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Prevalence and prevention of diarrhoea among infants in rural areas of Ekiti state, Nigeria

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Abstract
In Nigeria, diarrhoea is the most common cause of gastroenteritis both in children and adult. It is a condition of having three or more loose or liquid bowel movement per day. The high prevalence of diarrhoea disease is largely attributable to by poor sewerage disposal, contaminated water and poor hygiene at house hold level. This study sought to investigate the prevalence and prevention of diarrhoea among infants in Ekiti State, Nigeria. The survey research design was used to accomplish this study. The study was carried out in the rural areas in Ekiti State, Nigeria. The inhabitants of the area are mainly farmers while some few hands. A sample of One hundred (100) mothers representing was utilized for the study. The primary data was collected by the researcher, using the research instrument questionnaire while secondary data was collected from textbooks, journals and former research carried out on the study. The collected data was organized, tabulated and analyzed by using descriptive statistics using percentage distribution. From the findings, it could be concluded that some nursing mothers still have misconceptions regarding the causes and prevention of diarrhea among under-fivechildren in the study area. There is a need for extensive educational interventions especially rural community dwellers for the improvement in their knowledge and practices about childhood diarrhoea and its management at home.

Keywords: diarrhoea, prevalence, infants, prevention, rural, Ekiti, Nigeria

Introduction

Diarrhoea is the most common cause of gastroenteritis both in children and adult. It is a condition of having three or more loose or liquid bowel movement per day (WHO, 2018) [9]. It is a common cause of infant deaths in developing countries, especially where safe drinking water and adequate sanitation hygiene is unavailable and the second most common cause of deaths worldwide (WHO, 2018) [9]. Diarrhoea is preventable and treatable. Diarrhoea which is usually due to bacterial, viral, or parasitic infection is a common problem that usually lasts 1 or 2 days and resolves on its own without special treatment (Chen, Chin, Lai, Tung, Chiou, Hsu and Chang, 2010) [4].

The loss of fluids through diarrhoea can cause electrolyte imbalances and dehydration. Dehydration alters the child's natural balance of water and electrolytes (sodium, potassium, chloride) and can be serious if not treated promptly. Diarrhoea is not a disease, but is a symptom of a number of illnesses (Kandakai, Mawak and Ochai, 2009) [5]. Studies have shown that bacterial agents are important causes of infantile diarrhoea in many developing countries. Prolonged diarrhoea persisting for more than 2 days may be a sign of a more serious problem and poses the risk of dehydration (Katribe, Bogomolnaya, Wingert, Andrews-Polymenis, 2018) [6]. It has been demonstrated in previous studies that diarrhoea infection is more severe in younger children and incidence of occurrence is highest in the six month period following child birth.

Diarrhea remains the leading cause of morbidity and mortality in children and infants worldwide. The burden is disproportionately high among children in low and middle-income countries like Nigeria. Young children are especially vulnerable to diarrheal disease and a high proportion of the deaths occur in the first 2 years of life (Black, Morris, and Bryce, 2003) [3]

Worldwide, the majority of deaths related to diarrhea take place in Africa and South Asia. Nearly half of deaths from diarrhea among young children occur in Africa where diarrhea is the largest cause of death among children under 5 years old and a major cause of childhood illness (Black, Morris and Bryce, 2003) [3]

In African countries including Nigeria, each child on average suffers from five episodes of diarrhea per year while the two weeks prevalence ranges from 10 to 40% (Alambo, 2015) [1]. Diarrheal diseases have persistently been the first or the second causes of visits to health units in the country. In general, diarrhea alone contributes to 19% of the under five deaths globally, while 22.5% of hospitalization and up to 20% of all outpatient visits in children (Alambo, 2015) [1]. Diarrheal death ratio, i.e number of deaths of children due to diarrhea over the total number of deaths of children due to any cause is 46%. The dangers of diarrhea are related to dehydration and malnutrition while, dysentery is another important causes of death due to the fatal complications associated with it.

