrhoea accounted for about 10%. The prevalence of diarrhoea diseases in Eni-Osa is a source of concern and concerted efforts are therefore, needed to control it.

Upon diagnosis of diarrhoea, more than half (52.7%) of the respondents give less complimentary feeding than usual during an episode of diarrhoea; this is not appropriate.

World Health Organisation and United Nations Children's Fund (WHO/UNICEF) recommend the initiation of breastfeeding within the first hour of birth and exclusive breastfeeding should last for six months while the introduction of safe and nutritionally adequate complementary foods around the age of six months with continued breastfeeding until 2 years and beyond should be introduced (WHO 2003 & UNICEF 2010). An increasing number of studies have reported the benefits of optimal breastfeeding practices, and complementary feeding practices during diarrhoea episodes (Victora, Bahl, Barros, França, Horton, & Krasevec et al, 2016 &. Black, Allan, Bhutta, Caulfield, De Onis, & Ezzati et al, 2008 & Edmond, Zandoh, Quigley,

Amenga-Etego, Owusu-Agyei, & Kirkwood 2006 and Sankar, Sinha, Chowdhury, Bhandari, Taneja, & Martines, et al, 2015).

A study conducted among mothers in Nassarawa showed that mothers stopped breastfeeding during diarrhoea episode (Bello *et al., (*2015). There are several treatment pathways for diarrhoea disease among the respondents. These include home management, care in health centres, and patronage of hospitals and pharmacies. The most common place visited for the care of under-fives with diarrhoea was the pharmacy/chemist stores. The results showed many mothers provided care for their children at home.

Previous studies carried out in other lands similarly revealed that respondents use different treatment options in respect to childhood diarrhoea. For instance, in Kenya study showed that most mothers use spiritual healers or pray before seeking for care in health care facilities (Bedford *et al.,* 2014). In Brazil, mothers take children to the hospital at the first sign of diarrhoea (Santos *et al.,* 2014). Appropriate home management of childhood diarrhoea is an acceptable primary health care intervention if it is well carried out. Essentially home management of childhood diarrhoea involves administration of ORS/SSS. Under normal circumstances, diarrhoea is self-limiting; when it persists, however, professional care should be sought from formal health care facilities.

Oral rehydration salt/or Salt Sugar Solution was the most popular first aid practice among mothers in this study upon first sign of diarrhoea, followed by the use of antibiotics involving flagyil. The use of ORS/SSS was similarly common among mothers studied by Bagbi *et al. (*2015) in Nassarawa. The use of unprescribed antibiotics is however, inappropriate. A systematic review of care seeking behaviour for childhood illness in developing countries revealed that the use of oral rehydration therapy was low (Geldsetzer *et al.*, 2014). In the past, provision of health care was primarily considered as the domain of formal or professional health care providers (WHO 2016). However, the current practice has recognized the importance of mothers and the family in identifying, caring for and preventing children illness (FMOH 2011) which include childhood diarrhoea and some other childhood diseases.

## 5.5 **Implications of the findings for Health Promotion and Education**

The findings of this study have several useful implications for planning, development and implementation of diarrhoea prevention programmes in the study area. The study has implications for the adoption of the following strategies to control, prevent and manage childhood diarrhoea among under-fives in the study area.

### 5.5.1 **Public enlightenment**

This will include awareness creation relating to childhood diarrhoea in various settings including religious settings. Diarrhoea prevention programmes at community level including religious settings have great potentials of reaching people of different socio-economic classes, and other socio-demographic characteristics. Religious settings are veritable settings for the dissemination of diarrhoea related messages concerning home management of the disease. The mass media including radio, television and the print media are important because they have wide coverage. Several of the media technologies are readily available in many homes. Information disseminated through these channels can reach mothers and encourage appropriate health seeking behaviour and upgrading their knowledge relating to diarrhoea. Public enlightenment has been used to disseminate health related information to various population in Nigeria (Wakefield, Loken, & Hornik, 2010).

### 5.5.2 **Use of role model mothers**

This study has highlighted a huge gap in the knowledge of mothers about ORS/SSS and knowledge of the preparation of ORS/SSS. This gap need be bridged as the first aid treatment of childhood diarrhoea has a great influence in reducing the complications of the disease condition. The use of role model mothers is a potential strategy. The role model mothers can be trained and used to upgrade nursing mother's knowledge and skills relating to the preparation of ORS/SSS. Role model mothers are mothers who are trained to demonstrate desirable health related behaviour, practices or skills which are in turn emulated by other mothers especially other younger and inexperienced mothers (Benbassat 2014).

## 5.6 Conclusion

This study investigated the health-seeking behaviour and antecedents factors relating to childhood diarrhoea among mothers of under-five in Eni-Osa community. Findings showed that overall mothers had fair knowledge of diarrhoea, in terms of its causes and characteristic features. Although, most respondents were aware of ORS/SSS, they had poor knowledge relating to its preparation. Mothers' perception of diarrhoea was found to be favorable in terms of perceived seriousness and vulnerability of under-five children to diarrhoea. The prevalence of diarrhoea among under-five children was, however, a source of concern. Various treatment pathways were used or adopted by respondents relating to the management of diarrhoea; this include use of formal and informal health care facilities and adoption of self-medication involving antibiotics.

## 5.7 Recommendations

The following are recommendations were made based on the findings from this study:

1. The community organization development strategy is needed to promote the adoption of sanitation and safe water facilities which can help prevent and/or control childhood diarrhoea in the community.
2. The capacity of the providers of informal health care services in the community should be enhanced through training to be involved in rational primary health care management of diarrhoea.
3. The knowledge of mothers of under-fives in the community should be improved through peer-education led by well trained role-nursing mothers relating to the causes, recognition and appropriate primary health care management of childhood diarrhoea. This approach can also be used to tackle the risky perception associated with the disease.
4. The formal health care facilities in the community should be motivated to be involved un enhancing the capacities of mothers of under-fives to be able to recognize, manage and prevent childhood diarrhoea.
5. The Oyo state government should provide the community with public portable source of water. This will go a long way in reducing childhood diarrhoea in the community.

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## APPENDIX I: Questionnaire

***Questionnaire on the Health-Seeking Behaviour and Antecedents Factors Relating to Childhood Diarrhoea among Mothers of Under-five in Eni-Osa Community, Oyo State Nigeria.***

Dear respondent,
I am a post graduate student from the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine University of Ibadan. I am undertaking a research on the **Health-Seeking Behaviour and Antecedents Factors Relating to Childhood Diarrhoea among Mothers of Under-five in Eni-Osa Community, Oyo State Nigeria**. The information given here is strictly for research purposes only. I assure you that whatever information provided by you will be kept confidential. Please be informed that your names are not required on the questionnaire.

However, your participation in this study is voluntary and you are at liberty to withdraw from participating in it at any time without any penalty.

_____
Signature and date

Thank you.
Adiele Jennifer

**Section A- Socio-demographic Information**

**Instruction**: For the questions in this section, please tick (√) the appropriate alternative response; in some cases, however, simply supply the needed information in the blank spaces provided.

1. Age at last birthday in years _____

2. Religion: 1.) Christian ☐ 2.) Muslim ☐ 3.) others ☐

3. Ethnic group: 1.) Igbo ☐ 2.) Yoruba ☐ 3.) Hausa ☐
   4.) others please specify_____

4. Highest Level of education: 1.) No formal education ☐ 2.) primary ☐ 3) secondary ☐
   4.) Tertiary ☐ 5.) Any other _____
   4b. If tertiary, (specify) _____

5. Marital status: 1.) Married ☐ 2.) Single ☐ 3.) Divorced ☐ 4.) Widow ☐
   5.) Any other (specify)_____

**6.** How many children below the age of five do you have_____

7. Age of your youngest under-5 child _____

**Section B: Living situation of participant**

**Instruction**: For each of the following questions in this section, please complete the blank spaces provided or tick (√) the appropriate options provided

8. Area of residence _____

9. Type of home living in, please mark as appropriate

1.) Flats (3 or more bed room ☐ 2.) Face me I face you house ☐ 3.) One room apartment ☐ 4.) Two room apartments ☐ 5.) A room and a parlour ☐

10. Where do you get your source of drinking water from? Please tick the appropriate answer.

1.) Well ☐ 2.) Borehole ☐ 3.) Stream ☐ 4.) River ☐ 5.) others specify_____

11. Do you have a toilet in your house? 1.) Yes ☐ 2.) No ☐

12. If yes to question (11) What kind of toilet do you have? please tick the appropriate answer 1.) Pit latrine ☐ 2.) Water closet ☐ 3.) Open space (this is near a refuse dump) ☐ 4.) Bush ☐ 5.) others specify _____

13. What kind of flooring do you have in your house? 1.) cement floor ☐ 2.) Bare floor (uncemented floor) ☐ 3.) Tiles ☐ 4.) Marble floor ☐

14. What is your mode of refuse disposal? Please tick the appropriate answer

1.)Burning ☐ 2.) Dumping of the refuse on the street or on the road ☐

3.) Disposing twice a week to the waste disposal drum/container ☐ 4.) Dumping the refuse in the stream or during flood when it is raining ☐

5.) Others specify _____

**SECTION C: Knowledge on Diarrhoea**

**Instruction**: For the questions in this section, please tick (√) the appropriate alternative response; in some cases, however, simply supply the needed information in the blank spaces provided.

15. Tell me what you understand by diarrhoea?

_____

16. Which of the following contained in ***table 1*** are features of diarrhoea, please tick (√) for features of diarrhoea?

