

## **An Assessment of the Knowledge and Practices of Mothers on Home Management of Diarrhoea in the under Five Children at the Medicalised Health Center Nkwen, North West-Cameroon**

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### **Abstract**

*Diarrhoea has been and is still one of the highest threats to the lives of children below five years. According to millennium development goal, the fourth goal aims at reducing child mortality and morbidity to 2/3 from 1990 to 2015. Diarrhea remains the second leading cause of death among children under five years globally [Adimora et al (2011)]. Nearly one in five child deaths, about 1.5 million each year, are due to diarrhea [Ansari et al (2011)]. Northern Cameroon estimated approximately 18500 diarrhoea episodes and 3696 RVA-associated child mortality occurred in Cameroon annually (Parasharet al, 2003). Many children under five who come to that hospital suffer from diarrhea they have been a steady rise in the prevalence of diarrhoea among children under five in Cameroon and world (WHO 2004). Therefore, this study aims at assessing the knowledge and practices of mothers on home management of diarrhea in under five.*

*The descriptive cross-sectional study design was used to assess the knowledge, and practices of the mother in the home management of diarrhea. Targets were mothers in home management of diarrhea in children (0-5 years) who came in IWC, ANC units at the Nkwen Medicalised Health Center within the period of study. The instrument of data collection was a structured questionnaire, Microsoft Excel 2010 was used for analysis and data presented on tables, pie charts, histograms and Bar charts.*

*The current study revealed that mothers have inadequate knowledge on home management of diarrhoea 90(60%). They had negative practices towards the home management of diarrhoea and the use of ORS/zinc tablets as recommended by WHO was very low (29%) as compared to the use of drugs and traditional medicine. According to USAID and Experts worldwide (2002), success in the reduction of deaths and illnesses due to diarrhoea in childhood depends on the acceptance of the scientific basis and benefits of ORT by governments and medical communities.*

*There is need to educate mothers on home management of diarrhea using scientific bases to reduce infant mortality from diarrhea.*

**Keywords:** *knowledge and practices, diarrhea, under five children.*

### **Introduction**

Diarrhea remains the second leading cause of death among children under five years globally [Adimora et al (2011)]. Nearly one in five child deaths, about 1.5 million each year, are due to diarrhea [Ansari et al (2011)]. It kills more young children than Acquired Immunodeficiency Syndrome (AIDS), malaria and measles combined [Bacho, et al (2001)]. Each year, an estimated 2.5 billion cases of diarrhea occur among children under five years of age, and estimates suggest that overall incidence has remained relatively stable over the past two decades [Barbbie, (1989)]. It is estimated that, on average, each child under 5 years of age in developing countries suffers from three episodes of diarrhea per year [Bhutta, Z.A.2010)].

In Africa, a child experiences five episodes of diarrhea per year and 800,000 children die each year from diarrhea and dehydration which account for 25 to 75% of all childhood diseases [Biritwum, et al (2004) and Blacket al (2002)]. The number of childhood deaths only decreased by 4% in Africa from

2000 to 2008, due to inadequate interventions and high poverty rate [Boschi-Pinto *et al* (2008) and Enukusi, (2010)].

The timely administration of oral rehydration salt (ORS), zinc tablets, vitamin A supplementation, safe water, good sanitation, and the use of antibiotics have proven to be both cost effective and efficacious as primary interventions for preventing diarrhea morbidity [Forsberg *et al* (2007), GSS/MOH/UNICEF (2006)]. Notwithstanding, diarrhea prevalence has remained relatively stable over two decades as the interventions are not effectively implemented by many children [Forsberg *et al* (2007) and GAVI (2005)]. For instance, only 39% of infants less than 6 months are exclusively breastfed and only 35% of children with diarrhea receive oral rehydration therapy

Diarrhoea is a condition in which someone passes 3 or more loose stool per day or more frequently than is normal for an individual which can be caused by Rotavirus and varieties of bacteria's such as Shigella and enterobacterias. WHO (2009).

It represents a significant burden on the health system, the household and the nutritional status of children, 2195 children die every day due to diarrhoea more than deaths caused by AIDS, Malaria and measles combined, (Lieu *et al*, 2000).

Diarrhoea also accounts for one in nine child deaths worldwide making it the second leading cause of deaths among the under-fives. For children with HIV, it is even more deadly, with the death rate eleven times higher than the rate for children without HIV (Hutton. *et al*, 2007).

Globally, it is estimated that 1.7 billion cases of diarrhoea occur each year and is the leading cause of dehydration, malnutrition and retarded growth in children between 0-5 years of age. Diarrhoea can be acute or chronic and has a high incidence and mortality rate in low- and middle-income homes, (Haroun, *et al*, 2004).

According to WHO (2013), diarrhoea has become less common in developed world and recent statistics estimate that it is common with high incidence in Africa, Asia, and Latin America.

Children less than five years of age in the Sub-Saharan Africa experience a median of five episodes of diarrhoea per year with the highest incidence occurring in children aged 6-23 months (Boschi-pinto *et al*, 2009).

In Africa a group of experts estimated that 90% of acute diarrhoea are caused by infectious disease mostly through the faeco-oral route of transmission 10% acute causes often blame on the diet. Escherichia coli and Rotavirus in Africa causing 72% of diarrhoea cases and others caused by adenovirus, Shigella and antibiotic use WHO (2013).