Persistent diarrhea cases require care that is expensive and often ineffective, and they may cause as many as 25% of all diarrheal associated deaths. In addition to causing high rates of morbidity and mortality, diarrheal diseases are one of the main causes of childhood malnutrition. Also as many as 30% of pediatric beds in developing countries are occupied with children with diarrheal diseases (Belachew, Jira, Faris, Mekete, Asres and Aragaw, 2011) [2]. As a result, diarrheal diseases levy a very heavy burden on health facilities and national health budgets. This research defined is aimed at determining the prevalence

and prevention of diarrhoea among infants, using rural areas of Ekiti State as a case study.

The Probleme

Basically, some of the factors associated with diarrhea in children in Nigeria such as maternal history of recent diarrhea, maternal education, source of water, availability of latrine facilities, living in a house with fewer number of rooms, not breast feeding, duration of breast feeding, and age of the child, have been identified, diarrhea is still a major public health problem among children and infants.

The high prevalence of diarrhoea disease is largely attributable to by poor sewerage disposal, contaminated water and poor hygiene at house hold level. In many villages in Ekiti State, many of the households have little or no access to clean water supply and effective sanitation infrastructure which leads to the health of children and infants negatively affected and the rate of diarrhoea among infants is very high.

The major contributors of diarrhoea among infants have been found to be contaminated drinking water and food, lack of proper toilet facilities, ineffective disposal of household wastes, lack of hand washing practice after visiting toilets and before handling foods as well as low education levels especially among mothers of infants (0-12 months) children. This research therefore aims to investigate Prevalence and prevention of diarrhoea among infants in Ekiti State, Nigeria.

Objectives of the Study

The main objective of this study sought to investigate the prevalence and prevention of diarrhoea among infants in Ekiti State, Nigeria.

Other objectives are to

- To determine if mother's level of education have an effect on diarrhoea prevention in infants
- To determine if the source of water affect the occurrence of diarrhoea in infants
- To find out the relationship between hygiene practices and occurrence of childhood diarrhea in Ekiti State

Theoretically, this study was based upon the health action process for its framework. The health action process approach contends that different factors are at work when a person is deciding which health action(s) to adopt – a period of time he calls the motivation phase (decision-making phase). This decision is operative during the action (volition) phase. The model further states that the most important predictors of intentions are risk perception outcome expectancies and self-efficacy. The aim of this research was to determine the level of knowledge of childhood diarrhoea among mothers. The mothers may or may not perceive the outcome of their behaviours in cases of emergency like dehydration. Delays to seek management practices may emanate from the environment such as relations, friends or traditional birth attendants, hence the significance influence impinge on mothers by environment may hinder health behaviour or adequate management practices.

Research Methods

The survey research design was used in which the researcher uses a sample drawn from the population to have an insight to the problem under investigation and uses the research findings to make generalization. The study was carried out in the rural areas in Ekiti State, Nigeria. The inhabitants of the area are mainly farmers while some few hands are engaged in civil service and trading business. A sample of One hundred (100) mothers representing was utilized for the study. The primary data was collected by the researcher, using the research instrument (questionnaires) while secondary data was collected from textbooks, journals and former research carried out on the study. The collected data was organized, tabulated and analyzed by using descriptive statistics using percentage distribution. Ethical approval was sought and obtained from the EkIti State Ministry of Health, Ado – Ekiti. Permission was sought and obtained from management of Hospitals used for this study. Only eligible and consenting respondents were used for the study after due explanation of the purpose, objectives, benefits and risks of the study. Confidentiality was ensured by avoiding writing names on the research tools; instead they were coded for the purpose of follow up.

Findings and Discussion

This session presented the data analysis, interpretation and discussion of findings based on the research questions. The researcher made use of simple percentages to illustrate the findings on Prevalence and prevention of diarrhoea among infants in rural Ekiti State, Nigeria.