**Tick (√)** ***Table 1***

| S/N | **Features** | **True** | **False** |
|---|---|---|---|
| 16.1 | Vomiting | | |
| 16.2 | Cough | | |
| 16.3 | Swelling of the stomach | | |

| | | | |
|---|---|---|---|
| 16.4 | Fever | | |
| 16.5 | Loss of appetite | | |
| 16.6 | General body weakness | | |
| 16.7 | Frequent watery stooling | | |
| 16.8 | Malaria | | |
| 16.9 | Sunken fontanelle | | |

17. What are the causes of diarrhoea, please use *table 2* for your answers by ticking *(√)* for true or false or not sure.

| | | ***Tick (√)*** | | ***Table 2*** |
|---|---|---|---|---|
| S/N | **Causes** | **True** | **False** | **Not sure** |
| 17.1 | Infection | | | |
| 17.2 | Poor hygiene | | | |
| 17.3 | Teething | | | |
| 17.4 | No cause | | | |
| 17.5 | Malnutrition | | | |

18. Which of the following are consequences of diarrhoea Please tick *(√)* contained in *table 3* for the appropriate responses.

| | **Tick (√)** | | **Table** 3 |
|---|---|---|---|
| **S/N** | **Consequences of diarrhoea** | **True** | **False** |
| 18.1 | Dehydration | | |
| 18.2 | Reduction in weight | | |
| 18.3 | Increase in height | | |
| 18.4 | Malnutrition | | |
| 18.5 | Death | | |

**19.** Can diarrhoea lead to dehydration? 1.) True ☐ 2.) False ☐

20. If yes to question (19), what are the symptoms of dehydration associated with diarrhoea? Please *tick (√) in table 4 for your responses.*

| | | ***Tick (√)*** | | ***Table 4*** |
|---|---|---|---|---|
| **S/N** | **Symptoms** | **True** | **False** | **I Don't Know** |
| 20.1 | Dry skin | | | |
| 20.2 | Dry mouth | | | |
| 20.3 | Sunken eyes | | | |
| 20.4 | Dizziness | | | |
| 20.5 | Malaria | | | |

**Awareness/Knowledge of under-five mothers on salt sugar solution (SSS) and oral rehydration solution**

21. Have you ever heard of salt sugar solution? 1.) Yes ☐ 2.) No ☐

22. Have you ever heard of oral rehydration salt? 1.) Yes ☐ 2.) No ☐

23. Is there a difference between ORS and SSS? 1.) Yes ☐ 2.) No ☐

24. What are the major ingredients used for preparing salt sugar solution? Please use *table 5* for your response and *tick (√) for the appropriate response.*

| | | ***Tick (√)*** | ***Table 5*** |
|---|---|---|---|
| **S/N** | **INGREDIENT** | **True** | **False** |
| 24.1 | Water | | |
| 24.2 | Salt | | |
| 24.3 | Glucose | | |
| 24.4 | Sugar | | |
| 24.5 | Lime | | |

25. What are the hygiene practices associated with the preparation of salt sugar solution and oral rehydration salt? Please use *table 6* for your response and tick *(√) for your responses*

| | *Tick (√)* | | *Table 6* |
|---|---|---|---|
| S/N | Hygiene practices | Yes | No |
| 25.1 | Washing of hands with soap and clean water before the preparation | | |
| 25.2 | Washing of the container/ plastic before use | | |
| 25.3 | Washing of the spoon with soap and clean water | | |
| 25.4 | Washing of hands with only water | | |
| 25.5 | I don't wash my hand or any other material before use | | |

26. List the major steps in preparation of salt sugar solution?

Step 1 _____

Step 2 _____

Step 3 _____

Any Others specify _____

27. If a child has diarrhoea when should ORS or SSS be given? Please use *table 7* for your responses and tick *(√) for your response*

| | *Tick (√)* | | | *Table 7* |
|---|---|---|---|---|
| *S/N* | *When should ORS/SSS be given* | *Yes* | *No* | *I don't know* |
| 27.1 | Anytime the child is sick | | | |
| 27.2 | Morning and night | | | |
| 27.3 | After each watery stool | | | |
| 27.4 | Before each stool | | | |
| 27.5 | Three to four times a day | | | |

28. After preparation of salt sugar solution and oral rehydration solution when does it expire? Please use *table 8* for your answers and tick (√) for your response

*Tick (√) Table 8*

| S/N | Expiration of salt sugar solution and oral rehydration solution | True | False |
|---|---|---|---|
| 28.1 | After the second day of preparation | | |
| 28.2 | After the first day of preparation | | |
| 28.3 | It does not expire | | |
| 28.4 | When the child finishes the solution | | |

**SECTION C: Perception of diarrhoea**

Instruction: This section contains statement on perception relating to childhood diarrhoea, please use *table 9* for your responses, and for each of the statement tick (√) whether you Agree or Disagree with it, if you are not sure, tick (√) for Undecided.

**Tick (√)** ***Table 9***

| | Perceived seriousness of under-5 mothers to dairrhoea | Agree | Undecided | Disagree |
|---|---|---|---|---|
| 29.1 | Diarrhoea is a serious illness | | | |
| 29.2. | Diarrhoea does not and cannot kill | | | |
| 29.3 | Diarrhoea is a normal phase a child has to go through | | | |
| 29.4 | Diarrhoea can expose a child to other illness like malaria, typhoid | | | |
| 29.5 | Diarrhoea can hinder the development of a child | | | |
| 29.6 | Only children who are teething can have diarrhoea | | | |
| 29.7 | Malnutrition can put a child at risk of having diarrhoea | | | |
| 29.8 | It is not necessary to use any formal health-care facilities when an under 5 has diarrhoea | | | |
| | Perception of vulnerability of under-5 mothers to diarrhoea | | | |
| 29.9. | Only under-five children from low socio-economic level can have diarrhoea | | | |
| 29.10 | I live in a clean house/ environment so my child cannot come down with diarrhoea | | | |
| 29.11. | Giving good and appropriate food can prevent a child from having diarhoea. | | | |
| 29.12. | Giving clean water prevents a child from having diarrhoea | | | |

**SECTION D: Experience of diarrhoea**

Instruction: For the questions in this section, please tick (√) the appropriate alternative response; in some cases, however, simply supply the needed information in the blank spaces provided

30. Has any of your children below the age of five ever had diarrhoea? 1.) Yes ☐ 2.) No

31. How many times has your youngest child under the age of five come down with diarrhoea in the last 3 months_____

32. How long in days did the diarrhoea last? Please specify_____

**SECTION E: Health seeking behaviours of mothers of under 5 relating to childhood diarrhoea.**

Instruction: For the questions in this section, please tick (√) the appropriate alternative response; in some cases, however, simply supply the needed information in the blank spaces provided

33. Where was your child delivered? 1.) General hospital ☐ 2.) private hospital ☐
3.) Home delivery ☐ 4.) Health centre ☐ 5.) Traditional birth attendant ☐

34. Has your child been given any vaccine for preventing and controlling diarrhoea (i.e. Rota virus vaccine)? 1) Yes ☐ 2.) No ☐

35. Do you breastfeed your child? 1.) Yes ☐ 2.) No ☐

36. If yes to question 35, How do you breast feed your child during diarrhoea?
1.) Less than usual ☐ 2.) About the same ☐ 3.) I don't breastfeed during diarrhoea ☐ 4.) more than usual ☐

37. When was complementary feeding added to breast feeding? Please use *table 10* for your answers

| | Tick (√) Table 10 | | |
|---|---|---|---|
| **S/N** | **Complementary food included** | **Yes** | **No** |
| 37.1 | At 3 months | | |
| 37.2 | At 6 months | | |
| 37.3 | At 4 months | | |
| 37.4 | Immediately after birth | | |
| 37.5 | At 5 months | | |
| 37.6 | More than 6 months | | |

38. How do you give complementary feeding during diarrhoea? 1.) less than usual ☐
2.) about the same ☐ 3.) I don't give complementary feeding during diarrhoea ☐
4.) more than usual ☐ 5.) others specify _____

39. Do you seek for treatment of diarrhoea outside the home? 1.) Yes ☐ 2.) No ☐

40. What do you give your child when you first notice diarrhoea 1.) Soup ☐
2.) Herbs ☐ 3) ORS/SSS ☐ 4) Zinc tablets ☐ 5.) Rice water ☐
6.) Antibiotics e.g. flagyil ☐ 7.) Nothing ☐ 8.) others specify
_____

41. Where did you seek for treatment? 1.) General hospital ☐ 2.) health centre ☐
3.) Traditional healer ☐ 4.) private hospital ☐ 5.) Pharmacy/ Chemist ☐
6.) Relative/ friend ☐ 7.) self-medication ☐

42. What feature of diarrhoea will encourage using a hospital or health facility?
1.) Once the child stools and does not stop ☐ 2.) Child not able to breastfeed, eat/drink poorly ☐ 3.) Child becomes weak ☐ 4.) Child develops serious fever ☐
5.) child vomit and stools at the same time ☐ 6.) Any others specify_____

43. Who decided where care was sought if your child has diarrhoea? 1.) Mother ☐
2.) Father ☐ 3.) both parents ☐ 4.) Any others specify _____

**SECTION F: Treatment option for the health seeking behaviours of mothers of under-5 towards childhood diarrhoea**

Instruction: This section contains statement on the where visited for health seeking behaviours of mothers relating to childhood diarrhoea, for each of the statement use *table 11* for your responses by ticking (√) whether Yes or No as regarding each of the statement and please use *table 12* for the reason for choice of where treatment was sought.

| | **Tick (√)** ***Table 11*** | | |
|---|---|---|---|
| **S/N** | **Where visited for the management/ treatment** | **Yes** | **No** |
| 44.1a | General hospital (include name of hospital) | | |
| 44.2a | Health care centre | | |
| 44.3a | Traditional healer (herb seller) | | |
| 44.4a | Pharmacy/ chemist | | |
| 44.5a | Did you consult a friend or a relative | | |
| 44.6 a | No management or treatment sought for. | | |
| 44.7a | Private hospital | | |

