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KNOWLEDGE, ATTITUDE, AND PRACTICES OF MOTHERS/CAREGIVERS ON HOME MANAGEMENT OF DIARRHEA IN CHILDREN UNDER FIVE YEARS RECEIVING CARE AT ENTEBBE HOSPITAL: A CROSS-SECTIONAL STUDY.

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ABSTRACT

Background

Diarrhea is the leading killer worldwide accounting for approximately 8% of all death among under-five children despite the availability of simple effective treatment. A study in this regard was conducted to assess the knowledge, attitude, and practices of mothers/caregivers on home management of Diarrhea in children under five years. Specifically, the study sought to examine the knowledge of mothers/caregivers on home management of Diarrhea in children under five years, to assess the attitudes of mothers/caregivers on home management of Diarrhea in children under five years, and to finally determine the practices of mothers/caregivers in home management of Diarrhea in children under five years.

Methods

The study targeted a sample of 106 respondents (mothers/caretakers) of age group 16-50 years with children less than five years of both sexes experiencing diarrhea symptoms attending any service at Entebbe Hospital.

Findings

In terms of the knowledge of mothers/caregivers on home management of Diarrhea in children under five years, results from the findings indicated that of most of the respondents, 50.0% indicated unclean water as the main cause of diarrhea in children with the least indicating excessive cold. About attitudes of mothers/caretakers on home management of diarrhea in children under five years, most of the mothers (86.8%) believed that diarrhea was preventable, 12.3% of the respondents did not believe that diarrhea was preventable while 0.9% of the respondents did not know. Turning to practices of mothers/caretakers on home management of diarrhea in children under five years, most of the respondents, 44.3% indicated that they would go to a health facility when their children have diarrhea with the least, 1.9% of the respondents opting to go to a traditional herbalist.

Recommendation

It is therefore recommended that the government should support community sensitization programs on the diarrhea infection and their management.

Keywords: *Knowledge, Attitude, Practices, Mothers/Caregivers, Home Management, Diarrhea, Children Under Five Years, Entebbe Hospital.*
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Background of the study

Diarrhea is the leading killer worldwide accounting for approximately 8% of all deaths among under five years children despite the availability of simple effective treatment (WHO, 2017). In 2015 it was reported that 16,000 children under five years die every day from mostly preventable causes like diarrhea, malaria, and pneumonia (MDG, 2015), 80% of the cases are in Africa and South East Asia with a rate of 46% and 38% respectively.

The Uganda Demographic and Health Survey of 2016 reported that the prevalence of diarrhea among children under five years in Uganda was 20% (Uganda Demographic and Health Survey, 2016). Presently diarrhea remains among the top 10 causes of morbidity in the country, with rotavirus being responsible for about 40% of all diarrheal cases (Bwogi et al, 2016). According to the Uganda National Bureau of Statistics, under-five mortality varies from 10-50 deaths per day in Entebbe municipality (Uganda Bureau of Statistics, 2017).

It is impliedly noted that if the study is not conducted, there is an expected increase in diarrhea cases among children under five years. Thus, the study will help in sensitization about the effective control measures of diarrhea such as the use of clean and treated drinking water, proper disposal of human waste, health education, proper food hygiene and personal hygiene, and vaccination of babies (Mathiazhakan, 2016) that will help prevent diarrhea.

This study aims to assess the knowledge, attitude, and practices of mothers/caregivers on home management of Diarrhea in children under five years

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METHODOLOGY

Study design

The study was analytical using quantitative methods to determine the risk factors for diarrhea in children less than five years old receiving care at Entebbe Hospital.

Study area

The study was carried out at Entebbe Hospital

Study population

The research study involved 106 mothers/caretakers of age group 16-50 years with both low and medium socioeconomic status with children less than five years of both sexes experiencing diarrhea symptoms attending to any service at Entebbe hospital.

Study variables

Independent variable

Knowledge about diarrhea, attitudes towards diarrhea, and practices towards diarrhea.

Dependent variable

Diarrhea occurrence**;** Passage of three or more loose liquid stools per day or more frequently than normal for the child.