According to United Nations Children's Fund (UNICEF) annual report, 93,000 children less than five die every year in Cameroon [Keratanase *et al* (2006)]. Diarrheal disease is one of the major public health problems that cause excess morbidity and mortality in children in Cameroon [Kendell, *et al* (2009)]. Although diarrhea is recognized as a serious public health problem in Cameroon, very little comprehensive studies relating diarrhea-causing pathogens responsible for endemic diarrhea among Cameroon's children have been reported in the medical literature. World Health Organization (WHO) has accordingly underlined the need for epidemiological surveys of infantile diarrhea in all geographical areas. The main research objectives were to assess the knowledge, and practices of mothers on the home management of diarrhoea in the under five children at Nkwen Medicalised Health Center.

### **Statement of the problem**

Diarrhoea has been and is still one of the highest threats to the lives of children below five years. According to millennium development goal, the fourth goal aims at reducing child mortality and morbidity to 2/3 from 1990 to 2015. Though childhood mortality related to diarrhoea diseases have reduced, its incidence and prevalence is still sky-rocketing. 1.87 million (94%) children below five years died of diarrhoea yearly with 1.46 million (76%) coming from South East Asia and Africa combined (WHO, 2002). Diarrhoea proportionate mortality accounted for 19% of child deaths in the year 2000 and when applied to the total in 2004, it was responsible for approximately 1.8 million deaths in children under five years in low and middle income countries, (Boschi-Pinto *et al* 2006). Monthly (seasonal) prevalence of Group A rotavirus in Northern Cameroon estimated approximately 18500 diarrhoea episodes and 3696 RVA-associated child mortality occurred in Cameroon annually (Parasharet *et al*, 2003). Based on my observation at the Bamenda III sub-divisional medicalised health

center Nkwen. Many children under five who come to that hospital suffer from diarrhea they have been a steady rise in the prevalence of diarrhoea among children under five in Cameroon and word (WHO 2004).

This might be due to lack of knowledge and practice of home management of diarrhoea in children under five. So, the study of home management of diarrhoea in children under five years would provide baseline data that can be exploited to prevent diarrhoea among children under five years.

## **Study objectives**

### **General objectives**

To assess the knowledge, and practices of mothers on home management of diarrhoea in under five children at the Nkwen Medicalized Health Center.

### **Specific objectives**

- To determine the demographic characteristics of mothers/caregivers.
- To assess the knowledge of mothers in home management of diarrhoea in children under five.
- To assess the practice of mothers in the home management of diarrhoea in children under five and their difficulties in the home management of diarrhoea.

### **Research question**

What is the knowledge and practices of mothers on home management of diarrhea in under five children at the Nkwen Medicalized Health Center?

### **Hypothesis**

Mothers have little knowledge in the management of diarrhea in under five children at the Nkwen Medicalize Health Center.

## **Methodology**

### **Description of study setting**

The Nkwen Medicalised health center is a public health institution located 5km form the Bamenda Health District Service and the North West Regional Delegation for Public Health. It is found inside the Nkwen Urban Health Area which is one of the 18 health areas of the Bamenda Health District.

This Health Facility is found in the heart of the Nkwen urban health area in the Baelle Zone alon the Bambui/Bambili highway, opposite the Amour Mezam Transport Agency.

The health facility has a catchment population of 86.681 inhabitants spread over 4main zones. This health facility operates with both the minimum and complementary package of activities as per the Cameroon health system.

### **Eligibility criteria**

#### **Inclusion criteria**

- Mothers dealing with home management of diarrhea.

#### **Exclusion criteria**

- Mothers who did not deal with home management of diarrhoea
- Mothers who refuse to participate to our study
- Mothers who are not present during the data collection process.

### **Study design**

The descriptive cross-sectional study design was used to assess the knowledge, and practices of the mother in the home management of diarrhea at the Nkewn medicalised health center.

### Sample size determination

To determine the number of mothers to be included in the study, the single population proportion formula was used.

$$N = \frac{Z^2 P(1 - P)}{C^2}$$

Where: N= sample size  
P= Prevalence diarrhoea in children  
C= error margin (0.05)  
Z= 1.96 at 95% confidence interval

$$N = \frac{1.96^2 \times 0.11(1 - 0.11)}{0.05 \times 0.05}$$

N= 150 mothers (sample size)

### Sampling technique

A simple random sampling technique was used to obtain a sample from mothers who had managed diarrhoea at home but who attended ANC and IWC at the Nkwen Medicalised Health center to ascertain their knowledge and practices on the home management of diarrhoea in children age under five years.

### Data collection tool and data collection method

The instrument of data collection was a structured questionnaire, structured as follows:

Section one: demographic of mothers in the home management of diarrhea.

Section two: knowledge of mothers on diarrhea.

Section three: practices in the home management of diarrhea in children 0 to 5 years by mothers and care givers and their difficulties in the home management of diarrhoea.

The questionnaires were self-administered by the researcher face to face on all ANC and IWC days within the study period. The convenient sampling method was employed here where only those mothers who attended IWC and ANC and consented were administered questionnaires.

### Data management

Responses from questionnaires were analyzed using Microsoft Excel 2010. Graphs, tables and pie charts were then generated from the same software for better interpretation.

### Strength and limitations

Limitations included recall bias for mothers who manage diarrhea in the children long time ago. Some responses were somehow irrational since some mothers who managed diarrhea in their under-fives at home ended up losing their babies. However, randomization minimized the effect of these limitations on the study outcome.

## Results

### Section 1. Socio-demographic data

**Table 1.** Distribution of respondents according to age group

Age group	15-20 years	21-30 years	31-40 years	41-50 years	Total
Number of respondents	26	66	39	19	150
Percentage (%)	17.33	44	26	12.66	100

From table 1, out of 150 respondents recruited for the study, 66(44%) were between 21-30 years of age, 39(26%) between 31-40 years, 26(17.33%) between 15 -20 years and 19 (12.66%) between 41-50 years.