Table 1: Socio-Demographic Characteristics of Respondents

Variables		Percentages (%)
Age	Below 20 years	15
	21-30 years	31
	31-40 years	29
	41-50 years	17
	51 years and above	8
Education of respondents	Tertiary	55
	Secondary	33
	Primary	10
	No formal Education	2
Religion of respondents	Christianity	63
	Islam	25
	Traditional	12
Marital Status of respondents	Single	41
	Married	48

	Divorced	11
Occupation of respondents	Civil Servant	46
	Self-employed	34
	Farmer	20
Family size	Less than 5 members	52
	5 – 10 members	43
	More than 10	5
Has your child ever had diarrhoea?	Yes	80
	No	20

Source: Fieldwork, 2019

The total number of mothers interviewed was 100. They were interviewed on their age, education, marital status, occupation, and occurrence of diarrhoea in children. The majority of the respondents (29%) were women aged between 31 to 40 years, 15% were aged below 18 years, 31% were from 21 – 30, 17% were from 41-50 years while only 8 respondents were aged between 51 years and above.

On education of the respondents, 55% of the respondents had tertiary education, 33% had secondary education, 10% had primary education and 2% had no formal education. Analysis of the religion distribution of the respondents showed that 63% of the respondents were Christians, 25% were Muslims, while 12% were traditionalist. Forty eight percent of the respondents were married, 41% were single and 11% were divorced. Most of the women interviewed were civil servants 46%, 34% were self-employed, while 20% were farmers. On their family size, 52% of the respondents had less than 5 family members, 43% had from 5 – 10 family members and 5% of the respondents had more than 10 members in their family.

Table 2: Mother's Level of Education about Diarrhoea Prevention in Infants

Statement	YES	NO
Oral rehydration solution (ORS) helps to replace prevent dehydration	69%	31%
Boiling water before drinking it helps prevents diarrhoea	83%	17%
Breastfeeding protects the baby against diarrhoea	71%	29%
Hand washing is very effective in preventing diarrhoea	74%	26%

Source: Fieldwork, 2019

Table 2 shows that 69% of the respondents agreed that oral rehydration solution (ORS) helps to replace prevent dehydration while the remaining 31% disagreed. Also, Majority of the respondnets, (83%) agreed that boiling water before drinking it helps prevents diarrhoea and 17% wrongly disagreed. Furthermore, 71% of the respondnets correctly agreed that breastfeeding protects the bay against diarhoea but 29% disagreed. In addition, 74% of the respondnets agreed that hand washing is very effective in preventing diarhoea while the remaining 26% disagreed.

Table 3: Mother's Knowledge about Causes of Diarrhoea in Infants

Statement	YES	NO
Contamination of drinking water is the cause of diarrhoea	81%	19%
Eating food prepared with dirty hands cannot lead to diarrhoea	37%	63%
Eating too much rice is the cause of diarrhoea	58%	42%
Diarrhoea is caused by invisible microorganisms	80%	20%
Major cause of death in children with diarrhea is loss of water and essential minerals	85%	15%

Source: Fieldwork, 2019

Table 3 shows that the 81% of the respondnets interviewed agreed that contamination of drinking water is the cause of diarrhoea while 19% disagreed. Also, 37% of the women interviewed wrongly agreed that eating food prepared with dirty hands cannot lead to diarrhoea while 63% disagreed. Also, 80% agreed that diarrhoea is caused by invisible microorganisms while 20% disagreed. The results further showed that 85% of the respondnets agreed that the major cause of death in children with diarrhoea is loss of water and nutrients. The results showed that the respondnets have good knowledge of about the causes of diarrhoea.