Instruction: Please use *table 12* for the reason for choice and please include the name of hospital of where treatment was sought.

| S/N | Name of place visited for the management of diarrhoea | Reason for place visited for management of diarrhoea |
|---|---|---|
| 44.1b | | |
| 44.2b | | |
| 44.3b | | |
| 44.4b | | |
| 44.5b | | |
| 44.6b | | |
| 44.7b | | |

## APENDIX II: IWE IBEERE

**Iwe ibeere lori Ifarahan-Iwadi-ilera ati Awọn Oju-ọna Idaamu Ti o niișe si Igbe gbuuru ti Omode laarin awọn Iya ti isalẹ mẹẹdogun ni agbegbe Eni-Osa, Ipinle Oyo.**

**Olufẹ Onidahun**,

Mọ je akekoo lati gboye imo ijinle kejini eka ti o n ri itesiwaju ati ipolongo ilera ile eko giga yunifasiti Ibadan. Mo n se se iwadi nipa **awon iwa wiwa-ilera ati awon ohun isaju to sopo mo igbe gburu omode ti won ko ti to odun marun ni agbegbe Eni-Osa ni ilu ibadan.** Alaye ti a fun ni nibi jẹ dandan fun awọn idi iwadi nikan. Mo sọ fun ọ pe alaye eyikeyi ti o pese nipasẹ rẹ yoo wa ni asiri. Jọwọ sọ fun wa pe awọn orukọ rẹ ko nilo lori iwe ibeere naa. Sibẹsibẹ, ifarahan rẹ ninu iwadi yii jẹ atinuwa ati pe o ni ominira lati yọọ kuro lati ṣe alabapin ninu rẹ nigbakugba laisi eyikeyi ẹbi.

_____

Ibuwolu ati ojo

Adupe.

Adiele Jennifer

**Abala- ALAYE NIPA AWOMO AKOPA**

**Ilana:** Fun awọn ibeere ni apakan yii, jọwọ fi ami si (√) idaamu ti o yẹ; ni awọn igba miiran, sibẹsibẹ, sọkalẹ nikan ni alaye ti o nilo ni awọn aaye alaiye ti a pese.

1. Ojo Ori: (ojo ori yin nigba ti e se ojo ibi gbeyin) ni odun _____
2. Esin: 1.) Omo leyin kristi ☐ 2.) Muslumi ☐ 3.) Omiran ☐
3. Eya: 1.) Igbo ☐ 2.) Yoruba ☐ 3.) Hausa ☐ 4.) Omiran Se apejuwe_____
4. Ipele iwe ti o ka to ga julo: 1.) Kosi eko iwe rara ☐ 2.) iwe akobere ☐
   3) Iwe mewa ☐ 4.) Ile iwe giga ☐ 5.) Omiran_____
4b. Ti o ba je ile iwe giga, (se apejuwe) _____
5. Ipo igbeyawo re: 1.) Ti gbeyawo ☐ 2.) Iwo nikan ☐ 3.) Ti yapa ☐ 4.) Opo ☐
   5.) Omiran (se apejuwe)_____
6. Awon melo loni ti won won ko ti to omo odun marun _____
7. Ojo ori omo ti okere ju to ko tip e odun marun _____

Abala keji: Ipo igbesi aye ti olukopa

Ilana: Fun ibeere kọọkan ninu abala yii, jọwọ pari awọn aaye alafo ti a pese tabi fi ami si (√) awọn aṣayan ti o yẹ

8. ibugbe _____
9. Iru ile ti ngbe ni, jọwọ samisi bi o yẹIle adagbe(oni yara meta abi jube lo 2.)Ile doju ko oju 3.)ni yara kan 4.)ni yara meji 5.)e yara ibusun ati isere kan ☐

10. Nibo ni orisun omi mimu re? Jọwọ ṣe ami si idahun ti o yẹ. 1.) kanga ☐ 2.) Omi ero ☐ 3.) omi odo4.) Odo ti n san ☐ 5.) Seapejuwe awon miran_____

11. Ṣe o ni ile igbonse kan ninu ile rẹ? 1.) Beeni ☐ 2.) Beeko ☐

12. Ti o ba jẹ bẹ si ibeere (11) Iru ile igbonse wo ni o ni? jọwọ ṣe ami si idahun ti o yẹ
1.) Ile Igbonse oni iho ☐ 2.) ti igalode ☐ 3.) Ni gbangba(eyi jẹ nitosi ohun ti a kọ sile)☐ 4.) Inu igbo ☐ 5.) Awon miran(Se afiwe)_____

13. Iru ile ilẹ wo ni o ni ninu ile rẹ? 1.) Ile simẹnti ☐ 2.) Ile la san ti ko ni simenti ☐ 3.) Awọn alẹmọ ☐ 4.) pakà ☐

14. Ona wo ni e n gba da ile nu? Jọwọ ṣe ami si idahun ti o yẹ 1.)Jijo nina ☐ 2.) Dida si awọn odi lori ita tabi ni opopona ☐ 3.) dida nu ni ẹẹmeji ni ọsẹ pelu iranwo abani da ile nu tabi inu nkan ida ile si ☐ 4.) Dida ile nu sinu odo ni akoko ojo ☐ 5.) Awon miran (Afiwe)_____

**ABALA KETA:** Imọye lori igbe gbuuru

**Ilana**: Fun awọn ibeere ni apakan yii, jọwọ fi ami si (√) idaamu ti o yẹ; ni awọn igba miiran, sibẹsibẹ, sọkalẹ nikan ni alaye ti o nilo ni awọn aaye alaiye ti a pese.

15. Sọ fun mi kini o ye nipa gbuuru?_____
_____

16. Eyi ninu eyi ti o wa ninu tabili 1 jẹ ẹya-ara ti ọgbẹ, jọwọ fi ami si (√) fun awọn ẹya ara ti ọgbẹ? Tabili akoko jẹ ẹya ara ti gbuuru, jọwọ ami si (√) fun awọn ẹya ara ti gbuuru?

| ***Tabili akoko*** Fi ami si **(√)** | | | |
|---|---|---|---|
| S/N | Awọn ẹya ara ẹro | **Otito** | **Rara** |
| 16.1 | Ebi bibi | | |
| 16.2 | Iko | | |
| 16,3 | Wiwu ni ikun | | |
| 16.4 | Ara gbona | | |
| 16.5 | Aile jeun | | |
| 16.6 | Agbara ailera gbogbogbo | | |
| 16.7 | Igbe gbuuru yiya | | |
| 16.8 | Iba | | |
| 16.9 | Oka | | |

*17.* Kini awọn okunfa ti gbuuru, jọwọ lo tabili 2 fun idahun rẹ nipa ticking (√) fun otitọ tabi eke tabi ko daju.

| | | *Fi ami (√)* | | *tabili keji* |
|---|---|---|---|---|
| S/N | Okunfa | Otito | rara | Mi o le so |
| 17.1 | Ikolu | | | |
| 17.2 | Akude ni imototo | | | |
| 17.3 | Wiwu eyin | | | |
| 17.4 | Ko si idi | | | |
| 17.5 | Aise dede ni ounje | | | |

18. Eyi ninu awọn wọnyi jẹ awọn abajade ti ọgbẹ Jowo fi ami si (√) ti o wa ninu tabili keta fun awọn idahun ti o yẹ.

| | Fi ami(√) | | Tabili keta |
|---|---|---|---|
| S/N | Awọn abajade ti igbe gbuuru | Otito | Rara |
| 18.1 | Isunmi | | |
| 18.2 | Idinku ni iwuwo | | |
| 18.3 | Giga soke si | | |
| 18.4 | Aise dede ni ounje | | |
| 18.5 | Iku | | |

19. Se igbe gbuuru le din omi ara ku? 1.) Otito ☐ 2.) Rara ☐
20. Ti o ba jẹ bẹ si ibeere (kokandinlogun), kini awọn aami-ara ti gbígbẹ ti o ni nkan ṣe pẹlu gbuuru? Jowo fi ami si (√) ni tabili kerin fun awọn idahun rẹ.

| | | Fi ami yi *(√)* | | *Tabili kerin* |
|---|---|---|---|---|
| S/N | Awọn aami aisan | Otito | Rara | Emi ko mo |
| 20.1 | Ara gbigbe | | | |
| 20.2 | Enu gbigbe | | | |
| 20.3 | Oju | | | |
| 20.4 | Oyi oju | | | |
| 20.5 | Iba latari efon jije | | | |

**Imọ / Imọye ti awọn iya- to ni omo ti ojo ori won ko ti to marun nipa lilo omi, iyo ati suga lati enu fun didi won gbigbe omi ara.**

21. Nje o ti gbọ nipa lilo omi, iyo ati suga? 1.) Beeni ☐ 2.) Beeko ☐
22. Nje o ti gbọ ti iyo iyọda lati enu? 1.) Beeni ☐ 2.) Beeko ☐
23. Ṣe iyatọ wa laarin ORS ati SSS? 1.) Beeni ☐ 2.) Beeko ☐

24. Kini awọn eroja pataki ti a lo fun sisọ ipilẹ iyọ iyọ iyo? Jọwọ lo tabili 5 fun esi rẹ ki o si ami (√) fun esi ti o yẹ.

| *Fi ami (√)* | | | *Tabili karun* |
|---|---|---|---|
| S/N | Awon oun elo | Otito | Beeko |
| 24.1 | Omi | | |
| 24.2 | Iyo | | |
| 24.3 | Glucosi | | |
| 24.4 | Suga | | |
| 24.5 | Omi osan wewe | | |

*25.* Kini awọn iṣe iṣe ti o mọrun ti o ni ibatan pẹlu igbaradi ti ipasẹ iyọ iyọ iyo iyọgbẹ lati enu? Jowo lo tabili kefa fun esi rẹ ki o si ami (√) fun awọn idahun rẹ.

| *Fi ami(√)* | | | *Tabili kefa* |
|---|---|---|---|
| S/N | Awọn iṣe iṣe ilera | Beeni | Beeko |
| 25.1 | Wọ ọwọ pẹlu ọṣẹ ati omi mimu šaaju igbaradi | | |
| 25.2 | Wọ ti gba eiyan / ṣiṣu šaaju lilo | | |
| 25.3 | Wọ ti sibi pẹlu ọṣẹ ati omi mimo | | |
| 25.4 | Wọ ọwọ pẹlu omi nikan | | |
| 25.5 | Emi ko wẹ ọwọ mi tabi awọn ohun elo miiran ṣaaju lilo | | |

26. Ṣe atẹjade awọn igbesẹ pataki ni igbaradi ti ipasẹ iyọ suga?