**Table 2.** Distribution of respondents according to educational level

<b>Educational level</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Primary	31	20.66
Secondary	42	28
High school	38	25.33
University	39	26
<b>Total</b>	<b>150</b>	<b>100</b>

It can be observed on table 2 above that 42(28%) of the respondents were from the secondary level of education, 39(26%) from the university level, 38(25%) from the high school level and 31(21%) from the primary level of education.

**Table 3.** Distribution of respondents according to occupation

<b>Occupation</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Teacher	24	16
Business	33	22
Farmer	08	05.33
Student	33	22
Civil servant	21	14
House wife	21	14
Others	10	06.66
<b>Total</b>	<b>150</b>	<b>100</b>

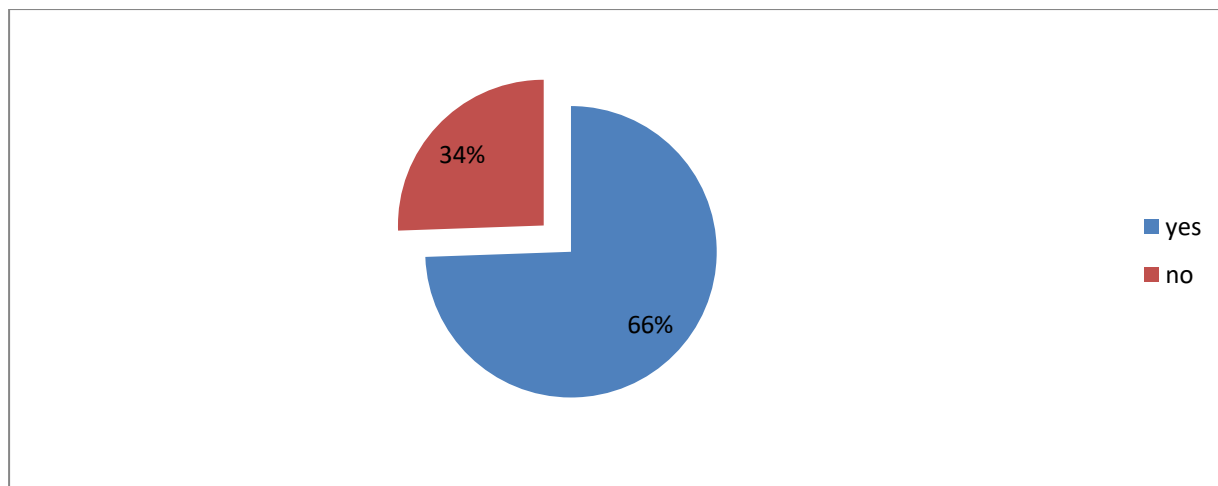
From table 3, 33(22%) of the respondents recruited for the study were students, 33(22%) business ladies, 24(16%) teachers, 21(14%) civil servant 21(14%) house wives, 10(06.66%) other occupations and 08(5.33%) farmers

## Section 2: Respondents' Knowledge on Diarrhea

**Table 4.** Distribution of respondents on the definition of diarrhoea

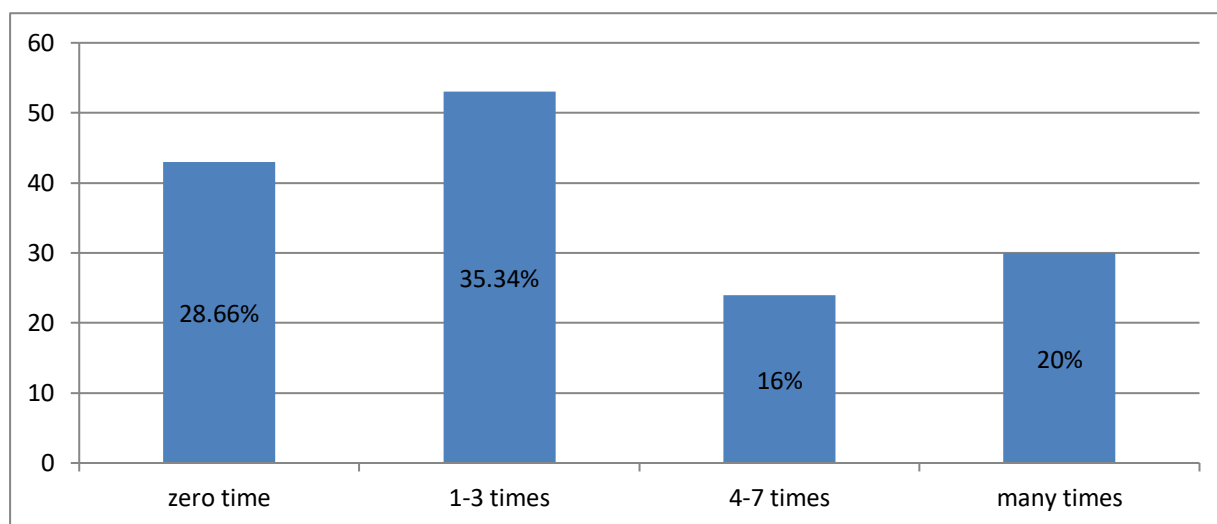
<b>Definition</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Passage of loose or watery stool at least 3 times in 24hours or more frequent than usual	60	40
Bloody stool	30	20
Stool which looks like catarrh	45	30
Protruding anus with pain during stooping	15	10
Total	150	100

It can be observed in table 4 above that 60(40%) of the respondents defined diarrhoea as the passage of loose or watery stool at least 3 times in 24 hours or more frequent than usual, 45(30%) of them defined it as stool which looks like catarrh, 30(20%) as bloody stool and 15(10%) defined diarrhoea as protruding anus with pain during stoolling.



