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Original Article

Assessing awareness of caregivers towards home management of diarrhea among children under five years at Dr. Ronald Batta Memorial Hospital, Entebbe Municipality, Wakiso district. A cross-sectional study.

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ABSTRACT

Background:

Diarrhea, especially among the under-fives, is a matter of public health importance globally, given the annual morbidity and mortality it causes to this vulnerable age group. This study assessed awareness of caregivers towards home management of diarrhea among children under five years at Dr. Ronald Batta Memorial Hospital, Entebbe Municipality, Wakiso District.

Methods:

A cross-sectional descriptive study involving 30 respondents who were caregivers of children under five years who presented at the health facility for medical attention was recruited. A simple random sampling procedure was used to select the respondents, and a researcher-administered questionnaire was used for collecting data. Collected data was sorted, coded, entered into Epidata, and then exported to SPSS for analysis. The analysed data were presented in figures and tables reflecting frequencies and percentages.

Results:

The study involved 30 caregivers, the majority female (70%) and aged 20–30 years (57%). Most were married (67%) and had secondary education (67%), with half employed as casual workers. Regarding knowledge of diarrhea, 87% recognized predisposing factors, mainly contaminated food and water (69%). Only 43% had received information, primarily from media (46%) and health facilities (31%). All children had experienced diarrhea, but 57% were not managed at home; those managed received ORS (77%), zinc (77%), and fruits (69%). Caregivers largely knew to seek medical care when conditions worsened (67%) and identified hygiene and handwashing as preventive measures (80%). Treatment knowledge included herbal remedies (31.2%), anti-diarrheals (26.2%), and ORS (21.3%), yet 53% did not know ORS preparation, and 57% were unaware of administration frequency.

Conclusion:

The Majority of caregivers had inadequate knowledge of home management of diarrhea among children under five years.

Recommendation:

The government should support community sensitization programs on diarrheal infection and their home management among children under five years.

Keywords: *Awareness of caregivers, towards home management of diarrhea, diarrhea among children under five years, Entebbe Municipality.*
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BACKGROUND OF THE STUDY

Diarrhea is a major cause of morbidity and mortality among children under five years of age globally. Children with diarrhea often present with signs and symptoms such as abdominal pain, cramps, flatulence, nausea, and vomiting. Additionally, they may experience loss of bowel control and dehydration, which can affect muscle activity, water volume in the body, and other critical body functions (Demissie, Yeshaw, Aleminew, & Akalu, 2021).

Globally, diarrhea remains a leading cause of death among children under five, particularly in sub-Saharan Africa, where interventions have reduced under-five deaths but the burden remains high (Ahinkorah et al., 2022). In the United States, an estimated 48 million foodborne diarrheal illnesses occur each year, resulting in over 128,000 hospitalizations and 3,000 deaths (Glass, Lew, Gangarosa, LeBaron, & Ho, 2019).

Most diarrhea cases are self-limiting and do not require medication unless the child is immunocompromised (Leku, 2020). In sub-Saharan Africa, diarrhea remains a leading cause of death among children under two, though annual under-five deaths have decreased due to improved interventions (Ahinkorah et al., 2022).

In Uganda, studies indicate that 23% of children under five suffer from diarrhea, with northern regions recording slightly higher prevalence rates (Bwogi et al., 2016). Rotavirus has been cited as a leading cause of severe diarrhea in children under five, posing challenges to

management strategies (Nambuusi, Ssempiira, Makumbi, Kasasa, & Vounatsou, 2020).

In Wakiso District, where Dr. Ronald Batta Memorial Hospital is located, diarrhea continues to be a leading cause of childhood morbidity and mortality. In 2021, approximately 10,000 children under five died from various diseases, with diarrhea among the top ten causes (Nantege, Kajoba, Ddamulira, Ndoboli, & Ndungutse, 2022). This highlights the importance of caregiver knowledge in managing diarrheal diseases at home, which motivated this study to assess caregivers' awareness towards home management of diarrhea among children under five years at Dr. Ronald Batta Memorial Hospital, Entebbe Municipality, Wakiso District, thus the study assessed awareness of caregivers towards home management of diarrhea among children under five years at Dr. Ronald Batta Memorial Hospital, Entebbe Municipality, Wakiso District.