Igbese kini _____

Igbese keji_____

Igbese keta_____

Awọn miran pato _____

27. Bi ọmọ kan ba ni igbuuru nigba yẹ ki o fun ORS tabi SSS? Jowo lo tabili keje fun awọn idahun rẹ ki o si ami (√) fun esi rẹ

| *Fi ami(√)* | | | | *Tabili keje* |
|---|---|---|---|---|
| *S/N* | Nigbawo ni o yẹ ki a fun ORS / SSS | *Beeni* | *Beeko* | Emi ko mọ |
| 27.1 | Nigbakugba ti ọmọ naa ko ni aisan | | | |
| 27.2 | Aro ati ale | | | |
| 27.3 | Lẹhin igbe olomi | | | |
| 27.4 | Ṣaaju ki o to ya igbe olomi | | | |
| 27.5 | Mẹta si mẹrin ni igba ọjọ kan | | | |

28. Lẹhin igbaradi ti iyọ suga ojutu ati iṣeduro rehydration ojutu nigba wo ni o pari? Jọwọ lo tabili kejo fun idahun rẹ ati ami si (√) fun awọn idahun r

| | | *Fi ami (√)* | *Tabili kejo* |
|---|---|---|---|
| S/N | Ipari ipari iṣan iyọ iyo ati ilana ojutu | Beeni | Rara |
| 28.1 | Lẹhin ọjọ keji ti igbaradi | | |
| 28.2 | Lehin ojo kini | | |
| 28.3 | Ko pari | | |
| 28.4 | Nigbati ọmọ naa ba pari ojutu naa | | |

**ABALA C: Iro ti gbuuru**

Ilana: apakan yii ni gbolohun lori ifitonileti ti o jọmọ igbuuru igba ewe, jọwọ lo tabili 9 fun awọn idahun rẹ, ati fun akọsilẹ ọrọ kan (√) boya o gba tabi Ti ko tọ pẹlu rẹ, ti o ko ba da ọ loju, fi ami si (√) fun aini ipinu.

| | **Fi ami(√)** | | | ***Tabili kesan*** |
|---|---|---|---|---|
| | **Imọye ti awọn iya labẹ awọn iya marun-marun si igbiyanju** | **Gba** | **Aini ipinu** | **Ai gba** |
| 29.1 | Ige gburu jẹ aisan nla | | | |
| 29.2. | Igbe gbuuru ki pa eniyan kosile payan | | | |
| 29.3 | Yiya igbe gbuuru je oun ti omo owo gbodo la koja | | | |
| **29.4** | Igbe gburu le se okunfa iba lorisirisi fun omo owo | | | |
| **29.5** | Igbe gbuuru le se idiwo fun idagba omo owo | | | |
| **29.6** | Awon omo ti o n wu eyin nikan ni ole ya igbe gbuuru | | | |
| **29.7** | Ai je ounje ni ona ti oto le se okunfa igbe gbuuru | | | |
| **29.8** | Ko je dan dan lati lo eto ilera igbalode fun omo de ti ko ti to odun marun to ba n ya igbe gbuuru | | | |
| **Ero fun oun to le mu omo ti ojo ori won ko odun marun to ni igbe gbuuru** | | | | |
| 29.9. | Awon omo ti ojo ori won ko ti to marun ti igbe aye ko muna doko nikan ni o le ni aisan igbe gbuuru | | | |
| 29.10 | Mo n gbe ni inu ile to mo ati ayika to mo latari eyi omo mi ko le ni igbe gbuuru | | | |
| 29.11. | Fifun omo ni ojo ti o to ati ti odara le dena omo lati ni arun igbe gbuuru | | | |
| 29.12. | Fifun omo ni omi to mo le dena nini arun igbe gbuuru fun omo owo | | | |

**ABALA KERIN: Iriri Igbe gbuuru.**

**Ilana**: Fun awọn ibeere ni apakan yii, jọwọ fi ami si (√) idaamu ti o ẹẹ; ni awọn igba miiran, sibẹsibẹ, sọkalẹ nikan ni alaye ti o nilo ni awọn aaye alaiye ti a pese.

30. Nkan ninu awọn ọmọ rẹ ti o wa ni ọdun ọdun marun ni o ni igbe igbuuru? 1.) Beeni ☐ 2.) Beeko ☐

**31.** Igba melo ni ọmọde rẹ ti o kere julọ labẹ ọdun marun si isalẹ pẹlu gbuuru ninu osu meta ti o kẹhin_____

32. Igba melo ni ọjọ gbuuru kẹhin? Jọwọ ṣọ ni pato_____

**ABALA KARUN: awon iwa wiwa-ilera ati awon ohun isaju to sopo mo igbe gburu omode ti won ko ti to odun marun**

**Ilana**: Fun awọn ibeere ni apakan yii, jọwọ fi ami si (√) idaamu ti o ẹẹ; ni awọn igba miiran, sibẹsibẹ, sọkalẹ nikan ni alaye ti o nilo ni awọn aaye alaiye ti a pese.

33. Nibo ni a omo re si? 1.)Ile iwosan Gbogbogbo ☐ 2.) Ile iwosan adani ☐ 3.) Si inu ile ☐ 4.) Ilee-iṣẹ Ilera ☐ 5.) Ibimọ ibi ti ibile ☐

34. Ti a ti fun ọmọ rẹ ni eyikeyi oogun fun idena ati iṣakoso ikọ-gbu ( ajesara aarun Rota)? 1) Beeni ☐ 2.) Beeko ☐

35. Se oma n fun omo ni omi omu? 1.) Beeni ☐ 2.) Beeko ☐

36. Ti o ba jẹ bẹ si ibeere 35, Bawo ni o ṣe ntọju ọmọ rẹ nigba igbiuru? 1.) Kere ju deede lo ☐ 2.) Nipa kanna ☐ 3.) Emi ko ṣe ifun omo ni omi omu nigba ig igbuuru ☐ 4.) Jut i o se ye lo ☐

37. Ni igba wo ni o bere si fun omo n ani ounje miran? Jowo lo tabi kewa fun didanwun.

| | Fi ami (√) Tabili kewa | | |
|---|---|---|---|
| S/N | Awọn ounjẹ afikun ti o wa | Beeni | Beeko |
| 37.1 | Ni osu keta | | |
| 37.2 | Ni osu kefa | | |
| 37.3 | Ni osu kerin | | |
| 37.4 | Kete leyin ti abi omo | | |
| 37.5 | Ni oju karun | | |
| 37.6 | Ju osu kefa lo | | |

38. Bawo ni o ṣe fun ounjẹ ti o ni iranlowo nigba igbe igbuuru? Kere ju deede lo ☐ 2.) Nipa kanna ☐ 3.) Emi ko ṣe ifun omo ni omi omu nigba ig igbuuru ☐ 4.) Jut i o se ye lo ☐ 5.) Omiran ni pato_____

39. Ṣe o wa fun itọju si igbe gbuuru ni ita ile? 1.) Beeni ☐ 2.) Beeko ☐

40. Kini o ṣe fun ọmọ rẹ nigbati o ba n ya igbe gbuuru 1.) Obe ☐ 2.) Agbo ☐

41. 3) ORS/SSS ☐ 4) Awọn tabulẹti Zinc ☐ 5.) Omi iresi ☐ 6.) Awọn egboogi e.g. flagil ☐ 7.) Kosi nkan ☐ 8.) Awon miran ni pato_____

42. Nibo ni o wa fun itọju? 1.) Ile iwosan gbogbogbo ☐ 2.) Ile-iṣẹ ilera ☐ 3.) Oni iwosan ibile ☐ 4.) Ile iwosan adani ☐ 5.) Ile ita ogun ☐ 6.) Ore tabi alabagbe ☐ 7.) Titoju ara eni ☐

43. Ẹya ara ti igbe gbuuru yio ṣe iwuri fun lilo ile-iwosan tabi ile-iwosan? 1.) Lọgan ti awọn ọmọ ba nduro ati ki o ko da duro ☐ 2.) Ọmọde ko le ṣe igbaya fun ọmọde, jẹ / mu ni ibi ☐ 3.) Ọmọde jẹ alailera ☐ 4.) Nini Iba fun omode ☐ 5.) Omo n bi ati ya igbe omi ni igbakana 6.) Awon miran ni pato_____

44. Tani o pinnu ibi ti abojuto ti a wa ti ọmọ rẹ ba n ya igbe gbuuru? 1.) Iya ☐ 2.) Baba ☐ 3.) Obi mejeji ☐ 4.) Awon miran ni pato_____