Table 4: Hygiene Practices and Incident of Childhood Diarrhoea

Statement	YES	NO
Defeacating in open places can cause diarrhoea	87%	13%
A child who has diarrhoea should not be allowed to defecate in bushes or open spaces	72%	28%
Using different utensils for raw and cooked foods can lead to occurrence of diarrhoea	63%	37%
Eating food on the floor instead of on tables is very hygienic	57%	43%
Diarrhoea can be transmitted from one person to another	62%	38%

Source: Fieldwork, 2019

On hygiene practices that lead to incidence of diarrhoea, 87% of the respondents agree that defecating in open places causes diarrhoea while 13% disagreed. Furthermore, 72% of the respondents agreed that a child who has diarrhoea should not be allowed to defecate in bushes or open spaces. The results further revealed that 63% of the respondents agreed that udifferent utensils for raw and cooked foods can lead to occurrence of diarrhoea while 37% disagreed. Also, 57% of th respondnets agreed that eating food on the floor instead of on tables is very hygienic while 43% disagreed. Furthermore, 63% of the respondents agreed that diarrhoea can be transmitted from one person to another 38% disagreed. The results are also presented in the chart below.

Table 5: Knowledge of Diarrhoea Management among Nursing Mothers

Statement	YES	NO
Lost fluids should be replaced with Oral Rehydration Therapy	56%	44%
Antibiotics like Ampiclox is best used for treatment of diarrhoea	58%	42%
Eating solid foods like eba will stop diarrhoea	59%	41%
A child with diarrhoea for more than 24 hours should be taken to the hospital	47%	53%
A babalawo or pastor must be consulted when a child has diarrhoea	55%	45%

Source: Fieldwork, 2019

Table 5 shows that 56% of the respondents agreed that lost fluids should be replaced with Oral Rehydration Therapy while 44% disagreed. In addition, 58% of the respondents agreed that antibiotics like Ampiclox is best used for treatment of diarrhoea while 42% disagreed. Also, 59% of the respondents agreed that eating solid foods like eba will stop diarrhoea while 41% disagreed.

The table further revealed that 47% of the respondents agreed that a child with diarrhoea for more than 24 hours should be taken to the hospital while 53% disagreed. Also, 55% of the respondents agreed that a babalawo or pastor must be consulted when a child has diarrhoea while 45% disagreed.

Discussion of findings

Childhood diarrhoea is a widespread problem in developing countries like Nigeria and is a common public health concern. In rural Ekiti State where this study was carried out, diarrhoea in children under five is a common occurrence. The result shows that there was a gap in knowledge about the management of diarrhoea among the mothers where 31% disagreed that oral rehydration solution (ORS) helps to replace prevent dehydration. Generally, socio-demographic factors such as mothers' education and occupation, husbands' employment status, family income and family size are linked with mothers' knowledge about diarrhoea and its management apart from mothers' personal attitude and behaviour. This is in agreement with Mwambete, and Joseph 2010) [4] who reported that mothers' basic knowledge about diarrhoea depends on various factors such as educational status, prior experience of managing the disease and even ethnicity

The results showed that although mothers were aware of diarrhoea and its home management, the level of awareness was insufficient. Occurrence of the disease may be linked to several factors such as unavailability of latrines in their homes, unavailability of a good water source, poverty, attitude, ethnicity and social status, locality (rural), education and monthly income. Though mothers were aware of some signs of dehydration, the level of knowledge about the actual signs of dehydration due to diarrhoea was very poor. The study conducted in Tanzania and Indonesia also found similar results (MacDonald, Moralejo and Mathews, 2007).

In addition, some of the mothers (17%) do not believe that boiling water before drinking can prevent diarrhoea in under five children. This might be due to mothers' lack of prior experience, a lack of proper education about the concerned matters. Regarding mothers knowledge about the cause of diarrhoea, an encouraging result was that 81% had the knowledge that contamination of drinking water is the cause of the disease.

However, there are still some gaps in knowledge about the causes of diarrhoea which can be seen from some of the respondent who believed that eating too much rice is the cause of diarrhoea. This is a popular belief among residents of the study area and often times the mothers attributes the disease to rice consumption.

Although many of the women interviewed correctly affirm that the major cause of death in children with diarrhea is loss of water and essential minerals. There are still some who do not agree. Also, 44% of the women do not agree that lost fluids should be replaced with Oral Rehydration Therapy. The poor knowledge among some of the mothers about the role of ORS in diarrhoea is due to their poor knowledge about the concept of dehydration and rehydration and strong beliefs that ORS either decreases or increases the frequency of diarrhoea. As compared to ORS, knowledge about the preparation of SSW solution was poor. This might be due to its use being uncommon and mothers might not have any prior exposure to it.