METHODOLOGY

Study Design and Rationale

This study employed a descriptive cross-sectional study design employing both quantitative and qualitative approaches of data collection. The main objective of descriptive research is to accurately describe the characteristics of the study population and situations related to awareness of mothers towards diarrhea in children under five years. It was a cross-sectional study because data was collected at a single point in time.

Study Setting and Rationale

The study was carried out at Dr. Ronald Batta Memorial Hospital, which is a government-military facility found in Entebbe Municipality, Wakiso District. The hospital was chosen because it was observed that 12 of the 23 children under five who were receiving diarrheal treatment at Dr. Ronald Batta Memorial Hospital were suffering from acute and persistent diarrhea, which was an indication of inadequate home management of diarrhea in children under five. Therefore, it was necessary to assess the awareness of caregivers towards home management of diarrhea in children under five years at Dr. Ronald Batta Memorial Hospital, Entebbe Municipality, Wakiso District.

Wakiso District is in the Central Region of Uganda that partly encircles Kampala, Uganda's capital city. The town of Wakiso is the site of the district headquarters. Wakiso borders Nakaseke and Luweero districts to the north, Mukono district to the east, Kalangala district in Lake Victoria to the south, Mpigi district to the southwest, and Mityana district to the northwest. Wakiso, where the district headquarters are located, lies approximately 20 kilometers by road, northwest of Kampala, the capital of Uganda and the largest city in the country.

Study Population

The study population comprised caregivers of children under five who visited Dr. Ronald Batta Memorial Hospital with children suffering from diarrhea, Entebbe Municipality, Wakiso District. The study population was preferred because it was believed that they had the right information needed to answer the researcher's questions at hand.

Sample Size Determination

The sample size was 30 respondents who comprised caregivers of children under five years attending Dr. Ronald Batta Memorial Hospital, Entebbe Municipality. The sample size of 30 respondents is determined because it was the minimum required number by the Uganda Nurses and Midwives Examinations Board research guidelines.

Sampling Procedure

The study used a probability sampling method, specifically a simple random sampling procedure. The sampling frame was created by making a list of nine (9) caregivers per day and their addresses, who had under-fives children who had ever suffered from diarrhea and who consulted the pediatric services of Dr. Ronald Batta Memorial Hospital on a daily basis, and assigned numbers on pieces of paper to each caregiver and placed them into a container. Only six (6) numbers were picked from the container at random per day until the desired sample of 30 was achieved, and the numbers picked determined the caregivers to be interviewed in the study. The whole procedure took a period of 5 days until a sample size of 30 respondents was covered.

Inclusion and Exclusion Criteria

The study included all present caregivers from Dr. Ronald Batta Memorial Hospital catchment area of under-five children and whose children had ever suffered from diarrhea for the past three months, and who voluntarily accepted to participate in the study, and all caregivers who could communicate verbally and gave consent by signing the consent form to participate in the study.

The study excluded all caregivers whose under-five children have never experienced any episode of diarrhea in the past three months, caregivers who refused to participate in the study, and those who were not able to consent for the study, caregivers fulfilling inclusion criteria who were not available during data collection, and those included in the pilot study.

Definition of Variables

Dependent

The dependent variable was the "Caregivers' Practices of Home Management of Diarrhea" among children under five years.

Independent

The independent variables included the caregivers' knowledge and attitude towards home management of diarrhea among children under five years.

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Research Instruments

The study used a Researcher-Administered Questionnaire to collect data from the caregivers during data collection. A researcher administered questionnaire composed of both closed and open ended questions and was preferred because it was assumed that not all caregivers attending Dr. Ronald Batta Memorial Hospital knew how to read and write English perfectly so he interviewed those who were unable to read and write English independently, also the instrument didn't consume a lot of time during data collection and its data was easy to analyse in figure format as compared to interview guides or focus group discussion.