Intervening variable

Household characteristics**;** sources of drinking water, toilet facilities, water treatment, household size, number of children, and bottle feeding.

Study tools

The study employed a respondent questionnaire to obtain information regarding the respondent's independent variables and dependent variables. The questionnaire involved both open and close-ended questions. The tool was designed in the English language and where the respondent does not understand explanations can be made in Luganda since it is the commonly used language within the area.

Sampling method

The study employed a systematic random sampling method, one of the probability sampling methods. The sampling units were selected at regular intervals from the sampling frame taking every Kth as a participant.

Sample size determination

Determination of the sample size was done according to Kish and Leslie (1995) as follows:

$N = \frac{ZP^2Q}{D^2}$

Where N = the required sample size

Z = 1.96 = critical value of standard normal distribution corresponding to the error rate
P = 50% = the proportion of the respondents
Q = 1-P
D = The researcher accommodated an error of 10%

$N = \frac{(1.96*1.96)*0.5*(1-0.5)}{0.1*0.1}$

$N = \frac{3.8416*0.25}{0.01}$

N = 96.4

Considering 10% non-respondents taking 9.6 respondents extra

N = 106 mothers with children under five years attending any service at Entebbe Hospital

Quality control

The research employed research assistants to avoid work overload.
The researcher trained the research assistants.
The tool was presented to family members and friends to ascertain whether the respondent would understand and answer questions correctly.
The questions reflected in the questionnaire were interpreted to Luganda for respondents who did not understand English clearly.
Unclear questions were modified to ensure that they collected the data they were meant to collect.

Data collection technique

Ten respondents would be interviewed each day using the questionnaire in English and any misunderstood question would be translated to Luganda for clear understanding.

Data collection tools

The study employed a researcher-administered questionnaire to probe the knowledge, attitudes, and practices of mothers toward diarrhea occurrence in children under five years.
Data analysis and presentation
Data was analyzed by use of Microsoft Excel and was presented by use of tables, statements, pie charts, and bar graphs for easy interpretation. Each independent variable was considered at a time and results were presented in frequencies and percentages.

Inclusion

Mothers and caretakers with children less than five years of age hospitalized at Entebbe Hospital were included in the study.

Exclusion

All mothers and caretakers with children above five years and mothers and caretakers who are mentally ill were not included in the study.

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Ethical considerations

The study ethics were upheld during research, Institutional approval was obtained through the use of an introductory letter from the School of Applied Sciences, Mildmay Institute of Health Sciences.

Clear explanations about the study were to be given to respondents to make informed consent.

Confidentiality and privacy of information obtained from the respondents were to be ensured by the researcher. The researcher was to control emotions and objectively address responses from the study.

RESULTS

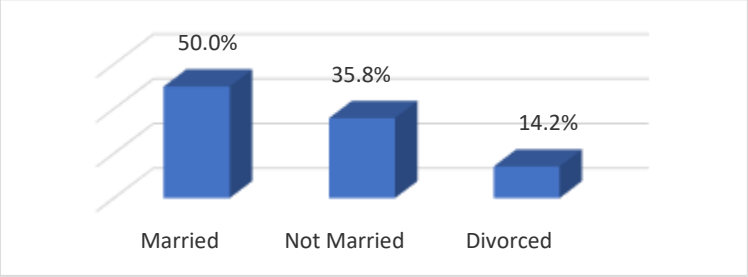
Demographic Information of Respondents

Table 1: Age of Mother

Age Group	Frequency	Percentage
16-30	41	38.7%
31-40	31	29.2%
41-50	34	32.1%
Grand Total	106	100.0%

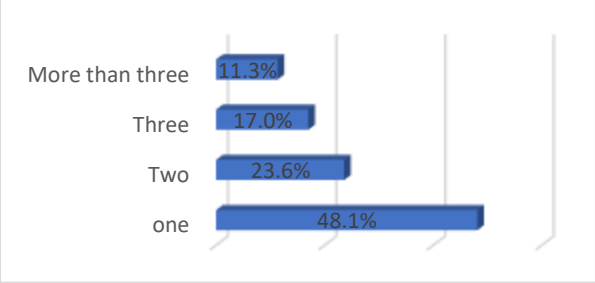
Table 1, indicated that most of the respondents 41(38.7%) were between 16-30 years, (34)32.1% of the respondents were between 41-50 years and 31(29.2%) of the respondents were between 31 to 40 years of age.