**ABALA KEFA: Itoju fun wiwa-ilera ati awon ohun isaju to sopo mo igbe gburu omode ti won ko ti to odun marun**

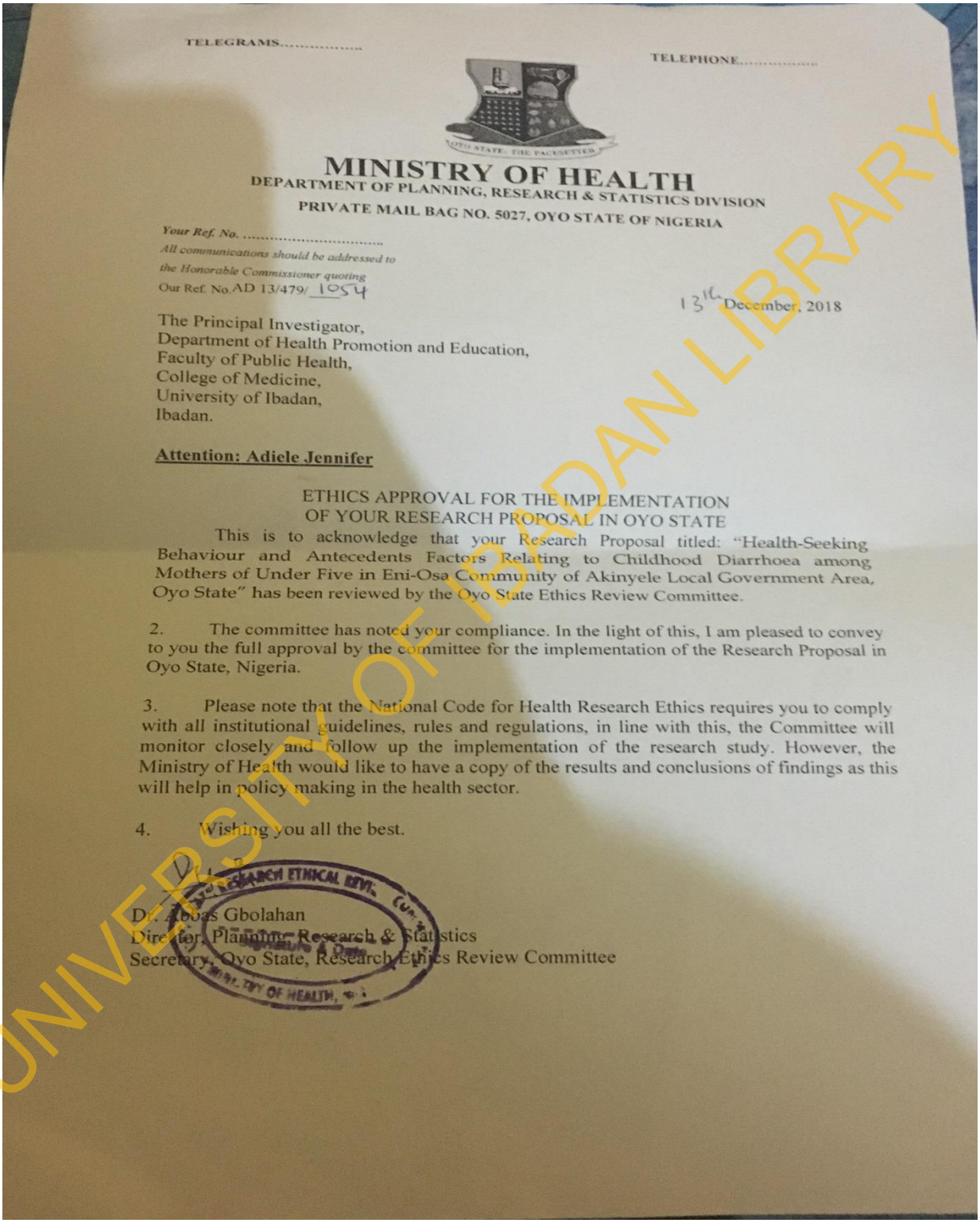
Instruction: Abala yii ni ọrọ lori ibi ti a ti ṣawari, wiwa-ilera ati awon ohun isaju to sopo mo igbe gburu omode ti won ko ti to odun marun fun ọkọọkan ọrọ naa lo tabili 11 fun awọn idahun rẹ nipasẹ fifa(√).

| | Fi ami(√) *Tabili kokanla* | | |
|---|---|---|---|
| S/N | Nibo ni o lo fun itoju | Beeni | Beeko |
| 44.1a | Ile iwosan Gbogbogbo (pẹlu orukọ ile iwosan) | | |
| 44.2a | Ile-iṣẹ itoju ilera | | |
| 44.3a | Oniwosan ibile (iya oni agbo) | | |
| 44.4a | Ile itaja ogun oyinbo | | |
| 44.5a | Ṣe o kan si ọrẹ tabi ọrẹ kan | | |
| 44.6 a | Ko si isakoso tabi itọju ti a wa fun. | | |
| 44.7a | Ile iwosan adani | | |

Ilana: Jọwọ lo tabili kejila fun idi ti o fẹ ki o jọwọ pẹlu orukọ ile-iwosan ti ibi ti a ti wa itọju.

| **S/N** | Orukọ ibi ti a wa fun isakoso ti igbe gburu | Idi fun ibi ti a ṣe ayewo fun isakoso ti igbe gbuuru |
|---|---|---|
| **44.1b** | | |
| **44.2b** | | |
| **44.3b** | | |
| **44.4b** | | |
| **44.5b** | | |
| **44.6b** | | |
| **44.7b** | | |

**APPENDIX III**
**OYO STATE ETHICAL APPROVAL**



TELEGRAMS.....

TELEPHONE.....

# MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

*Your Ref. No.* .....

*All communications should be addressed to the Honorable Commissioner quoting*

Our Ref. No. AD 13/479/ 1054

13th December, 2018

The Principal Investigator,
Department of Health Promotion and Education,
Faculty of Public Health,
College of Medicine,
University of Ibadan,
Ibadan.

**Attention: Adiele Jennifer**

ETHICS APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Health-Seeking Behaviour and Antecedents Factors Relating to Childhood Diarrhoea among Mothers of Under Five in Eni-Osa Community of Akinyele Local Government Area, Oyo State" has been reviewed by the Oyo State Ethics Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4. Wishing you all the best.

Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethics Review Committee

## APPENDIX IV

Informed Consent Form for Health-Seeking Behaviour and Antecedents Factors Relating to Childhood Diarrhoea Among Mothers of Under-five in Eni-Osa Community Oyo State Nigeria.

**This approval will elapse on**:

**Title of research**: Health-Seeking Behaviour and Antecedents Factors Relating to Childhood Diarrhoea Among Mothers of Under-five in Eni-Osa Community Oyo State Nigeria.

**Name of researcher**: The study is conducted by Adiele Jennifer a postgraduate student in the department of Health Promotion and Education, Faculty of Public Health, College of Medicine University of Ibadan.

**Purpose of research**: The purpose of the study is to investigate the *health-seeking behaviours and the antecedent factors relating to childhood diarrhoea among mothers of under-five in Eni- Osa community Oyo state Nigeria.*

**Sample size and procedure for data collection**: A total of 420 under- five mother in Eni-Osa community is recruited for the study using a multi stage sampling procedure to select eligible respondents.

**Expected duration of the research and participant(s) involvement**: The process of the study will last for one month. You are to provide answers to the questions contained in the questionnaire. The questionnaire is expected to last about 30 minutes to complete.

**Risk(s):** There is no physical risks in participating in this study. However, there are some questions on socio - demographic characteristics which some respondent would find it uncomfortable to answer.

**Cost to participating of joining the research**: Participation will cost you nothing. It will however take a little of your time.

**Benefit**: At the end of the research, findings will be useful in the design of interventions or strategies aimed at preventing and controlling childhood diarrhoea.

**Confidentiality**: All information collected in this study will be given coded numbers. Names of participants will not be written on the questions. In addition, your name or any other identifiers will not be used in any publication or report emancipating from this study.

**Voluntariness**: Your participation in this research is entirely voluntary.

Consequences of participants' decision to withdraw from the research and procedure for orderly termination of participant: You can choose to withdraw from the research at any time without any penalty. Please also note that some of the information that has been obtained about you before you choose to withdraw may have been used in reports and publications.

**Statement of Person Obtaining Inform Consent**

I have fully explained the nature and scope of the research to _____and have provided sufficient information to him/her which is needed by him/her to make informed decision

**Date** _____ **Signature** _____

**Name** _____

**Statement of Person Giving Consent**

I have read the description of the research and the research has been explained to me in a language I understand or have been translated into a language I understand. I understand that my participation is voluntary. I know enough about the purpose, methods, risk, and benefits of the research study to judge that I want to take part in it. I understand that I may freely stop being part of this study at any time. Finally, I have received a copy of this consent form and additional information sheet to keep for myself.

**Date** _____ **Signature** _____

**Name** _____

## APENDIX V

Foomu Ifounsi Awon Iwa Wiwa Ilera Ati Ohun Isaju To Sopo Mo Igbe Gbuuru Larin Awon Iya Omo Ti Won Ko Ti Pe Odun Marun Ni Agbegbe Eni-Osa Ipinle Oyo

**Ilana yi yio wa fun**:

**Akole iwadi**: ìfẹnukò ìwádìí ìlera-ẹri àti awọn ofa idiyele to ni akawe si iwa wiwa-ilera ati awon ohun isaju to sopo mo igbe gburu omode ti won ko ti to odun marun ni agbegbe Eni-Osa Ibadan ni agbebge Eni-osa ni, Ipinle Oyo.