Reliability and validity

Before real data collection commenced, the questionnaire was pre-tested among 10 caregivers consulting at Dr. Ronald Batta Memorial Hospital. This was done in order to determine the accuracy, reliability, and validity of the tool, and necessary adjustments were made before the tool was applied in the study area. However, errors realized were corrected.

Data Collection Procedure

After the approval of a research proposal and clearance by the supervisor, he got a letter of introduction from St. Michael Lubaga Hospital Training Schools introducing him to the Hospital Administrator of Dr. Ronald Batta Memorial Hospital, requesting permission to conduct a study among caregivers of children under five years. Thereafter, he sought acceptance from the respondents during sampling, and thereafter, he administered the questionnaire to each respondent approached who knew how to read and read English after obtaining her/his consent to participate in the study. Respondents who couldn't read and write English independently were interviewed by the research assistant, who was fluent in interpreting English into the local language while noting the responses that were given.

Data Management

The filled questionnaires were collected back, counted, checked for completeness/accuracy, and edited after every data collection day to ensure that they were all returned, coded, and kept in a safe place as a backup. A flash disk was also used to store data. Filled questionnaires were then cleaned as they waited for data analysis.

Data Analysis

Collected data was sorted, coded, entered into Epidata, then exported to Statistical Package for Social Scientists for analysis. Data from open-ended questions was also sorted, arranged, and similar responses were grouped and analysed using SPSS version 17.

Ethical Consideration

An introduction letter was obtained from the Principal Tutor of St. Michael Lubaga Hospital Training Schools, which was presented to the Administrator of Dr. Ronald Batta Memorial Hospital, seeking permission to carry out the study among caregivers of children under five suffering from diarrhea.

Verbal and written consent were both secured, and permission from the respondents/study participants was obtained before the data collection exercise. Participants were further assured of their confidentiality, which was maximized, and that their names were not required on the questionnaires.

RESULTS

Demographic Characteristics

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Table 1: Respondents' gender, age brackets, marital status, and highest education level

Gender	**Frequency (n=30)**	**Percentage (%)**
Male	9	30
Female	21	70
Age bracket in years		
20-30	17	57
31-40	6	20
41-50	5	17
50 and above	2	7
Marital status		
Single	6	20
Married	20	67
Widowed	4	13
Highest education level		
Primary	3	10
Secondary	20	67
Tertiary/university	7	23

Table 1 showed that, majority, 21(70%) of the respondents were females, while the minority 9(30%) were male caregivers. More than half 17(57%) were between 20-30 years, and the minority, 2(7%) were above 50 years. Majority 20(67%) were married while the minority 4(13%) were widowed. The majority, 20(67%), had attained secondary education, and the minority, 3(10%), attained primary education.

Figure 1: Respondents' occupational status (n=30)

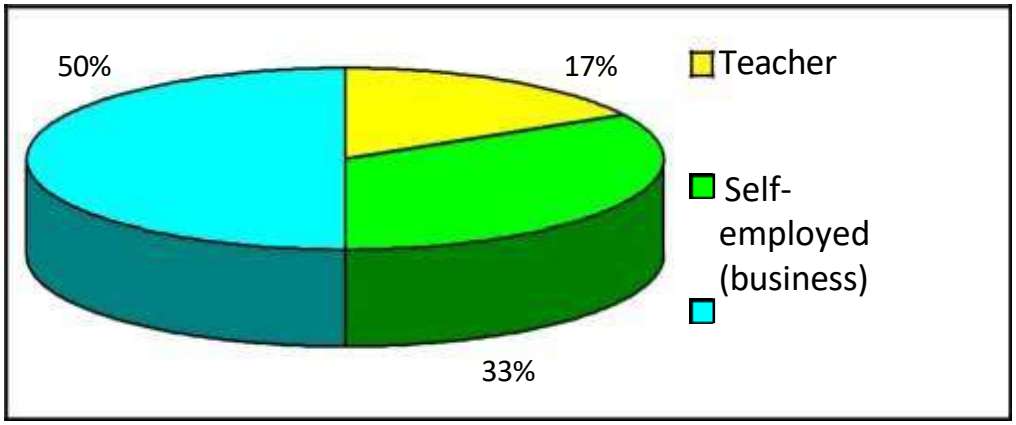

Figure 1 showed that half 15(50%) of the respondents were casual workers, followed by 10(33%) who were self-employed

(business), and the minority 5(17%) were teachers.