**Figure 1.** Distribution of respondents according to whether their child ever has diarrhoea

From figure 1 above, 99(66%) of the respondents reported that their children had diarrhoea, and 51(34%) had not suffered from diarrhoea



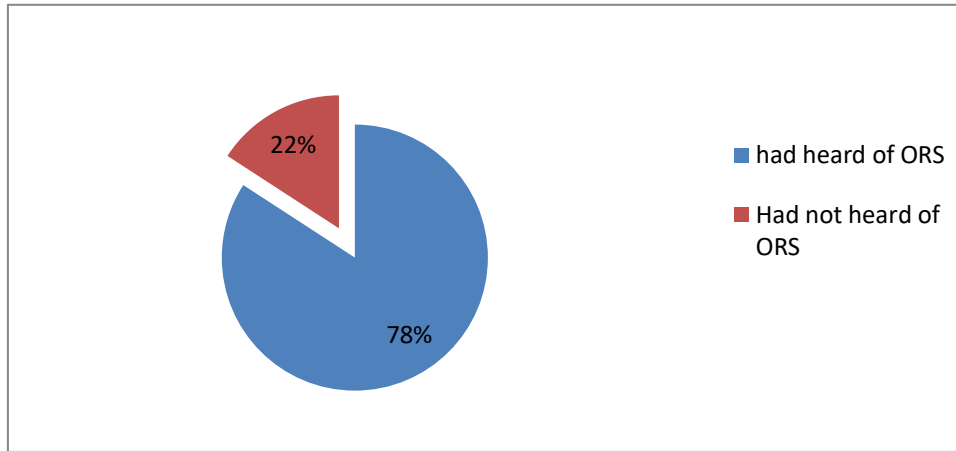
**Figure 2.** Distribution of respondents according to the number of times their children have had diarrhoea

From figure 2 above, 53(35.34%) of the respondents reported that their children had had diarrhoea 1-3 times before the study, 43(28.66%) had not suffered from diarrhoea, 30(20%) suffered from diarrhoea many times and 24(16%) had suffered from diarrhoea 4-7 times.

**Table 5.** Distribution of responses on the causes of diarrhoea

Causes	Frequency	Percentage (%)
Consumption of dirtaround	30	20
Contaminated water	33	22
Contaminated food	33	22
Dry food	3	2
Teething(milk teeth)	12	08
Do not know	09	06
Beans	04	02.66
Unripe fruits	21	14
Malnutrition	5	03.33
<b>Total</b>	<b>150</b>	<b>100</b>

From table 5 above, 33(22%) of the respondents indicated that diarrhoea could be caused by contaminated food and water, 30(20%) indicated that the consumption of dirt around is one of the causes, 21(14%) said diarrhoea is caused by unripe fruits, 12(08%) said teething, 09(6%) did not know the causes, 05(3.33%) said malnutrition and 4(2%) said dry food can be the cause.



**Figure 3.** Distribution of respondents on the knowledge about ORS

As presented on figure 4, 117(78%) of the respondents had heard of ORS and 33(22%) had not. The sources of the knowledge about ORS are presented on table 9 bellow.

**Table 6.** Distribution of respondents on the sources of knowledge about ORS

Sources	Frequency	Percentage (%)
Radio and TV	40	26.66
Hospital	60	40
Friend	30	20
Neighbour	15	10
Personal reading	05	03.34
<b>Total</b>	<b>150</b>	<b>100</b>

It can be observed on table 6 above that 60(40%) of the respondents heard about ORS in the hospital, 30(20%) heard about it from their friends, 15(10%) from neighbours 40(26.66%) from the radio and TV, and 05(3.34%) had the knowledge through personal reading.

**Table 7.** Distribution of respondents on the effects of diarrhoea on a child who is not taking enough fluids during diarrhoea

Effects	Frequency	Percentage
dehydration	60	40
nothing	15	10
Child willlose weight	52	34.66
Can led to child death	23	15.34
<b>total</b>	<b>150</b>	<b>100</b>

It can be observed in table 7 above that 60(40%) of the respondents said that the child can be dehydrated if enough fluid is not given during diarrhoea, 52(34.66%) said the child would lose weight, and 23(15.34%) said it can lead the child to death 15(10%) said nothing will happen

**Table 8.** Distribution of respondents on the signs of dehydration during diarrhoea

Signs of dehydration	Frequency	Percentage (%)
Vomiting	36	24
Sunkeneyes	60	40
Dry mouth and tongue	48	32
Skin does not flatten when pinched and released	6	4
Total	150	100

From table 8, 60(40%) of the respondents said that sunken eyes are a sign of dehydration during diarrhoea, 48(32%) said dry mouth and tongue, 36(24%) said vomiting and 6(4%) said that the skin does not flatten when pinched and released.

**Table 9.** Distribution of responses on the signs of danger that a child should be taken to a health facility

Signs	Frequency	Percentage (%)
Watery stool and vomiting	27	18
Mucoid stool	11	7.34
High fever	21	14
No improvement within 24 hours after home management	22	14.66
Signs of dehydration are noticed	30	20
Stool mixed with blood	39	26
<b>Total</b>	<b>150</b>	<b>100</b>

It can be observed from table 9 above that 30(20%) of the respondents indicated that they would take their children to a health facility if the signs of dehydration are noticed, 27(18%) said they would do so if the child presents with watery stool and vomiting, 39(26%) said stool mixed with blood, 22(15%) said the health facility would be the only option if there is no improvement within 24 hours after home management, 21(14%) said high fever and 11(7.34%) said mucoid stool.