**Oruko Oluwadi**: Adiele Jennifer ni oun se ise iwadi yi, ọ je akekoo lati gboye imo ijinle kejini eka ti o n ri itesiwaju ati ipolongo ilera ile eko giga unifasiti Ibadan.

**Koko Iwadi yi** : Koko iwadi yin i lati se iwadi nipa awon iwa wiwa-ilera ati awon ohun isaju to sopo mo igbe gburu omode ti won ko ti to odun marun ni agbegbe Eni-Osa Ibadan.

**Iwọn ati ilana fun gbigba data**: Apapo ọgọrun mejilelogun omode ti ko ti to odun marun ni agbegbe Eni-Osa ni a o se akojopo fun ise iwadi yi nipa lilo iseto onipele pupo lati mu awon to kun oju iwon lati kopa.

**Akoko ti a ṣe yẹ fun iwadi atifun ilowosi**: Ilana yii yoo ṣiṣe fun osu kan. O ni lati pese idahun si ibeere ti o wa ninu iwe ibeere naa. Iwe ibeere yi ni o yẹ lati lo ọgbọn iṣẹju lati pari.

**Ewu** : Ko si ewu ti ara ni kikopa ninu iwadi yii. Sibẹsibẹ, awọn ibeere kan wa lori awọn abuda-ipa-ara-ẹni ti diẹ ninu awọn oluṣe yoo ko ni idunnu lati dahun.

**Idiyele lati kopa ninu ise iwadi yi**: kikopa ko ni na wa ni oun kan. Sibesibe yio gba wan i asiko die.

Anfaani: Ni opin iwadi naa, awọn awari yoo wulo ninu apẹẹrẹ awọn iṣiro tabi awọn imọran ti a ni lati dena ati lati ṣakoso akoko igbE gbuuru.

**Iboju:** Gbogbo alaye ti a gba ni iwadi yii ni ao fun awọn nọmba ti a fọwọsi. Awọn orukọ ti awọn alabaṣepọ ko ni ko lori awọn ibeere. Ni afikun, orukọ rẹ tabi awọn ami idanimọ miiran kii yoo lo ni eyikeyi iwe tabi iroyin ijabọ lati inu iwadi yii.

**Iyọọda**: Ifarahan rẹ ninu iwadi yi jẹ ẹbun ọfẹ.

**Awọn abajade ti ipinnu awọn olukopa lati yọ kuro ninu iwadi ati ilana fun idinku aṣẹ ti alabaṣe**: O le yan lati yọ kuro ninu iwadi ni eyikeyi akoko laisi eyikeyi ijiya. Jọwọ ṣe akiyesi diẹ ninu awọn alaye ti o ti gba nipa rẹ ṣaaju ki o to yan lati yọ kuro ni a le lo ninu awọn iroyin ati awon iwe-idọ.

**Gbólóhùn ti Ènìyàn Gba Ìfẹnukò Ìfitónilétí**

Mo ti ṣe alaye ni kikun si iseda ati idapọ ti iwadi naa si _____ ati ti pese alaye ti o to fun u / ti o nilo lati ṣe ipinnu imọran

**Ojo** _____ **Ibuwolu**_____

**Oruko**_____

Gbólóhùn ti Ènìyàn Fifunni Ọdun

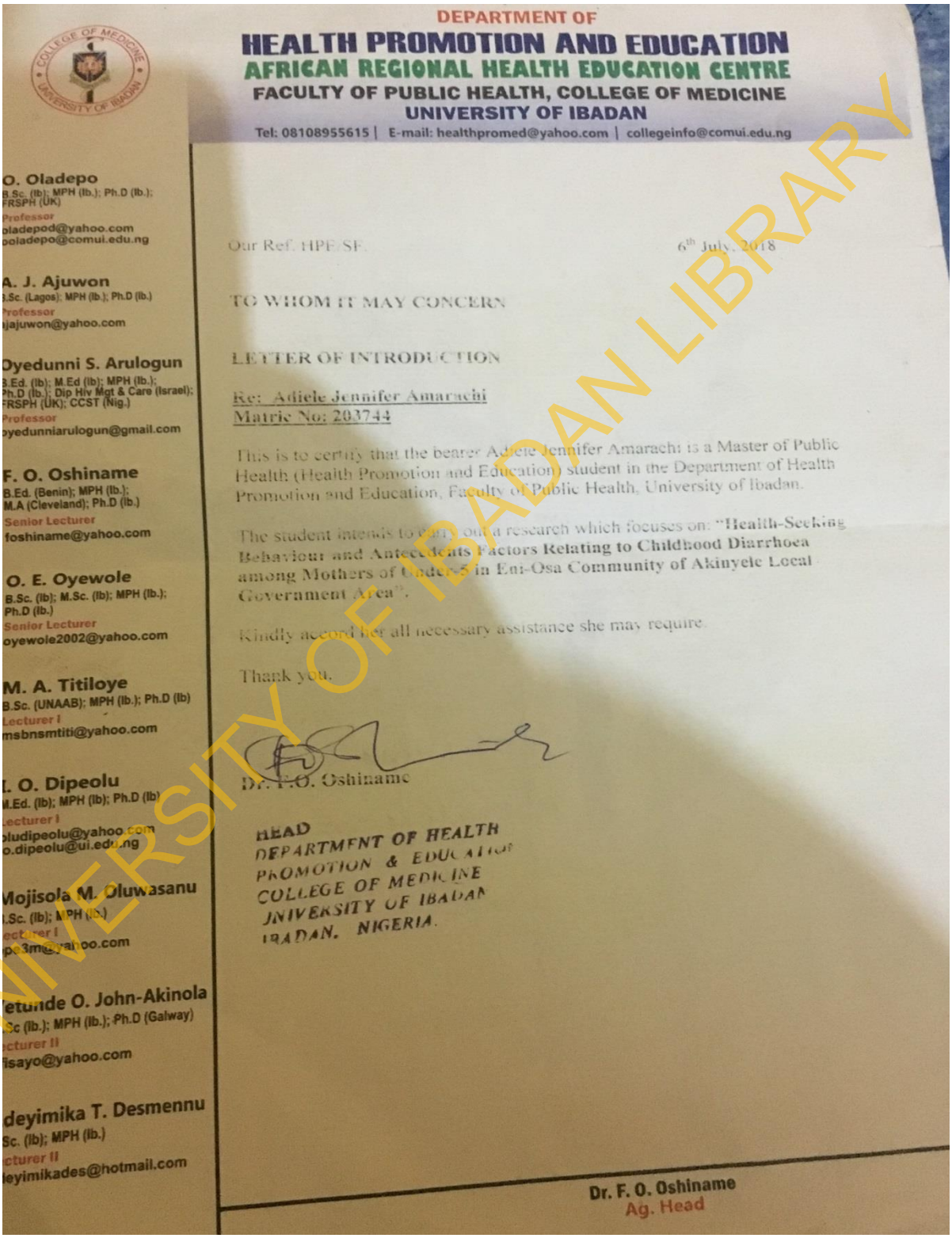
Mo ti ka apejuwe ti iwadi naa ati pe a ti ṣe alaye fun mi ni ede ti mo ye tabi ti wa ni iyipada si ede ti mo ye. Mo ye pe ikopa mi jẹ atinuwa. Mo mọ nipa idi, awọn ọna, ewu, ati awọn anfani

ti iwadi iwadi lati ṣe idajọ pe Mo fẹ lati ṣe alabapin ninu rẹ. Mo ye pe Mo le daadaa duro ni apakan ninu iwadi yii nigbakugba. Níkẹyìn, Mo ti gba ẹdà ti fọọmu ifowosi ati iwe alaye lati pa fun ara mi.

**Ojo** _____ **Ibuwolu**_____

**Oruko** _____

**APPENDIX VI**
**INTRODUCTION LETTER**



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Our Ref: HPE/SF

6th July, 2018

TO WHOM IT MAY CONCERN

LETTER OF INTRODUCTION

Re: Adiele Jennifer Amarachi
Matric No: 203744

This is to certify that the bearer Adiele Jennifer Amarachi is a Master of Public Health (Health Promotion and Education) student in the Department of Health Promotion and Education, Faculty of Public Health, University of Ibadan.

The student intends to carry out a research which focuses on: "**Health-Seeking Behaviour and Antecedents Factors Relating to Childhood Diarrhoea among Mothers of Under-5 in Eni-Osa Community of Akinyele Local Government Area**".

Kindly accord her all necessary assistance she may require.

Thank you.