Knowledge of caregivers towards home management of diarrhea in children

Table 2: Knowledge on factors predisposing children to diarrhea

Knowing factors predisposing children under five years to diarrhea	Frequency (n=30)	Percentage (%)
Yes	26	87
No	4	13
If yes, please mention those factors.	**(n=26)**	
Contaminated water and food	18	69
Poor sanitation	6	23
Teething	2	8

Table 2 showed that, when the respondents were asked whether they knew factors predisposing children under five years to diarrhea, the majority, 26(87%), said yes, while 4(13%) said no. Among the 26 who said yes, the majority, 18(69%), said contaminated water and food, while the minority, 2(8%), mentioned teething.

Table 3: Whether respondents ever received information about diarrhea in children

Ever received information about diarrhea	Frequency (n=30)	Percentage (%)
Yes	13	43
No	17	57
If yes, sources of information about diarrhea	**(n=13)**	
Health facility	4	31
Media	6	46
Friends	3	23

Table 3 indicates that the respondents were asked whether they ever received information about diarrhea in children under five, and more than half 17(57%) said no, while 13(43%) said yes. Among the 13 who said yes, 6(46%) received the information from the media; 4(31%) received it from the health facility, while 3(23%) received it from friends.

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Table 4: Responses on whether children under five had ever suffered from diarrhea

Did the child ever suffer from diarrhea	**Frequency (n=30)**	**Percentage (%)**
Yes	30	100
No	0	0
If yes, was the management done while at home	**(n=30)**	
Yes	13	43
No	17	57
If yes, what was used to manage the child	**(n=13)**	
Giving oral rehydration salt (ORS)	10	77
Giving fruits	9	69
Giving too much drinking water	3	23
Giving zinc	10	77

NB: *Multiple responses were given*

Table 4 indicated that all the respondents, 30(100), said yes, their children under five suffered from diarrhea, but more than half, 17(57%), said they didn't manage their children at home, while only 13(43%) managed their children suffering from diarrhea while at home, mainly by giving oral rehydration salts (ORS), zinc, and fruits as reported by 10(77%) and 9(69%), respectively.

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Original Article

Figure 2: Knowledge on when caregivers should visit a doctor (n=30)