### Section 3: Practices of mothers and care givers in the home management of diarrhea in the under-fives and their difficulties in the home management of diarrhoea

**Table 10.** Distribution of respondents according to what they do immediately their children start diarrhoea at home

Management	Frequency	Percentage
Buy medicine from a drug store and administer	30	20
Buy, prepared and administer ORS	48	32
Wait for some time and take child to the health facility when diarrhoea persists	37	24.66
Stop feeding until diarrhoea stops	9	06
Search for traditional medicine and administer	26	17.34

From table 10, immediately a child starts diarrhoea at home, 30(20%) of the respondent said they buy drugs from a drug store and administer, 37(25%) said they prefer to wait and take their children to a health facility if diarrhoea persists, 48(32%) said they give ORS to their children, 26(17.34%) said they administer traditional medicine and 9(6%) said they stop feeding until diarrhoea stops.

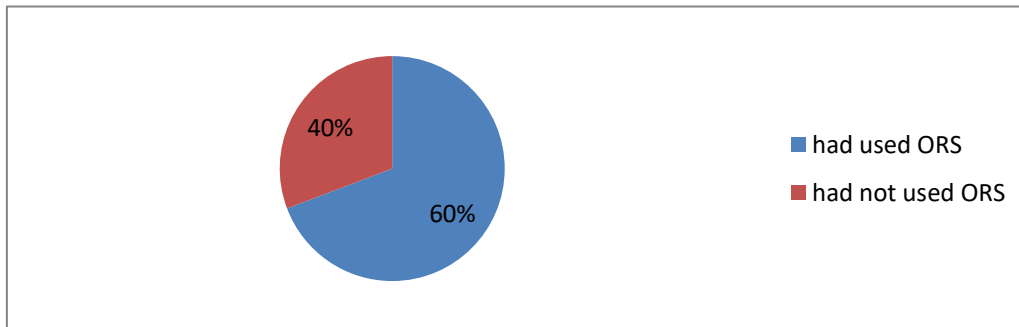
**Table 11.** Distribution of respondents according to the fluid of choice for the child in case of diarrhoea at home

Fluid	Frequency	Percentage (%)
ORS	60	40
Water	45	30
Breastmilk	18	12



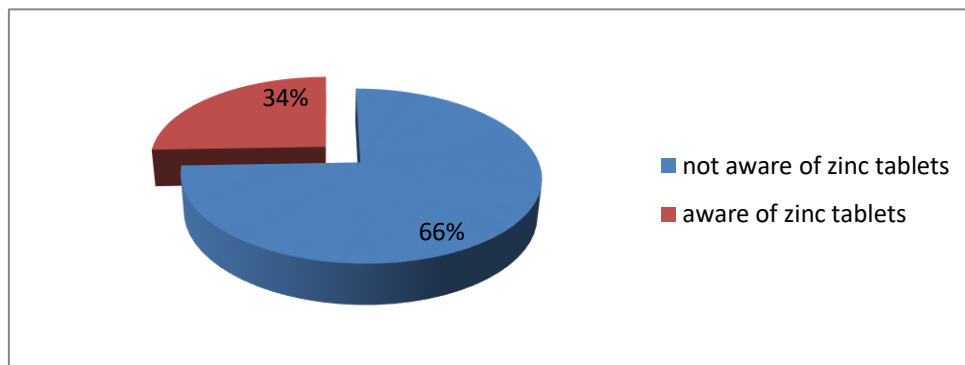
Corn water	5	3.33
Saltedrice water	7	4.66
Carrotsoup	15	10
Total	150	100

From table 11, 60(40%) of the participants said ORS is the fluid of choice for children in case of diarrhoea at home, 45(30%) said water, 18(12%) said breast milk, 15(10%) said carrot soup, 7(4.66%) said salted rice water and 5(3.33%) said corn water.



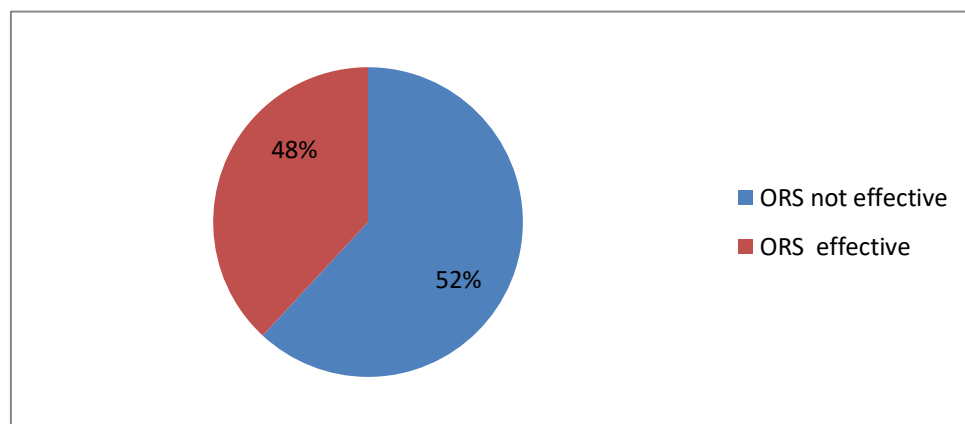
**Figure 4.** the use of ORS

From figure4: 90(60%) of the respondents had used ORS before the study and 60(40%) had not. Out of the 40% of respondents who had not used ORS, 27(18%) said they did not know how to prepare it and 33(22%) said they had had no case that needed the use of ORS.



