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Knowledge and practice of caregivers towards diarrhea management among children under five years in Buhweju district, southwestern Uganda: A cross-sectional study.

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ABSTRACT Introduction

Diarrhea remains the second leading cause of death among children under 5 globally. The study objectives were to assess caregivers' knowledge on the management of diarrhea, examine caregivers' practices on prevention of diarrhea among children under five years, and factors associated with caregivers' management of diarrhea among children under five years.

Methods:

A descriptive cross-sectional design employing both quantitative and qualitative approaches for data collection and analysis. Information was gathered from a sample of 196 caregivers of children under five years using a questionnaire and interviews. Quantitative data were analyzed using the Special Package for Social Scientists (SPSS), while thematic analysis was adopted for qualitative data.

Results:

Results indicate that caregivers knew the causes and symptoms of diarrhea among children under five years. Most of the mothers reported using herbs and buying tablets from the nearby clinics to control the situation after detecting diarrhea in their children. Results further found that gender among others [AOR = 2.569; (95% CI: 1.239 - 5.327); p = 0.011], age [AOR = 2.321; (95% CI: 0.129 - 4.797); p = 0.014], level of education [AOR = 1.919; (95% CI: 0.870 - 3.97); p = 0.002], occupation [AOR = 1.930; (95% CI: 0.887 - 0.976); p = 0.003], income status [AOR = 0.676; (95% CI: 0.348 - 0.682); p = 0.011], attitude and perception [AOR = 1.221; (95% CI: 0.539 - 0.763); p = 0.032] were some of the factors associated with caregivers' management of diarrhea among children under five years.

Conclusion:

Income status, religion, and levels of education affect caregivers in the management of diarrhea.

Recommendation:

There is a need to conduct community advocacy on ways of preventing diarrhea among children under five years in rural areas.

Keywords:Knowledge and Practice, Caregivers, Diarrhea Management, Children Under Five YearsSubmitted:August 19, 2025Accepted:September 19, 2025Published:September 28, 2025

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Introduction

Globally, diarrheal diseases continue to be a major cause of pediatric morbidity and mortality around the world, despite the drop in diarrhea-related mortality over the past 20 years (Kudlova et al., 2018). An estimated 7.7 million children under the age of five died around the world in 2010 (Apte et al, 2018). Each child in the developing world has an average of three episodes of diarrhea each year, and diarrhea causes 1.6 to 2.5 million child fatalities per year (Kosek et al., 2003). Africa is

home to about 19% of these diarrhea-related pediatric deaths (Ellis et al., 2007). Diarrhoea morbidity was found to be relatively high in Eastern Ethiopia, with 22.5% of children under five years old affected (Mengiste et al., 2013).

In Uganda, the Demographic Health Survey (UDHS, 2016 conducted by the Uganda Bureau of Statistics (UBOS) (Auma et al., 2024), indicated that (23%) of children under five years of age had diarrhea, and the prevalence was (20%) in 2016, according to UBOS, with



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The study was conducted in Bihanga sub-county, Buwheju District of Southwestern Uganda in January 2025. Buhweju District is bordered by Rubirizi District to the west and northwest, Ibanda District to the northeast, Mbarara District to the east, Sheema District to the southeast, and Bushenyi District to the southwest. Nsiika, the location of the district headquarters, is approximately 53 kilometers (33 mi) by road northwest of Mbarara, the largest city in the Ankole sub-region.

Study Population

The target population consisted of caregivers of children under the age of five. Children under five years are very vulnerable, and care given to them by mothers affects their health if these mothers have little knowledge of the preventive measures for diarrhea.

Inclusion and Exclusion: The study included all caregivers of children under five years who were available during the data collection exercise of the study. The study excluded all caregivers who were very ill or sick, mentally ill or challenged, or deaf.

Sample Size and Sampling Techniques

In this study, a sample size of 196 respondents was determined using Kish Leslie's (1965) formula (n= $Z\alpha/2$ Pq/d2), at a 95% confidence interval and 5% margin of error, based on an estimated 18% target household proportion. A one-way cluster sampling method was used to select one health centre from six sub-counties in Buhweju District using the fishbowl technique, starting from the District Health Officer's office to obtain permission. Snowball sampling was then applied, where each participating caregiver helped identify another caregiver with a child under five, continuing until data saturation was reached.

Data Collection Methods and Instruments

The study employed questionnaires and documentary reviews as data collection methods. A pre-tested structured questionnaire, containing both closed- and open-ended questions, was used to gather quantifiable data. It was initially designed in English and later translated into local languages for clarity and ease of understanding. The questionnaire comprised two sections: one focused on household characteristics (age, gender, education, marital status, and religion), and the other assessed caregivers' knowledge, practices, and influencing factors regarding the prevention and

the Western region, where Buhweju district is located, recording (24%) prevalence, slightly above the national rate (BDLG, 2020). Rota virus has been cited as a leading cause of diarrhea in children under five in Uganda, and it is highly contagious. It poses an exception to typical diarrheal disease management rules. Whereas improved access to clean water and better sanitation and hygiene practices are vital to preventing most diarrheal diseases, parents/caregivers still display low knowledge and poor practices towards the management of the disease (Atuheire et al, 2024).