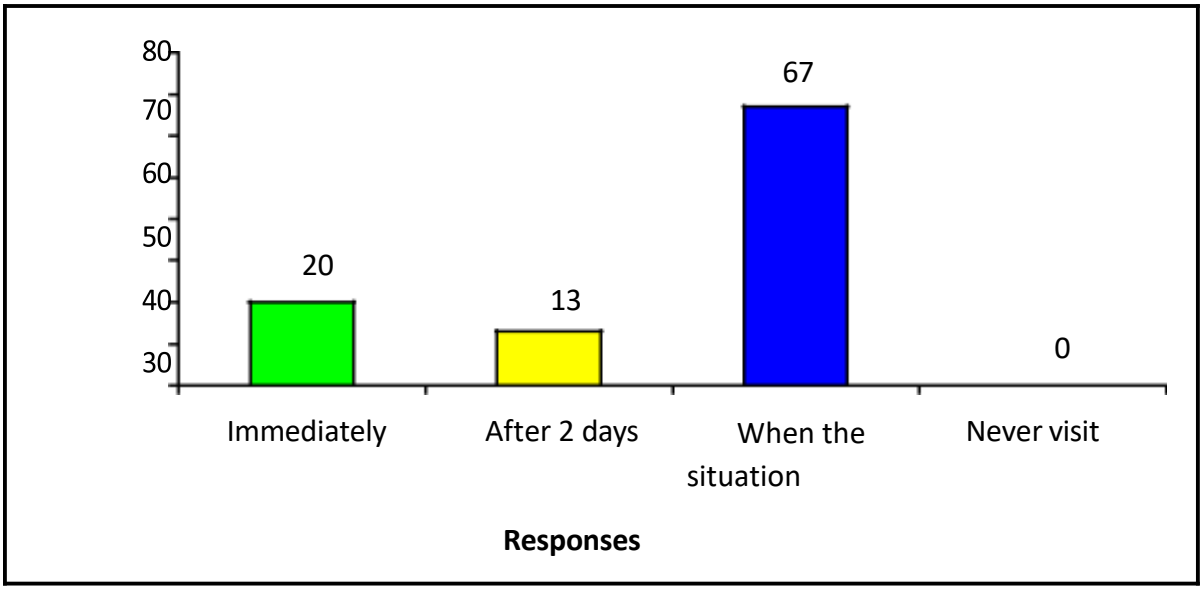

Figure 2 showed that, majority, 20(67%) of the respondents knew that the doctor should be visited when the child's situation suffering from diarrhea worsens; 6(20%) knew immediately when the child suffers from diarrhea, while 4(13%) knew that after 2 days.

Table 5: Knowledge on prevention of diarrhea

What should be done to prevent diarrhea	Frequency (n=30)	Percentage (%)
Boiling water	4	13
Properly covering food	2	7
Washing hands with soap	10	33
Clean environment and personal hygiene	14	47

Table 5 indicated that 14(47%) of the respondents knew that clean environment and personal hygiene were the major ways of preventing diarrhea, followed by 10(33%) who said washing hands with soap, 4(13%) mentioned boiling water, while 2(7%) raised properly covering food as one of the preventive measures of diarrhea.

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Table 6: Knowledge on the treatment of children suffering from diarrhea

Responses to treatments of diarrhea	Frequency (n=61)***	Percentage (%)
Homemade fluids	10	16.3
ORS	13	21.3
Anti-diarrheal medications such as metro & zinc	16	26.2
Herbal medicine	19	31.2
Don't know	3	5

NB: **** Multiple responses were given*

Table 6 indicated that respondents mentioned more than one answer, and the majority, 19(31.2%), knew that diarrhea can be treated using herbal medicine, followed by 16(26.2%) who knew anti-diarrheal medicines such as metro and zinc, 13(21.3%) knew oral rehydration salts (ORS) and the least 3(5%) didn't know.

Figure 3: Respondents' knowledge on ORS preparation (n=30)