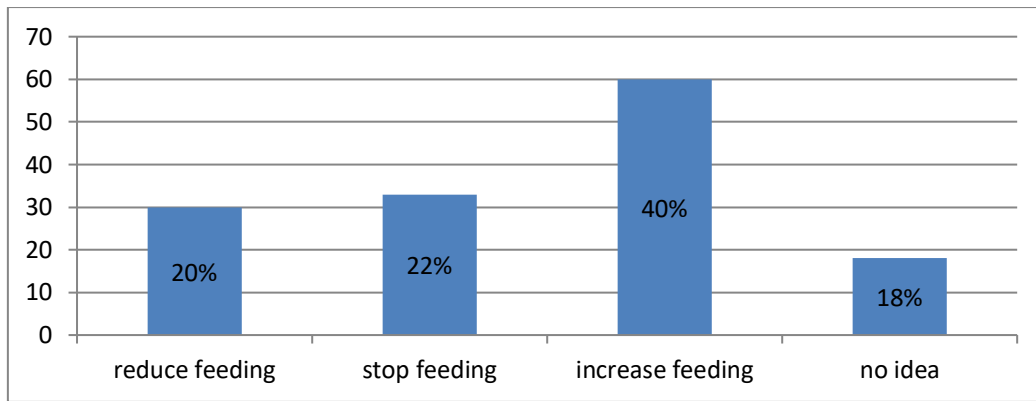
**Figure 5.** Respondents awareness of the inclusion of zinc for the home management of diarrhoea

Figure 5 indicates that 99(66%) of the respondents were not aware that zinc tablets have been included in the home management of diarrhoea while 51(34%) of them were aware.



**Figure 6.** Respondents appreciation of ORS in the home management of diarrhoea

From figure6. 78(52%) of the respondents believed that ORS is not effective in the home management of diarrhoea while 72(48%) believed and said it is effective.



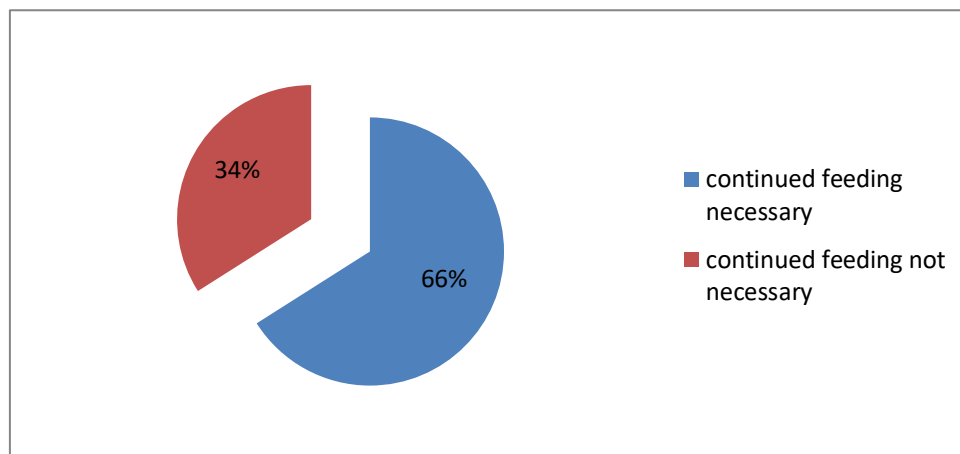
**Figure 7.** Distribution of respondent on the rate of feeding during diarrhoea

From figure7above, 60(40%) of those who took part in the study increased feedings for their children during diarrhoea episode, 30(20%) reduced feeding, 33(22%) stop feeding and 27(18%) did not know what to do.

**Table 12.** Distribution of respondents according to the reasons for their continual feeding during diarrhoe

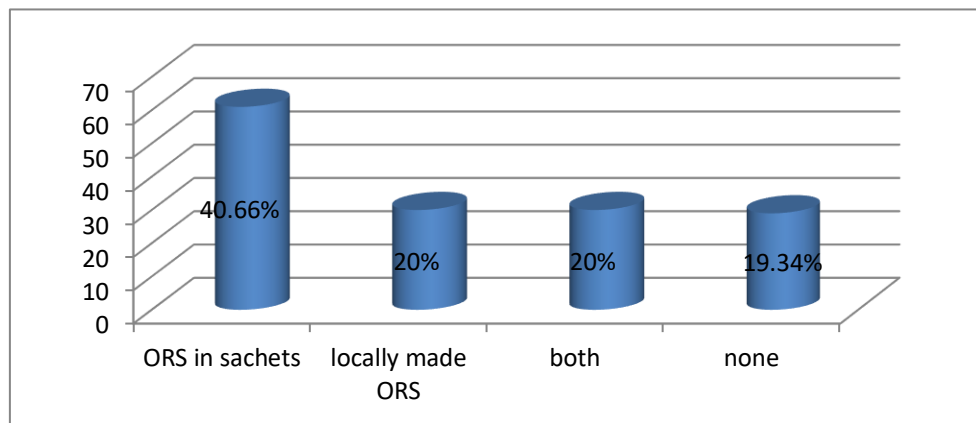
Reasons	YES	
	Frequency	Percentage (%)
For recovery	12	8
To provide energy	11	7.34
To replenished lost nutrients	16	10.66
To prevent weight loss	12	8
To prevent death	10	6.66
No reason	14	9.34
To rehydrate the child	14	9.34
<b>NO</b>		
Wastage of blood	30	20
Can cause more harm	16	10.66
Loss of appetite	15	10

From table 12, out of the (66%) respondents who accepted continual feeding during diarrhoea, 11(7.34%) said it is necessary to provide energy, 12(8%) said it prevents weight loss, 12(8%) said it is necessary for recovery and 10(6.66%) said it prevents death. Out of the (34%) who said continued feeding is not necessary, 30(20%) said it is wastage of food, 31(20.66%) said it can cause more harm and loss of appetite.



**Figure 8.** Dependences on continual feeding during diarrhoea episode.

As presented on figure 8, 99(66%) of the respondents accepted that continued feeding during diarrhoea is necessary while 51(34%) said it not necessary.