Figure 1: Marital Status of the Respondents



From Figure 1, most of the respondents, 50.0% were married, 35.8% of the respondents were not married and lastly 14.2% of the respondents indicated that they had divorced**.**

Figure 2: Number of Children



In terms of the number of children the mothers had, from Figure 2, most of the respondents 48.1%, had one child, 23.6% of the respondents had two children, 17.0% of the respondents had three children and lastly 11.3% of the respondents had more than three children.

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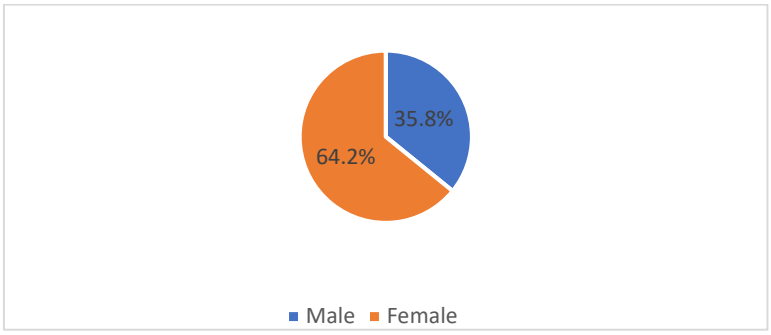
Figure 3: Gender of Child



From Figure 3, the gender of most children was female indicated by 64.2% whilst male children were indicated by 35.8%.

Table 2: Highest Level of Education

Highest Level of Education	Frequency	Percentage
Primary	19	17.9%
Secondary	43	40.6%
Tertiary	35	33.0%
Non-Formal	6	5.7%
Others	3	2.8%
Grand Total	**106**	**100.0%**

In terms of the highest level of education attained by the respondents, most of the respondents, 43(40.6%) had attained the Secondary level qualification, this was closely followed by Tertiary level represented by 35(33.0%) of the respondents, 19(17.9%) of the respondents had attained Primary level and 6(5.7%) of the respondents had no formal education. 3(2.8%) of the respondents had attained other levels of Education.

Table 3: Employment Status of Respondents

Employment Status	Frequency	Percentage
Self employed	37	34.9%
Employed	58	54.7%
Unemployed	8	7.5%
Pensioner	1	0.9%
Receiving disability Grant	2	1.9%
Grand Total	106	100.0%

From Table 3, most of the respondents, 58(54.7%) were employed, 37(34.9%) of the respondents were self-employed, 8(7.5%) of the respondents were unemployed, 2(1.9%) of the respondents were receiving disability grants and lastly 1(0.9%) of the respondents were pensioners.

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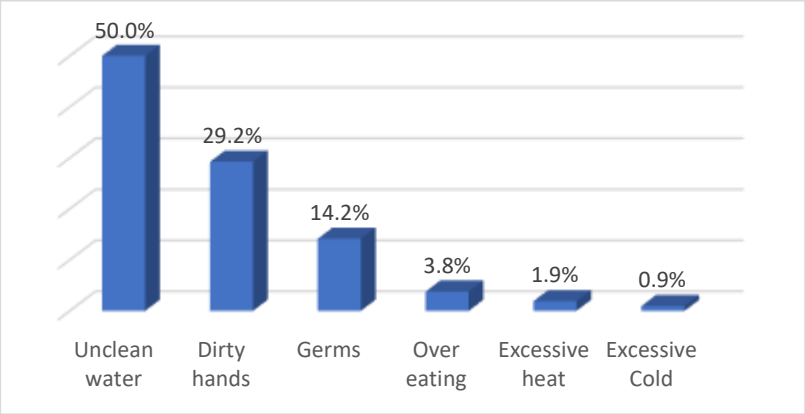
Knowledge, Attitudes, and Practices towards Diarrhea