Dr. F.O. Oshiname

HEAD
DEPARTMENT OF HEALTH
PROMOTION & EDUCATION
COLLEGE OF MEDICINE
UNIVERSITY OF IBADAN
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Dr. F. O. Oshiname
Ag. Head

## APPENDIX VII

## HEALTH-SEEKING BEHAVIOUR AND ANTECEDENTS FACTORS RELATING TO CHILDHOOD DIARRHOEA AMONG MOTHERS OF UNDER-5 IN ENI-OSA COMMUNITY, OYO STATE.
## A CODING GUIDE

| ITEMS | VARIABLES | CODE |
|---|---|---|
| | **SECTION A: Socio-Demographic Characteristics of Respondents** | |
| **Q1a** | **Respondent ID code** | **Actual figure** |
| Q1b | Age at last birthday | Actual figure |
| Q2 | **RELIGION**: Christianity | 1 |
| | Muslim | 2 |
| | Traditional | 3 |
| | NR | 9 |
| Q3 | **ETHNIC GROUP**: Igbo | 1 |
| | Yoruba | 2 |
| | Hausa | 3 |
| | Igede | 4 |
| | Cotonu | 5 |
| | NR | 9 |
| Q4 | **HIGHEST LEVEL OF EDUCATION**: No formal education | 1 |
| | Primary | 2 |
| | Secondary | 3 |
| | Tertiary | 4 |
| | NR | 9 |
| Q4b | **If tertiary (specify)**: BSC | 1 |
| | HND | 2 |
| | B. ED | 3 |
| | NCE | 4 |
| | OND | 5 |
| | NA | 8 |
| | NR (if tertiary but no response) | 9 |
| Q5 | Marital status: Married | 1 |
| | Single | 2 |
| | Divorced | 3 |
| | Widow | 4 |
| | NR | 9 |
| Q6 | How many children below the ages of five do you have: | Actual figure |
| Q7 | Age of youngest under -5 child | Actual figure |

| | | |
|---|---|---|
| | **SECTION B: Respondents living situation** | |
| Q8 | **Area of residence** | Actual response |
| Q9 | **Type of house living in**: Flats (3 or more bed room) | 1 |
| | Face me I face you house | 2 |
| | One room apartment | 3 |
| | Two room apartments | 4 |
| | A room and a parlor | 5 |
| | NR | 9 |
| Q10 | **Where do you get your drinking water from:** Well | 1 |
| | Borehole/deep well with pump | 2 |
| | Stream | 3 |
| | River | 4 |
| | NR | 9 |
| Q11 | Do you have a toilet in your house | Yes = 1<br>No = 2<br>No Response = 9 |
| Q12 | If yes to question (11) kind of toilet you have: | |
| | Pit latrine | 1 |
| | Water closet | 2 |
| | Open space (this is near a refuse dump) | 3 |
| | Bush | 4 |
| | No response (NR) | 9 |
| | Not applicable (NA) | 8 |
| Q13 | **What kind of flooring do you have in your house:** | |
| | cement floor | 1 |
| | Bare floor (uncemented floor) | 2 |
| | Tiles | 3 |
| | marble floor | 4 |
| | No Response | 9 |
| Q14 | **What is your mode of refuse disposal**: | |
| | Burning | 1 |
| | Dumping of the refuse on the street or on the road | 2 |
| | Disposing to the waste disposal drum/container | 3 |
| | Dumping the refuse in the stream or during flood when it is raining | 4 |
| | Dumping in the bush | 5 |
| | No Response | 9 |
| | **SECTION C: Knowledge of diarrhea** | |
| **Q15** | **Tell me what you understand by diarrhea**<br>Frequent/loose watery stool for more than three times per day | **Correct =1**<br>**Incorrect =2**<br>**NR=9** |

| | | |
|---|---|---|
| Q16 | **Features of diarrhea** | |
| 16.1 | Vomiting | (for each features)<br>correct =1<br>incorrect =2<br>NR=9 |
| 16.2 | Cough | |
| 16.3 | Swelling of the stomach | |
| 16.4 | Fever | |
| 16.5 | Loss of appetite | |
| 16.6 | General body weakness | |
| 16.7 | Frequent watery stooling | |
| 16.8 | Malaria | |
| 16.9 | Sunken fontanelle | |
| Q17 | **Causes of diarrhea** | (for each cause)<br>Correct = 1<br>In correct = 2<br>Don't Know = 3<br>No Response = 9 |
| 17.1 | Infection | |
| 17.2 | Poor hygiene | |
| 17.3 | Teething | |
| 17.4 | No cause | |
| 17.5 | Heat | |
| 17.6 | Malnutrition | |
| Q18 | **Consequences of diarrhea** | (for each consequence)<br>Correct = 1<br>Incorrect =2<br>No Response = 9 |
| 18.1 | Dehydration | |
| 18.2 | Reduction in weight | |
| 18.3 | Increase in height | |
| 18.4 | Malnutrition | |
| 18.5 | Death | |
| Q19 | **Can diarrhea lead to dehydration** | True = 1<br>False = 2<br>NR=9 |
| Q20 | **If yes to question (19), what are the symptoms of dehydration associated with diarrhoea** | (for each symptoms)<br>True = 1<br>False = 2<br>Don't Know = 3<br>No Response = 9<br>NA=8 |
| 20.1 | Dry skin | |
| 20.2 | Dry mouth | |
| 20.3 | Sunken eyes | |
| 20.4 | Dizziness | |
| 20.5 | Malaria | |
| Q21 | Have you ever heard of salt sugar solution | Yes =1<br>No =2<br>No response = 9 |
| Q22 | Have you heard of oral rehydration salt | Yes =1<br>No =2<br>No response = 9 |
| Q23 | Is there a difference between oral rehydration salt and salt sugar solution | Yes =1<br>No =2<br>No response = 9 |

| | | |
|---|---|---|
| Q24 | **Major ingredient for preparing salt sugar solution** | (for each) correct= 1 Incorrect = 2 No Response = 9 |
| 24.1 | Water | |
| 24.2 | Salt | |
| 24.3 | Glucose | |
| 24.4 | Sugar | |
| 24.5 | Lime | |
| Q25 | **Hygiene practices associated with the preparation of salt sugar solution and oral rehydration salt** | (for each) Correct = 1 Incorrect = 2 No Response = 9 |
| 25.1 | Washing of hands with soap and clean water before preparation | |
| 25.2 | Washing of the container or plastic before use | |
| 25.3 | Washing of the spoon with soap and clean water | |
| 25.4 | Washing of hands with only water | |
| 25.5 | I don't wash my hands or any other material before use | |
| Q26 | **Major steps in preparation of salt sugar solution** | For each response Correct = 1 Incorrect =2 No response =9 |
| | Six level teaspoons of sugar | |
| | One level teaspoon of salt | |
| | One liter of clean drinking water (boiled or cool water) | |
| Q27 | **If a child has diarrhoea when should ORS or SSS be given:** | (for each) Correct = 1 Incorrect = 2 I don't know =3 No response = 9 |
| | Anytime the child is sick | |
| | Morning and night | |
| | After each watery stool | |
| | Before each stool three to four time a day | |
| Q28 | **After preparation of salt sugar solution and oral rehydration salt when does it expire** | (for each) Correct = 1 Incorrect = 2 No Response = 9 |
| 28.1 | After the second day of preparation | |
| 28.2 | After the first day of preparation | |
| 28.3 | It does not expire | |
| 28.4 | When the child finishes the solution | |
| | **SECTION D: Perception of Under 5 Mothers** | |
| Q29 | **Perceived seriousness of under -5 mothers** | (for each) Agree = 1 Undecided = 2 Disagree = 3 No response = 9 |
| 29.1 | Diarrhoea is a serious disease | |
| 29 .2 | Diarrhoea does not and cannot kill | |
| 29.3 | Diarrhoea is a normal phase a child has to go through | |
| 29.4 | Diarrhoea can expose a child to other illnesses like malaria, typhoid | |
| 29.5 | Diarrhoea can hinder the development of a child | |
| 29.6 | Only children who are teething can have diarrhea | |
| 29.7 | Malnutrition can put a child at risk of having diarrhea | |
| 29.8 | It is not necessary to use any formal health-care facilities when an under 5 has diarrhea | |

| | | |
|---|---|---|
| | **Perception of vulnerability of under- five mothers to diarrhoea** | |
| 29.9 | Only under-five children from poor low socio-economic level can have diarrhea | Agree = 1<br>Undecided = 2<br>Disagree = 3<br>No response = 9 |
| 29.10 | I live in a clean house/ environment so my child cannot come down with diarrhea | |
| 29.11 | Giving good and appropriate food can prevent a child from having diarhoea. | |
| 29.12 | Giving clean water prevents a child from having diarrhoea | Agree = 1<br>Undecided = 2<br>Disagree = 3<br>No response = 9 |
| | **SECTION E: EXPERIENCE OF DIARRHOEA** | |
| Q30 | Has any of your children below the age of five ever had diarrhoea? | |
| | Yes | 1 |
| | No | 2 |
| | No response (NR) | 9 |
| Q31 | How many times has your youngest child under the age of 5 come down with diarrhoea in the last 3 months? | Actual response |
| Q32 | How long in days did the diarrhoea last? | Actual response |
| | **Section F: Health Seeking Behavior of Under -5 Mothers** | |
| **Q33** | Where was your child delivered? | |
| | General hospital | 1 |
| | Private hospital | 2 |
| | Home delivery | 3 |
| | Health center | 4 |
| | Traditional birth attendant | 5 |
| **Q34** | Has your child been given any vaccine for preventing and controlling diarrhoea? e.g. Rota virus vaccine | |
| | Yes | 1 |
| | No | 2 |
| | NA | 8 |
| **Q35** | Do you still breastfeed your child? | |
| | Yes | 1 |
| | No | 2 |
| | No response (NR) | 9 |
| **Q36** | If yes to question 35, How do you breast feed your child during diarrhoea? | |
| | Less than usual | 1 |
| | About the same | 2 |
| | I don't breastfeed during diarrhoea | 3 |
| | More than usual | 4 |
| | Not Applicable (NA) | 8 |
| | No Response (NR) | 9 |
| Q37 | When was complementary feeding added to breast feeding | (for each) |