A study done by Bbaale (2015) indicates that 61.7% of the caregivers lacked knowledge on the causes and signs of diarrhea among children under the age of 5, 23% had poor practices toward diarrhea management, compared to 14.4% of caregivers who had good home-based management practices. Also, MOH (2021) indicated that caretakers' knowledge and practices towards diarrhea management are very low due to several household and socio-economic-based factors. Proper home-based management of diarrhea through preventive techniques like hygiene and sanitation, diet, and medications can reduce morbidity and mortality due to diarrhea among children under 5 years of age.

In Buhweju district, Bihanga Sub-County, diarrhea remains among the top 4 causes of morbidity within the district, accounting for 13,679 cases in the financial year 2020. According to the data from the Health Information Management System, diarrhea cases within the district are on an increase, with the district having registered 13,935 and 14,788 cases of diarrhea in 2020 and 20 21 respectively (BDLG, 2020). Diarrhea cases are on the rise, yet data and information about caregiver knowledge and practices of diarrhea management remain scarce, as no studies have previously been done to establish the situation, thus leading to inadequate or misguided responses towards this health problem. The situation is further compounded by the scarce resources available to the local government. This background sparked the researcher to conduct a study on the knowledge and practice of caregivers towards diarrhea management among children under five years, with an aim of bringing out the limiting factors of diarrhea management in Bihanga Sub-County, Buhweju District.

Methodology Study Design

The study adopted a descriptive cross-sectional design that applies quantitative and qualitative approaches for data collection and analysis. The design was considered because the study intended to choose respondents and gather information from across different households in the sub-county with the purpose of studying their



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management of diarrhea among children under five. All 196 study participants were subjected to questionnaires.

Data analysis

Data from the structured questionnaires were compiled, entered into Microsoft Excel, and later exported to SPSS Version 21.0 for analysis. Descriptive statistics such as frequencies and percentages were summarized for categorical data. Inferential statistics were applied in multivariate analysis to identify significant associations. To assess factors influencing caregivers' management of diarrhea among children under five, a binary logistic regression model was used, with the dependent variable coded as 1 for agreement and 0 for disagreement regarding the presence of influencing factors. Thematic analysis was also used to analyse qualitative responses from open-ended questions in the study instrument.

Ethics approval and consent to participate

The study was reviewed and approved by the Bishop Stuart University Research Ethics Committee. Ethical

clearance was granted on 19/05/2024 with reference number (BSU-REC-2024-298). Additional administrative clearance was obtained from the Buhweju District Health Officer and local leaders in Bihanga Sub-County.

All participants provided written informed consent before participation. The objectives, procedures, potential benefits, and risks of the study were clearly explained to them in their preferred language. Participants were informed of their right to withdraw from the study at any stage without any consequences. To ensure confidentiality and anonymity, no personal identifiers were recorded, and all responses were handled with strict confidentiality.

Results Response rate

All one hundred ninety-six respondents ably answered and returned the questionnaires, giving a response rate of 100%.

Table 1 Socio-economic characteristics (n=196)

Variable	Category	Frequency	Percentage
Gender	Male	94	48
	Female	102	52
Age bracket	20-25	23	11.7
	26-30	29	14.8
	31-35	44	22.5
	36-40	73	37.2
	41+	27	13.8
Education level	Informal	26	13.3
	Primary	44	22.4
	Secondary	97	49.5
	Tertiary	29	14.8
Religion	Protestant	80	40.8
	Pentecostal	57	29
	Catholic	59	30.2
Marital status	Married	163	83.2
	Separated	33	16.8
Occupation	Housewife	162	82.7
	Employed	34	17.3

As shown in Table 1, the majority of respondents were male (52%) and female (48%). Although males slightly dominated numerically, caregiving roles were largely influenced by females, who tend to be more concerned

about child health. Most respondents (37.2%) were aged 36–40 years, followed by 22.5% aged 31–35, 14.8% aged 26–30, 13.8% above 40, and 11.7% aged 20–25. Regarding education, 49.5% had secondary education,



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22.4% primary, 14.8% tertiary, while 13.3% had never attended school.

Religiously, 40.8% were Protestants, 30.2% Catholics, and 29% Pentecostal. Most respondents (83.2%) were married, while 16.8% were separated. In terms of occupation, 82.7% were housewives and 17.3% were formally or informally employed.

The study revealed that gender, age, education, occupation, income, attitudes, and perceptions influence caregivers' management of diarrhea. Uneducated and low-income caregivers were more likely to rely on herbal

remedies or delay seeking formal treatment due to a lack of knowledge and financial constraints.

Caregivers' knowledge of the management of diarrhea among children under five years

This section of the study addresses research question one, which sought to explore caregivers' knowledge of the management of diarrhea among children under five years. The gathered information was analyzed through a quantitative approach using frequency counts as indicated in Table 2.