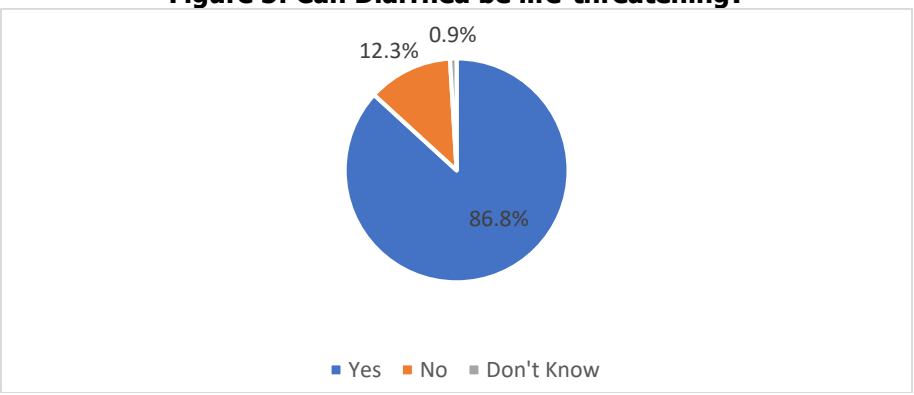
Knowledge of mothers/caregivers on home management of Diarrhea in children under five years

Figure 4: Causes of Diarrhea



On the causes of Diarrhea, most of the respondents, 50.0% indicated unclean water, 29.2% of the respondents indicated dirty hands, 14.2% of the respondents indicated germs, 3.8% of the respondents indicated overeating, 1.9% of the respondents indicated Excessive heat and lastly 0.9% of the respondents indicated Excessive Cold

Figure 5: Can Diarrhea be life-threatening?



The respondents were further asked whether Diarrhea was life-threatening, majority of the respondents, 86.8% indicated that Diarrhea was life-threatening, and 12.3% of the respondents indicated that Diarrhea was not life-threatening.

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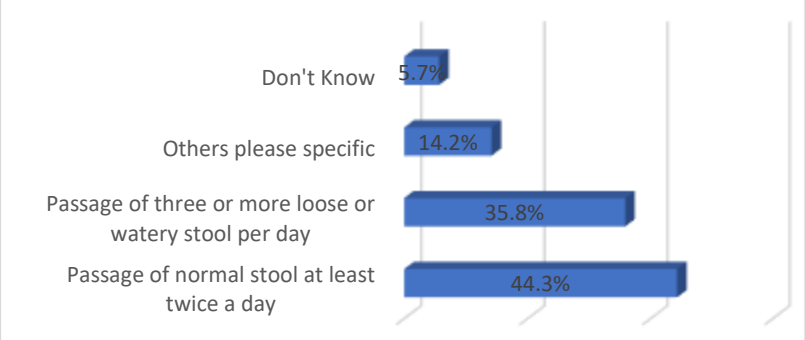
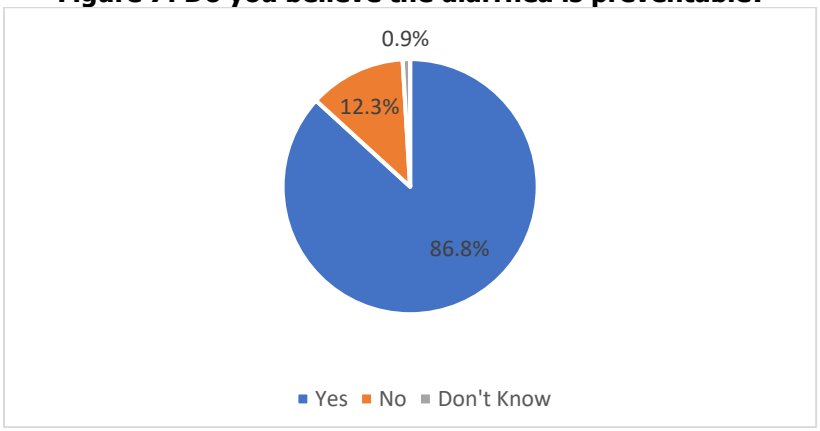
Figure 6: How to know if your child has Diarrhea