**Figure 9.** Distribution of respondents according to their familiarity with ORS.

Figure 9 shows that 61(40.66%) of the respondent where use to ORS in sachet provided at the health facility, 30(20%) locally made ORS, 30(20%) where use to both and 29(19.34%) where not familiar with either.

**Table 13.** Distribution of respondents on their methods in the local preparation of ORS

Methods of preparation of ORS	Frequency	Percentage (%)
5 cubs of sugar + 1 tea spoon of salt + half a lemon fruit juice in 1 litter of clean water	19	12.66
8 cubs of sugar +1 tea spoon of salt in 1.5 litter of water	18	12
Sugar + salt in 1 litter of water	27	18
8 cubs of sugar +1 tea spoon of salt in 1 litter of warm water	20	13.33
Do not know	66	44
Total	150	100

From table 13, it can be observed that 66(44%) of the respondent said they did not know how to prepare local ORS at home, 27(18%) used sugar +salt in 1 litter of water, 19(12.66%) used 5 cubes of sugar + 1 tea spoon of salt +half a lemon fruit juice in 1 litter of water, 18(12%) used 8 cubs of sugar + 1 tea spoon of salt in 1 litter of water and 20(13.33%) used 8 cubes of sugar +1 tea spoon of salt in 1.5 litter of water.

**Table 14.** Distribution of the respondents on the administration of ORS solution

Intervals for ORS administration	Frequency	Percentage
2 times daily using a spoon or cup	4	2.66
3 time daily using a spoon or cup	35	23.34
After every stool using a cup or spoon	24	16
Any time the child wants to drink	57	38
Do not know	30	20
TOTAL	100	100

From table 14, 57(38%) of the respondents gave ORS to their children any time they wanted to drink during diarrhoea, 35(23.34%) gave it 3 times daily, 30(20%) said they did not know how to administer it, 24(16%) gave it 2 time daily and 24(16%) gave it after every stool.

**Table 15.** Distribution of respondents on the choice of tablets for children in case of diarrhoea at home

Tablets	Frequency	Percentage
Flagyl	94	62.66
Zinc	15	10
Paracetamol	26	17.34
Tetracycline	15	10
TOTAL	150	100

It can be observed from table 15 above that 94(62.66%) of the respondents used Flagyl as a drug of choice in case of diarrhoea at home, 15(10%) used zinc tablets, 26(17.34%) used paracetamol and 15(10%) used tetracycline.

**Table 16.** Distribution of respondents according to the difficulties face in managing diarrhoea at home

Reasons	Frequency	Percentage (%)
Fear of death	13	08.66
No knowledge about management	38	25.34
Forgetfulness	27	18
No time to do it	22	14.66
Fillbored	20	13.34
None	30	20
Total	100	100

From table 16 above, 38(25.34%) of the respondents had no knowledge about the management, 27(18%) said the always forget, 22(15%) said the lack time to do it, 20(13.34%) said it boring, 13(8.66%) they fear death and 30(20%) said no difficulty.

**Table 17.** Distribution of respondents according to what they think can be done to better management of diarrhoea at home

Reasons	Frequency	Percentage (%)
Keep environment clean	30	20
Wash your hand with clean water and savon before breast feeding the baby	33	22
Make sure your nipple is clean before breast feeding the baby	45	30
Have a single pot for your child	30	20
No idea	12	8
Total	150	100

From table 17 above, 30(20%) of the respondents think that the environment should be clean to the better management of diarrhoea at home, 33(22%) said they should wash hand with clean water and Savon before breast feeding the baby , 45(30%) said they should make sure the nipple is clean before the breast feeding the baby, 30(20%) said they should have a single pot for the child , 12(8%) said they have no idea.

## Discussions of findings

### Socio-demographic data

The age group 21-30 years made the highest number of respondents (44%). Respondents of this age group are younger, highly reproductive, and socially active. They are inexperienced in the home management of diarrhoea especially secondary school students of lower ages and so will likely shift the

responsibility to someone very competent. 42(28%) of the respondents were educated and had attended at least the secondary school while 31(21%) had attended the primary school. The findings of this study are congruent with the previous study findings of Matziouet *al.* (2008) in Greece and by Oshikoya and Senbanjo (2008) in Nigeria who found that the educational level of the mother had positive out comes on mothers' knowledge and practice in the home management of diarrhoea. The highest percentage 33(22%) were students and business ladies with the rest engaged in one job or the other to earn their living. Though the respondents were educated, their ages and occupations negatively affected their knowledge and practices in the home management of diarrhoea because they probably had been pre occupied with one thing or the other during health education on diarrhoea management in the under-fives during ANC and IWC. This made them faced difficulties in managing diarrhoea at home as recommended by WHO/UNICEF.

### **Knowledge on Diarrhoea**

The respondents gave many definitions for diarrhoea but only 60(40%) gave a good definition as defined by WHO. Similar finding was reported by Shah *et al* (2010) in their study conducted in Aligarh where they found that 83% of mothers and care givers were having correct knowledge. This definition indicated that they would treat a child who presented with bloody stool or mucoid stool with ORS. ORS may fail to stop these conditions and the respondents have a negative feedback for the use of ORS in the home management of diarrhoea. According to WHO/UNICEF, ORS is used to manage diarrhoea with the threat of dehydration to the child. The respondents were knowledgeable on the causes of diarrhoea amongst which the highest number 33(22%) said contaminated food and water are the causes. However, they failed to recognize some of the major causes of diarrhoea in the under-fives like malnutrition and the non-practice of exclusive breast feeding for the first six months of life for infants. These results are in line with those reported by Othero Dmet *al* (2008) in Kenya where 35% of mothers said diarrhoea is caused by unclean water and contaminated food. 117(78%) of the respondents had not heard about ORS. This result is similar with those reported by rabbyet *al* (2013) in Bangladesh showed that more than 50% of mothers and care givers had not heard about ORS. This indicates that they used other like drugs to treat diarrhoea at home. There were variable sources of knowledge about ORS to those who had heard about it. The hospital 60(40%) was the main source though 90(60%) heard about it from sources out of the hospital. The quality of the knowledge depends on the sources of the knowledge and this greatly affect their methods of preparation of ORS since a good number of them heard about it from sources out of the hospital.