The findings of this research show that misconceptions about diarrhoea causes, transmission and prevention still exist. Increasing the knowledge about diarrhoea transmission and benefits of using available effective preventive and control measures by the individual households and the community could contribute much to the overall reduction of the disease burden.

Conclusion

From the findings, it could be concluded that some nursing mothers still have misconceptions regarding the causes and prevention of diarrhoea among under 5 children in the study area. The research also showcased various wrong assumptions about prevention of diarrhoea in children. Although diarrhoea occurrence is not limited to children alone the proof of this submission is beyond the scope of this study. The repercussions of inadequate management of diarrhoea are many and grim. These include dehydration, electrolyte loss, and in extreme cases death of the child. These repercussions have costly implications on the social, psychological, emotional and economic well-being of individual child and their families with associated negative impact on public health resources.

Globally, there are nearly 1.7 billion cases of diarrhoea every year. Diarrhoea affects all age groups, however, it's more pronounced in very young people. It has proven to be among the leading causes of death in children under five years old. It gets

worse when it comes with malnutrition and dehydration; therefore, all hands must be on deck to prevent the occurrence of the disease among under five children across the nation.

Recommendations

From the findings of this study, the following are recommended:

1. There is a need for extensive educational interventions especially rural community dwellers for the improvement in their knowledge and practices about childhood diarrhoea and its management at home.
2. The indiscriminate use of antibiotics for diarrhoea treatment should be criticized on the grounds of drug toxicity and the risk of increased wide-spread antimicrobial resistance.
3. Interventions aimed at improving sanitation, hygiene and child birth spacing should be put in place to decrease the occurrence of diarrhea.
4. Health education should be provided on the importance of treating water by boiling and storing them in covered containers.
5. Advocacy should be done on other effective methods of water treatment approved by WHO to replace less effective local methods currently practiced
6. The advocacy on hand hygiene with detergent (soap) to children care takers should be emphasized as it protects the children against diarrhoea.
7. Health education specifically targeted at the preparation and use of ORS should be made available to nursing mothers and the practice encouraged instead of indiscriminate use of antibiotics.

References

1. Alambo M. Health and environmental sanitation in India: Issues for prioritizing control strategies. Indian J Occup Environ Med. 2015; 15:93-6.
2. Belachew T, *et al*. Diarrheal Disease for the Ethiopian Health Center Team, Jimma University In collaboration with the Ethiopia Public Health Training Initiative and the Carter Center, 2011
3. Black RE, *et al*. Where and why are 10 million children dying every year? Lancet. 2003; 361:2226-2234.
4. Chen CY, *et al*. Prevalence and antimicrobial susceptibility of salmonellae isolates from reptiles in Taiwan, 2010, 44-50
5. Kandakai Olukemi YT, *et al*. Isolation of Enteropathogenic Escherichia coli from Children with Diarrhoea Attending the National Hospital in Abuja, Nigeria. Shiraz EMedical Journal. 2009; 10(3):99-106
6. Katribe E, *et al*. Subspecies IIIa and IIIb Salmonellae Are Defective for Colonization of Murine Models of Salmonellosis Compared to Salmonella enterica subsp. I Serovar Typhimurium. Journal of Bacteriology. 2008; 191:2843-2850
7. Mac Donald SE, *et al*. Maternal understanding of diarrhoea-related dehydration and its influence on ORS use in Indonesia. Asia Pac J Public Health. 2007; 19(1):34-9.
8. Solomon T. Sanitation and diarrhoea disease among children under five years in Ghana. Unpublished M.Sc Thesis, 2013.
9. WHO. Reducing deaths from diarrhoea through oral rehydration therapy. Bulletin of the World Health Organization. 2018; 78*:*1246-55.