From Figure 6, most of the respondents, 44.3% of the respondents were able to know if their child had Diarrhea through passage of normal stool at least twice a day, 35.8% of the respondents were able to know if their child had Diarrhea through passage of three or more loose or watery stool. 14.2% of the respondents indicated others whilst 5.7% of the respondents did not know.

Attitudes of mothers/caretakers on home management of diarrhea in children under five years

Figure 7: Do you believe the diarrhea is preventable?



According to Figure 7, the majority of the respondents (86.8%) believed that diarrhea was preventable, 12.3% of the respondents did not believe that diarrhea was preventable and 0.9% of the respondents did not know.

How the respondents prevented diarrhea?

For respondents that agreed that diarrhea is preventable, 39.6% of the respondents showed that diarrhea can be prevented through safe and hygienic preparation of food, 32.3% of the respondents showed that diarrhea can be prevented through washing hands with soap and water after contact with the child's fecal matter, 25.6% of the respondents indicated diarrhea can be prevented through safe and hygienic disposal of fecal and contaminated materials and lastly, 2.4% of the respondents specified other forms of preventing diarrhea as indicated in figure 8.

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Figure 8: How the respondents prevented diarrhea

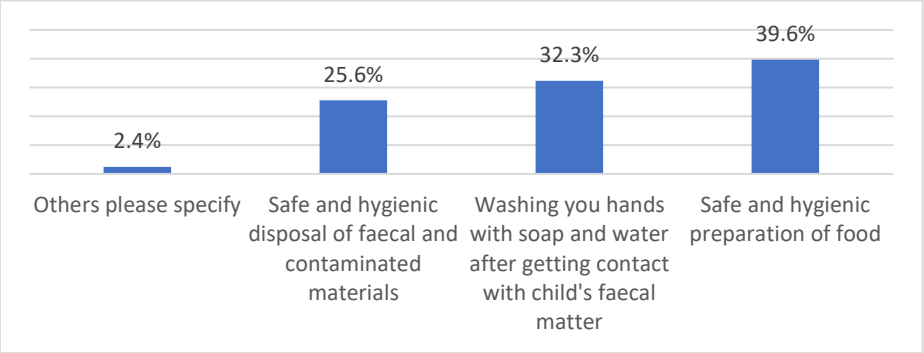

Table 4: Complementary Foods given to children when introduced to solids

Response	Frequency	Percentage
Rice and sauce	28	26.4%
Sweet potatoes and Irish potatoes	71	67.0%
Matooke	4	3.8%
Posho	3	2.8%
Grand Total	**106**	**100.0%**

As can be seen from Table 4, Sweet potatoes and Irish potatoes were the most highlighted complementary foods given to children when introduced to solids indicated by 71(67.0%) of the respondents. This was followed by Rice and Sauce indicated by 28(26.4%) of the respondents. Matooke and Posho were highlighted by 4(3.8%) and 3(2.8%) of the respondents respectively

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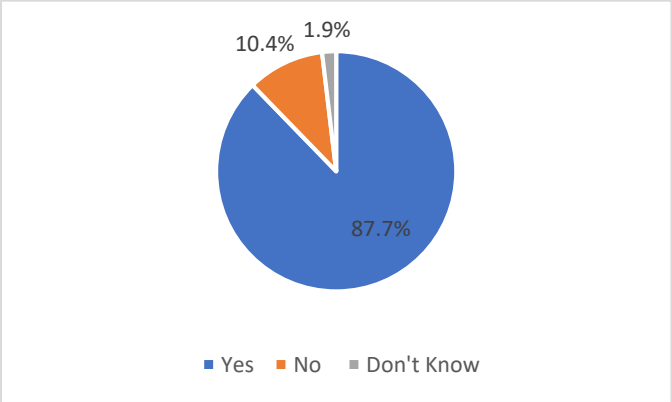
Figure 9: Whether respondents think more liquids should be given to a child with diarrhea



Most of the respondents, 87.7% of the respondents indicated that they think more liquids should be given to a child with diarrhea, 10.4% of respondents indicated that they did not think that more liquids should be given to a child with diarrhea and 1.9% of the respondent did not know whether or not to give more liquids to a child with diarrhea.