Closely looking at the respondents' identification of the signs of dehydration during diarrhoea, only 114(76%) of them were knowledgeable on all the signs while 36(24%) could identify just few. This result is consistent with other study that was carried out by Agha *et al* (2007) in Gambat, Pakistan showed that 100% of mothers and care givers were knowledgeable on all the signs of dehydration during diarrhoea. Only 30(20%) were aware of the signs of danger during diarrhoea that a child should be taken to a health facility while 120(80%) could identify at least one of the signs. It can be feared that these respondents can leave their children severely dehydrated during diarrhoea and would not report to a health facility until the signs they know are noticed. This also indicates that they would try to manage all case of diarrhoea at home and will only seek for medical attention when the condition is already out of hand.

### **Knowledge and practices of mothers and care givers in the home management of childhood diarrhoea and their difficulties in the home management of diarrhoea**

In the home managements of diarrhoea, only 48(32%) of the respondents reported that they administered ORS to their children, 30(20%) administered drugs and 26(17.34%) administered traditional medicine. Flagyl, 94(62.66%) was the drug mostly used. This indicates that 94(62.66%) of the respondents preferred drugs and other means to ORS as recommended by WHO/UNICEF. Shelby *et al* (2012) reported similar results in Burkinafasso where only 21.4% of mother administered ORS to their children during diarrhoea. According to Dryden Ms et al (2002), antibiotics may be beneficial in certain situations during diarrhoea but there are concerns that they may increase the risk of haemolytic uremic syndrome.

A great majority, 66(66%) were not aware that zinc tablets have been included for the home management of diarrhoea despite health education on diarrhoea during IWC. Ogunrinde *et al* (2012) had a similar resulting Nigeria where only 36% of mothers were aware of the zinc tablets. Though WHO/UNICEF recommend and emphasize that ORS is very effective in the home management of diarrhoea with dehydration, 78(52%) of the respondents still said it is not effective. 89(59.33%) of the respondents accepted that continued feeding is necessary for the child during diarrhoea with a number of good reasons while 61(40.66%) said it is not necessary with reasons that it can cause more harm and that it is wastage of food since the child's system can't tolerate food. This result is similar with those reported by Mishra.*et al* (2009) in India were found that 66.25% of mothers and care givers were continued feed their children during diarrhoea episode. Another study carried out by Sood et al (2003) in India reported that 88% of mothers and care givers restricted their children's diet during diarrhoea episode. WHO/UNICEF recommend that continued feeding during diarrhoea is necessary because it replaces lose nutrients and facilitates recovery.

The respondents were knowledgeable on the fluid of choice for children during diarrhoea at home in which ORS was chosen by 40(40%). Despite this, the used of ORS in the home management of diarrhoea still remain very low. 60(40%) of the respondents reported that they increased the feeding rate for their children during diarrhoea while 30(20%) reduced feeding. This result is on line with those carried out by Kolahi et al (2008) found that during diarrhoea 30% of mothers and care givers increased amount of breast milk or food in their children's diet. Increased feeding rate during diarrhoea is necessary to replace lost nutrients and provide energy to the child. Only 61(40.66%) of the respondents were familiar with ORS in sachets provided at health facilities while 30(20%) were used to locally made ORS.66(44%) of the respondent said they did not know how to prepare local ORS at home while others 84(56%) could prepare local ORS at home. This study is similar with the study carried out by Kaushit (2008) in west Bengal showed that 66.7% of mothers and care givers could prepare local ORS solution at home correctly. Most of the respondents (64%) had no knowledge 15(15%) said they face no difficulty while others were due to negligence which can led to the death of many children at home.90(90%) of the respondents were knowledgeable of the requirements to prepare ORS but were confused on what quantity to use. The knowledge and method of preparation of ORS had a significant relationship with the age, educational level, occupation and the source of the knowledge. According to Nisha and Nicholas N. (2010), households with mothers belonging to the youngest age group, lowest educational attainment and poorest health index are the least likely group to properly treat their children suffering from diarrhoea. This is proven true because most of the respondents were of the younger age group though were educated.

## Conclusion

Proper home management can reduce morbidity and mortality due to diarrhoea. Factors of particular importance include caregiver's knowledge about causes of diarrhoea and the associated dangers signs, prevention of dehydration during diarrhoea episodes through the use of RHF's and ORS, support of nutritional status through the continuation of an adequate diet, avoidance of harmful practices and early referrals for treatment. The current study revealed that mothers have inadequate knowledge on home management of diarrhoea 90(60%). They had negative practices towards the home management of diarrhoea and the use of ORS/zinc tablets as recommended by WHO was very low (29%) as compared to the use of drugs and traditional medicine. According to USAID and Experts worldwide (2002), success in the reduction of deaths and illnesses due to diarrhoea in childhood depends on the acceptance of the scientific basis and benefits of ORT by governments and medical communities. There is need to implement interactive communication strategies for mothers and health workers at community level in order to facilitate sustainable positive change in the practices of home management of diarrhoea. The communication strategies should recognised the role played by culture in influencing perception of mothers. There is need for reinforcement of family knowledge on home management of diarrhoea, providing information and support to underserved families. Therefore, the recommended home management of child hood diarrhoea needs to be emphasized to mothers by health workers.

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