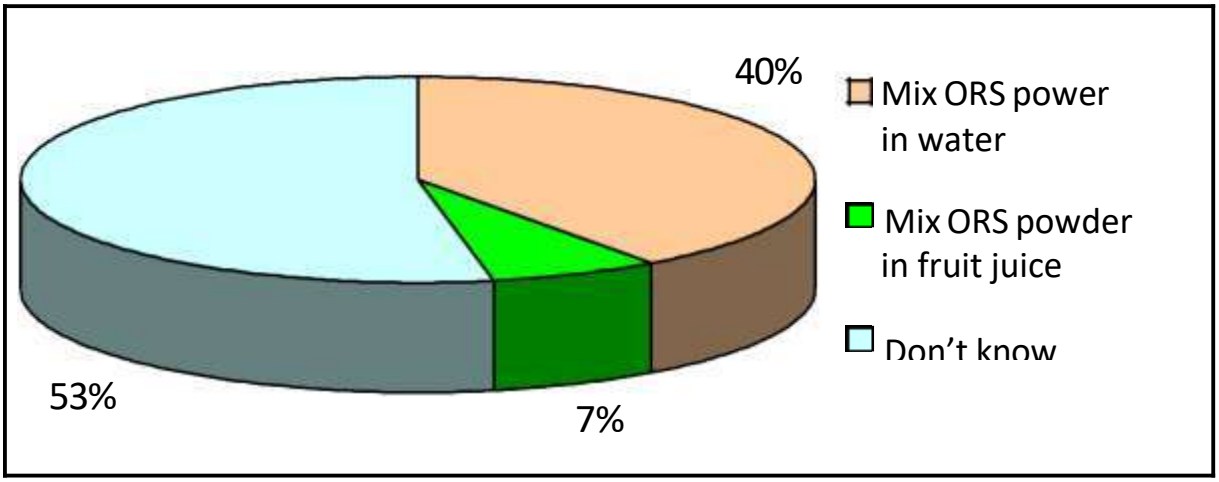

Figure 3 showed that more than half 16(53%) of the respondents didn't know how to prepare ORS, 12(40%) knew that mixing ORS powder in water, while 2(7%) said mixing ORS powder in fruit juice.

Figure 4: Respondents' knowledge on how often ORS should be given (n=30)

Figure 4 showed that more than half, 17 (57%), of respondents did not know how often a child with diarrhea should be given ORS. Ten (33%) knew it should be given after every loose stool, and 3 (10%) thought it should be given twice or thrice a day.

DISCUSSION

This study revealed that the majority (26, 87%) of caregivers knew factors that predisposed children to diarrhea, with 18 (69%) identifying contaminated water and food as a major factor. This aligns with findings by Ssebuliba and Nakasolo (2022), where 78% of caregivers knew contaminated water and food could predispose children to diarrhea.

However, more than half of the caregivers (17, 57%) did not manage their children at home, while 13 (43%) administered oral rehydration salts (ORS), zinc, and fruits, as reported by 10 (77%) and 9 (69%), respectively. This implies inadequate knowledge on home management of diarrhea among caregivers, consistent with findings by Momoh et al. (2022), where only 42% of caregivers in Lagos, Nigeria, were aware of preventive and management measures for diarrheal diseases.

Additionally, 20 (67%) of caregivers knew that visiting a doctor was necessary when the child's condition worsened. Caregivers' lack of knowledge regarding timely medical attention may be due to busy schedules, as most were self-employed or casual workers.

Preventive knowledge among caregivers was moderate. Fourteen (47%) recognized that maintaining a clean environment and personal hygiene prevents diarrhea, consistent with Momoh et al. (2022). Other measures identified included handwashing with soap (10, 33%), boiling water (4, 13%), and covering food properly (2, 7%), in line with WHO recommendations on diarrhea prevention (World Health Organization, 2019).

Despite this, 19 (63%) of caregivers believed diarrhea could be treated with herbal medicine, indicating inadequate knowledge about proper treatment. Leku (2020) similarly found that over half of caregivers in Arua District, Uganda, relied on herbal remedies despite using ORS.

Caregivers also lacked knowledge of the preparation and administration of ORS. Sixteen (53%) did not know how to prepare ORS, and 17 (57%) were unaware of how frequently it should be given to a child with diarrhea, mirroring findings from Walusansa et al. (2022).

CONCLUSION

Caregivers had insufficient knowledge regarding home management of diarrhea among children under five years.

RECOMMENDATION

The Ministry of Health should support community sensitization programs on diarrheal infections and their home management among children under five years.

The Hospital should conduct more outreach within its catchment area, and awareness creation is needed on the importance of exclusive breastfeeding in children's health.

Caregivers of children under five years suffering from diarrhea should always seek medical attention earlier, but not when the situation worsens.

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LIST OF ABBREVIATIONS

ORS : Oral Rehydration Salts
SDG : Sustainable Development Goals
SPSS : Statistical Package for Social Sciences
SSA : Sub-Saharan Africa
UNICEF : United Nations Children's Emergency Fund
UNMEB : Uganda Nurses and Midwives Examinations Board
WASH : Water, Hygiene, and Sanitation
WHO : World Health Organization

SOURCE OF FUNDING

The study had no funding.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

Data is available upon request from the author.

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Stephen Ogasi, a student pursuing a diploma in nursing at St. Michael Lubaga Hospital Training Schools
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Jane Frances Namuddu, research supervisor at St. Michael Lubaga Hospital Training Schools

AUTHOR CONTRIBUTIONS

SO: collected the data
PD: supervised the research.
JFN: supervised the research.

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