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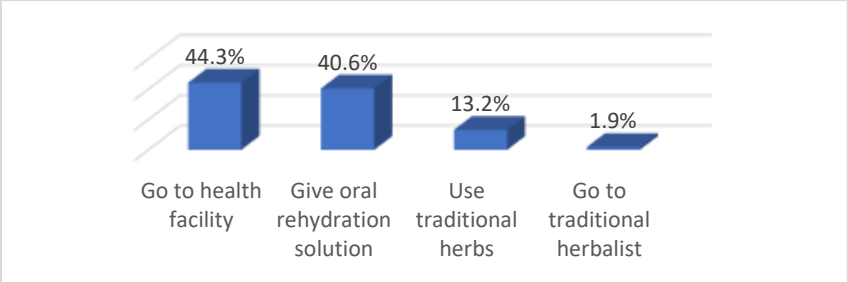
Table 5: How to prepare the food and liquids before giving to the child

Response	Frequency	Percentage
Wash hands with soap and clean water before feeding the child	84	79.2%
Wash utensils before putting food on them	22	20.8%
Don't wash hands or utensils before feeding the child	0	0.0%
Don't know	0	0.0%
Grand Total	**106**	**100.0%**

When asked how to prepare the food and liquids before giving them to the child, most of the respondents, 84(79.2%) showed that they wash their hands with soap and clean water before feeding the child and 22(20.8%) of the respondents showed that they wash utensils before putting food on them.

Practices towards diarrhea When a child has diarrhea

Figure 10: When a child has diarrhea



From Figure 10, most of the respondents, 44.3% indicated that they would go to a health facility when their children have diarrhea, 40.6% of the respondents indicated that they would give oral rehydration, 13.2% of the respondents would use traditional herbs and lastly 1.9% of the respondents would go to a traditional herbalist.

Table 6: Sanitation facilities used at home

Response	Frequency	Percentage
Flush toilet	45	42.5%
Pit latrine	39	36.8%
Bedpan or potty	20	18.9%
Open defecate in the compound premises	2	1.9%
Grand Total	**106**	**100.0%**

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In terms of Sanitation facilities used at home, most of the respondents, 45(42.5%) indicated that they use flush toilets, 39(36.8%) of the respondents indicated that they use pit latrines, 20(18.9%) of the respondents indicated that they use Bed pans or potties and 2(1.9%) of the respondents indicated that they openly defecated in the compound premises.

Table 7: Source of drinking water

Response	Frequency	Percentage
Public tap	42	39.6%
Private tap	38	35.8%
Open well	19	17.9%
Lake water	4	3.8%
Borehole	3	2.8%
Grand Total	**106**	**100.0%**

Most of the respondents, 42(39.6%) indicated that they use public taps, 38(35.8%) of the respondents indicated they use private taps, 19(17.9%) of the respondents indicated that they use open wells, 4(3.8%) of the respondents indicated that they use lake water and lastly 3(2.8%) of the respondents indicated that they use borehole

Discussion of Study

Knowledge of mothers/caregivers on home management of Diarrhea in children under five years

In terms of the knowledge of mothers/caregivers on home management of Diarrhea in children under five years.

Results from the findings indicated that most of the respondents, 50.0% indicated unclean water as the main cause of diarrhea in children with the least indicating excessive cold. Additionally, the majority of the respondents, 86.8% found Diarrhea was life-threatening in children under five years with 12.3% of the respondents not finding it life-threatening. Most of the respondents, 44.3% were able to know if their child had Diarrhea through passage of normal stool at least twice a day whilst only 5.7% of the respondents did not know.