| | | |
|---|---|---|
| 37.1 | At 3 months | Yes = 1<br>No = 2<br>No Response = 9 |
| 37.2 | At 6 months | |
| 37.3 | At 4 months | |
| 37.4 | Immediately after birth | |
| 37.5 | At 5 months | |
| 37.6 | After 6 months | |
| Q38 | How do you give complementary feeding during diarrhoea? | |
| | less than usual | 1 |
| | about the same | 2 |
| | I don't give complementary feeding during diarrhoea | 3 |
| | more than usual | 4 |
| | No Response (NR) | 9 |
| Q39 | Do you seek for treatment of diarrhoea outside the home? | |
| | Yes | 1 |
| | No | 2 |
| | No Response | 9 |
| Q40 | What do you give your child when you first notice diarrhoea? | |
| | Soup | 1 |
| | Herbs | 2 |
| | ORS/SSS | 3 |
| | Zinc tablets | 4 |
| | Rice water | 5 |
| | Antibiotics e.g. flagil | 6 |
| | Nothing | 7 |
| | No Response (NR) | 9 |
| Q41 | Where did you seek for treatment? | |
| | General hospital | 1 |
| | Health center | 2 |
| | Traditional healer | 3 |
| | Pharmacy/ Chemist | 4 |
| | Relative/ friend | 5 |
| | self-medication | 6 |
| | No Response (NR) | 9 |
| | | |
| Q42 | What feature of diarrhoea will encourage using a hospital or health facility**?** | |
| | Once the child stools and does not stop | 1 |
| | Child not able to breastfeed, eat/drink poorly | 2 |
| | Child becomes weak | 3 |
| | Child develops serious fever | 4 |
| | child vomit and stools at the same time | 5 |
| | child cannot walk and talk | 6 |
| | No response (NR) | 9 |
| Q43 | Who decide where care was sought if your child has diarrhoea? | |
| | Mother | 1 |

| | | |
|---|---|---|
| | Father | 2 |
| | Both parent | 3 |
| Q44(a) | **Section G: Treatment Option for The Health Seeking Behaviour Of Mothers of Under-5 Towards Childhood Diarrhoea** | (for each)<br>Yes = 1<br>No = 2<br>No Response = 9 |
| | Where visited for the management of diarrhea | |
| 44.1 | General hospital | |
| 44.2 | Health care centre | |
| 44.3 | Traditional healer (herb seller) | |
| 44.4 | Pharmacy/ chemist | |
| 44.5 | Did you consult a friend or a relative | |
| 44.6 | No management or treatment sought for. | |
| 44.7 | Private hospital | |
| Q44Xb (44.1-44.7) | **Reason for choice of where visited for the management of diarrhoea** | |
| | Cheap and affordable | 1 |
| | Qualified professionals | 2 |
| | Ability to diagnose efficiently | 3 |
| | Relative or friend working there | 4 |
| | Closest to home | 5 |
| | Always available and around | 6 |
| | Social support | 7 |
| | Referrals from family and friends | 8 |
| | Don't waste time | 9 |
| | No response | 99 |
| 45 | Total knowledge score | Actual figure |
| 46 | Category of knowledge score | Poor =1<br>Fair = 2<br>Good =3 |
| 47 | Total perception score | Actual figure |
| 48 | Category of perception score | Non-risky perception =1<br>Risky perception =2 |

## APPENDIX VIII

## KNOWLEDGE SCALE/MARKING SCHEME

| S/N | Knowledge of Diarrhoea | Pattern of responses | | | Score of correct responses |
|---|---|---|---|---|---|
| 17 | **Features of diarrhoea** | **Yes** | **No** | | |
| | Vomiting | Correct | Incorrect | | 1 |
| | Cough | Incorrect | Correct | | 1 |
| | Swelling of the stomach | Correct | Incorrect | | 1 |
| | Fever | Correct | Incorrect | | 1 |
| | Loss of appetite | Correct | Incorrect | | 1 |
| | General body weakness | Correct | Incorrect | | 1 |
| | Frequent watery stooling | Correct | Incorrect | | 1 |
| | Malaria | Incorrect | Correct | | 1 |
| | Sunken fontanelle | Correct | Incorrect | | 1 |
| | | | | **Subtotal** | 9 |
| 18 | **Causes of diarrhoea** | **True** | **False** | **Don't Know** | |
| | Infection | Correct | Incorrect | Incorrect | 1 |
| | Poor hygiene | Correct | Incorrect | Incorrect | 1 |
| | Teething | Incorrect | Correct | Incorrect | 1 |
| | No cause | Incorrect | Incorrect | Incorrect | 1 |
| | Malnutrition | Correct | Incorrect | Incorrect | 1 |
| | Heat | Incorrect | Correct | Incorrect | 1 |
| | | | | **Subtotal** | 6 |
| 19 | **Consequences of diarrhoea** | **Yes** | **No** | **Don't Know** | |
| | Dehydration | Correct | Incorrect | Incorrect | 1 |
| | Reduction in weight | Correct | Incorrect | Incorrect | 1 |
| | Increase in height | Incorrect | Correct | Incorrect | 1 |
| | Malnutrition | Correct | Incorrect | Incorrect | 1 |
| | Death | Correct | Incorrect | Incorrect | 1 |
| | | | | **Subtotal** | 5 |
| 21 | **Symptoms associated with dehydration** | **True** | **False** | **Don't Know** | |
| | **Dry skin** | Correct | Incorrect | Incorrect | 1 |
| | **Dry mouth** | Correct | Incorrect | Incorrect | 1 |
| | **Sunken eyes** | Correct | Incorrect | Incorrect | 1 |
| | **Dizziness** | Correct | Incorrect | Incorrect | 1 |
| | **Malaria** | Incorrect | Correct | Incorrect | 1 |
| | | | | **Subtotal** | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 25 | **Major ingredients used for preparing salt sugar solution** | Yes | No | | |
| | Water | Correct | Incorrect | | 1 |
| | Salt | Correct | Incorrect | | 1 |
| | Glucose | Incorrect | Correct | | 1 |
| | Sugar | Correct | Incorrect | | 1 |
| | Lime | Incorrect | Correct | | 1 |
| | | | | **Subtotal** | 5 |
| 26 | Hygiene practices associated with the preparation of salt sugar solution and oral rehydration salt | **Yes** | **No** | | |
| | Washing of hands with soap and clean water before the preparation | Correct | Incorrect | | 1 |
| | Washing of the container before use | Correct | Incorrect | | 1 |
| | Washing of the spoon with soap and clean water | Correct | Incorrect | | 1 |
| | Washing of hands with only water | Incorrect | Correct | | 1 |
| | Not washing my hand or any other material before use | Incorrect | Correct | | 1 |
| | | | | **Subtotal** | 5 |
| 28 | If a child has diarrhoea when should ORS/SSS be given | Correct | Incorrect | Don't Know | |
| | Anytime the child is sick | Incorrect | Correct | Incorrect | 1 |
| | Morning and night | Incorrect | Correct | Incorrect | 1 |
| | After each watery stool | Correct | Incorrect | Incorrect | 1 |
| | Before each stool | Incorrect | Correct | Incorrect | 1 |
| | Three to four times a day | Incorrect | Correct | Incorrect | 1 |
| | | | | **Subtotal** | 5 |
| 9 | Expiration of prepared salt sugar solution and oral rehydration salt | **Yes** | **No** | | |
| | After the second day of preparation | Incorrect | Correct | | 1 |
| | After the first day of | Correct | Incorrect | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| | preparation | | | | |
| | It does not expire | Incorrect | Correct | / | 1 |
| | When the child finishes the solution | Incorrect | Correct | | 1 |
| | | | | **Subtotal** | 4 |
| | | | | | |
| | | **Total Maximum Score** | | | **44** |

| PERCENTILE % | QUATITATIVE ASSESSMENT/EVALUATION | CODE |
|---|---|---|
| <50 | Poor | 1 |
| 50-74 | Fair | 2 |
| >75-100 | Good | 3 |

## APPENDIX IX
## PERCEPTION SCALE/MARKING SCHEME

| S/N | Perception relating to diarrhoea | | | | Maximum Score |
|---|---|---|---|---|---|
| 32(a) | **Perceived seriousness of under-5 mothers towards diarrhoea** | Agree | Undecided | Disagree | |
| | Diarrhoea is a serious disease | Appropriate | Inappropriate | Inappropriate | 1 |
| | Diarrhoea does not and cannot kill | Inappropriate | Inappropriate | Appropriate | 1 |
| | Diarrhoea is a normal phase a child has to go through | Inappropriate | Inappropriate | Appropriate | 1 |
| | Diarrhoea can expose a child to other illness like malaria, typhoid | Appropriate | Inappropriate | Inappropriate | 1 |
| | Diarrhoea can hinder the development of a child | Appropriate | Inappropriate | Inappropriate | 1 |
| | Only children who are teething can have diarrhoea | Inappropriate | Inappropriate | Appropriate | 1 |
| | Malnutrition can put a child at risk of having diarrhoea | Appropriate | Inappropriate | Inappropriate | 1 |
| | It is not necessary to use any formal health-care facilities when an under 5 has diarrhoea | Appropriate | Inappropriate | Inappropriate | 1 |
| | | | | **Subtotal** | 8 |
| | | | | | |
| 32(b) | **Perception of vulnerability of under-5 mothers towards diarrhoea** | **Agree** | **Undecided** | **Disagree** | |
| | Only under-five children from low socio-economic level can have diarrhoea | Inappropriate | Inappropriate | Appropriate | 1 |
| | I live in a clean house/ environment so my | Inappropriate | Inappropriate | Appropriate | 1 |

| | | | | | |
|---|---|---|---|---|---|
| | child cannot come down with diarrhoea | | | | |
| | Giving good and appropriate food can prevent a child from having diarrhoea. | Inappropriate | Inappropriate | Appropriate | 1 |
| | Giving clean water prevents a child from having diarrhoea | Inappropriate | Inappropriate | Appropriate | 1 |
| | | | | **Subtotal** | 4 |
| | **Total score obtained** | | | | 12 |

| PERCENTILE | QUATITATIVE ASSESSMENT/EVALUATION | CODE |
|---|---|---|
| < 50% | Risky perception/ | 1 |
| >50% and above | Non-risky/ favorable perception | 2 |