The findings were in support of the earlier findings done by A Manpreet, Harpreet et al., (2019) who showed that mothers were generally knowledgeable on home management of Diarrhea in children under five years.

Attitudes of mothers/caretakers on home management of diarrhea in children under five years.

About attitudes of mothers/caretakers on home management of diarrhea in children under five years, most of the mothers (86.8%) believed that diarrhea was preventable, 12.3% of the respondents did not believe that diarrhea was preventable whilst 0.9% of the respondents did not know. For respondents that agreed that diarrhea is preventable, most of the respondents, 39.6% showed that diarrhea can be prevented through safe and hygienic preparation of food. When asked about Complementary Foods given to children when introduced to solids, Sweet potatoes and Irish potatoes were the most highlighted complementary foods indicated by 71(67.0%) of the respondents with the least being Posho highlighted by 3(2.8%) of the respondents. Of most respondents, 87.7% indicated that they think more liquids should be given to a child with diarrhea, whereas on the other hand, 1.9% of the respondents did not know whether or not to give more liquids to a child with diarrhea. Additionally, when asked how to prepare the food and liquids before giving them to the child, most of the respondents, 84(79.2%) showed that they wash their hands with soap and clean water before feeding the child and 22(20.8%) of the respondents showed that they wash utensils before putting food on them.

The findings generally concur with Birungi et al (2016) and Oladosun (2017) on the maternal knowledge practices and attitudes Attitudes of mothers/caretakers on home management of diarrhea in children under five years.

According to Birungi et al (2016) on the maternal knowledge practices and attitudes related to diarrhea in less than five-year-old children results show that 73% of the mothers had a neutral level of attitude towards diarrhea management, 25.9% had a negative attitude and only 1.1 had a positive attitude towards management of diarrhea.

Oladosun (2017) examined in their study the link between hygiene practices and microbiological qualities of household drinking water and suggested that household size, number of children, and the person who fetches the water had a significant impact on the occurrence of microbes in drinking water contamination.

Practices of mothers/caretakers on home management of diarrhea in children under five years

Turning to practices of mothers/caretakers on home management of diarrhea in children under five years, most of the respondents, 44.3% indicated that they would go to a health facility when their children have diarrhea with the least, 1.9% of the respondents opting to go to a traditional

herbalist. In terms of Sanitation facilities used at home, most of the respondents, 45(42.5%) indicated that they use flush toilets and on the other hand, 2(1.9%) of the respondents indicated that they openly defecated in the compound premises. Additionally, most of the respondents, 42(39.6%) indicated that they use public taps, compared to 3(2.8%) of the respondents who indicated that they use boreholes.

Findings that are supported by research studies done by Chaudhary et al (2014). Results showed that only 36.4% of the mothers followed the household purification of water in the prevention of diarrhea, and 88% cited washing hands with water and soap after defecating and disposing of their children's fecal matter. 56% of the mothers sought medical assistance in case their children contracted diarrhea 3.2% opted for home care with self-medication, 76% of the mothers gave ORS, and 70.4% increased fluid intake.

Conclusion of the study

The study aimed to assess the knowledge, attitude, and practices of mothers/caregivers on home management of Diarrhea in children under five years. Specifically, the study sought to examine the knowledge of mothers/caregivers on home management of Diarrhea in children under five years, to assess the attitudes of mothers/caregivers on home management of Diarrhea in children under five years, and to finally determine the practices of mothers/caregivers in home management of Diarrhea in children under five years. This study adopted an analytical and cross-sectional research design that aimed at data collection for two or more variables examined at a single point in time to detect variable patterns of association. The design was preferred because of the consistent nature of objectives aiming to reveal relationships among variables and allowing inferences to be made on the effects of explanatory variables on an outcome variable.

The study targeted a sample of 106 respondents (mothers/caretakers) of age group 16-50 years with both low and medium socioeconomic status with children less than five years of both sexes experiencing diarrhea symptoms attending any service at Entebbe hospital. Data analysis was conducted using Microsoft Excel on the information gathered to generate descriptive statistics. Presentation of results was done in tables and figures and recommendations and conclusions given

In terms of the knowledge of mothers/caregivers on home management of Diarrhea in children under five years, results from the findings indicated that of most of the respondents, 50.0% indicated unclean water as the main cause of diarrhea in children with the least indicating excessive cold. About attitudes of mothers/caretakers on home management of diarrhea in children under five years, most of the mothers (86.8%) believed that diarrhea was preventable, 12.3% of the respondents did not believe that diarrhea was preventable whilst 0.9% of the respondents did not know. Turning to practices of mothers/caretakers on home management of diarrhea in children under five years, most of the respondents, 44.3% indicated that they would go to a health facility when their children have diarrhea with the least, 1.9% of the respondents opting to go to a traditional herbalist.

Recommendations of the study

The government should support community sensitization programs on diarrhea infection and its management.

The study recommends a special focus on the factors contributing to high diarrhea prevalence among children under five years.

Health workers should educate the public about diarrhea and its treatment, as well as ensure that all children under the age of five who are brought to the hospital are vaccinated/immunized.

Mothers should ensure their children's hygiene and nutrition, and they should always take them for immunization.

Acknowledgment

To all that helped in the study, great thanks.

LIST OF ABBREVIATION

AHSPR Annual Health Survey Performance Report
E. coli Entero toxigenic encherichia coli
IMCI Integrated Management of Childhood Illness
MDG Millennium Development Goals
ORS Oral Rehydration Solution
ORT Oral Rehydration Therapy
SPSS Statistical Package for Social Scientists
UNICEF United Nations International Children's Emergency Fund
WHO World Health Organization

Source of funding.

The study was self-funded.

Conflict of interest.

The author had no conflict of interest.

Author Biography

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Samuel Otile, Lecturer at the School of Applied Sciences, Mildmay Institute of Health Sciences

REFERENCES

1) Birungi, S., Apidechkul, T., Suma, Y. and Suttana, W., 2016. Prevalence and factors associated with diarrhea among children less than five years old in Kabarole district, Uganda. J Health Res vol, 30(6).

2) Bwogi, J., Malamba, S., Kigozi, B., Namuwulya, P., Tushabe, P., Kiguli, S., Byarugaba, D.K., Desselberger, U., Iturriza-Gomara, M. and Karamagi, C., 2016. The epidemiology of rotavirus disease in under-five-year-old children hospitalized with acute diarrhea in central Uganda, 2012-2013. Archives of virology, 161(4), pp.999-1003.
3) Chaudhary, P., Basu, S., Dzeyie, A.K., Gulla, S., Khade, S., Patel, A., Phukan, D., Dikid, T., Kumar, A. and Shrivastava, A., 2014. Knowledge, attitude, and practice of mothers regarding diarrhoeal illness in children under five years of age: A cross-sectional study in an urban slum of Delhi, India. The J Communicable Diseases, 46(3), pp.13-21.
4) MDG 2015
5) Mathiazhakan, U., 2016. A study to assess the knowledge, attitude, and practice of caregivers of children admitted with diarrhea at KMCH Hospital, Coimbatore. Int J Pharmacy Biol Sci, 6(1), pp.16-22.
6) Manpreet, Harpreet, S .and Tamiru, D., 2019. The burden of diarrheal diseases among children under five years of age in Arba Minch District, southern Ethiopia, and associated risk factors: a cross-sectional study.International scholarly research notices,2019.
7) OLADOSUN, M., Okposin, S.B. and Ola-David,O.,2017. Key Factors Influencing Diarrhea Occurrence among Children aged 0-5 in Nigeria.
8) Uganda Bureau of Statistics (UBOS) and ICF., 2017. Uganda Demographic and Health Survey 2016: Key Indicators Report. Kampala, Uganda: UBOS, and Rockville, Maryland, USA: UBOS and ICF.
9) UDHS 2016.
10) World Health Organization., 2017. Health topics. Diarrhea. Retrieved from http://www.who.int/topics/diarrhoea/en/

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