Table 2 Management of diarrhea among children under five years

	Variables	Frequency	Percentage
Management of	Applying ORS	56	28.6
diarrhea among	Giving out local herbs	23	11.7
children under	Giving more fluids	34	17.3
five years	Self-medication	12	6.1
•	Visiting health facility	20	10.2
	Boiling of drinking water	27	13.8
	Ensuring sanitation	24	12.3
	Total	196	100.0

As shown in Table 2, the majority (28.6%) of the respondents managed diarrhea by applying oral rehydration solution, 17.3% gave children more fluids, 13.8% boiled water before drinking, 12.3% ensured sanitation, 11.7% applied local herbs, 10.2% visited a health facility, whereas 6.1% applied self-medication. In an interview with one of the participants, he reported;

In line with this, one of the caregivers described this in the following verbatim quotation;

".....Yes, I can tell that my child has contracted diarrhea when I see her passing out watery feces persistently and with high temperature, like around three times in a pace of two hours. After contracting diarrhea, you see her weak with her temperature, and she excretes several times. That's when I realize that something has gone wrong....." (Caregiver 3, Village 4).

On the same issue, another caregiver explained how she comes to understand that her child is suffering from diarrhea in the following verbatim.

"....my son first loses appetite and keeps on crying without anything disturbing him. Then, all of a sudden, you see him passing out watery faces...." (Caregiver 9, Village 6).

Results of the perceived causes of diarrhea among children under five years are presented in Table 3. The majority (34.2%) of the respondents reported eating contaminated food to be the leading cause of diarrhea among children, 28.6% mentioned drinking unsafe water, 22.9% poor personal hygiene, whereas 7.6% and 6.6%

mentioned swallowing dirt and teething, respectively. In this aspect, one of the caregivers explained some of the causes of diarrhea among children under five years in the following verbatim quotation;

"...diarrhea is caused by eating contaminated food by children. When you feed the children on cold food, in most cases, their stomach experiences uneasiness and in most cases, they develop a running stomach..." (Caregiver 1, Village 2).

In addition, another caregiver came and gave a narrative on how children under five years old eat dirt while playing and end up contracting diarrhea. She was quoted in the following verbatim;

"It is hard to control these young children, especially at the stage when they are learning to crawl, they crawl around the compound eating whatever they come across.... It is through this that they swallow dirty things and end up suffering from diarrhea..." (Caregiver 7, village 3)

Still on the causes of diarrhea among children under five years, some of the parents mentioned teething as another cause of diarrhea in children. On the issue, one of the participants was quoted as saying;

".....I now have children, but each one of my children suffers from diarrhea during the stage of teething. When I tried to ask the doctor as to why teething causes diarrhea, he never took it seriously and never explained to me..." (Caregiver 18, Village 7).



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Results on the rating of caregivers' knowledge on the causes and signs of diarrhea among children under five years were presented in Table 4 above. 28.6% of respondents reported high knowledge, 29.6% moderate knowledge, whereas the majority (41.8%) reported low knowledge.

".....I think we, as parents, can find a way to manage diarrhea. For example, we can give children more fluids, boil water before they drink, ensure sanitation, and apply local herbs, to mention but a few..." (Caregiver 18, Village 7).

Another participant was quoted in the following verbatim;

".....when you don't feed your child on cold food and you ensure that whenever he/she eats from clean utensils, this prevents the possibility of suffering from diarrhea...." (Caregiver 18, Village 7).

Caregivers' practices on the prevention of diarrhea among children under five years

This theme explored caregivers' practices on the prevention of diarrhea among children under five years. The gathered information was analyzed through both quantitative and qualitative approaches using frequency counts as presented in Table 3.

Table 3 Caregivers' practices on the prevention of diarrhea among children under five years

		Variables	Frequency	Percentage
Prevention methods diarrhea		Improving sanitation	21	10.7
	of	Ensuring personal hygiene	29	14.8
		Avoiding contaminated foods	50	25.5
		Avoiding contaminated water	44	22.3
		Drinking boiled water	32	16.3
		Taking fluids regularly	20	10.2
		Total	196	100.0

Results of caregivers' practices on prevention of diarrhea among children under five years are presented in Table 3. The majority (25.5%) of the respondents talked of avoiding contaminated foods, 22.3% avoiding contaminated water, 16.3% mentioned drinking boiled water, 14.% improving personal hygiene, 10.7% improving sanitation, while 10.2% reported taking fluids regularly. Based on these views, one of the participants was quoted in a verbatim explaining the giving of herbs in the following quotation;

"....after seeing my child passing out watery faces, I rushed to the nearby bush and collected the herb called "omukuza nyena", which helps my child to stop the running and he normalizes in a few hours. I even told my older children to do the same in case they feel uneasiness in the stomach. The herb is very effective, most mothers here use it, and there is no need to go to the hospital..." (Caregiver 9, village 4).

Another female respondent was quoted as explaining the following:

"After realizing that my child has diarrhea, I quickly go to the clinic in our trading centre and explain to the nurse. She gives me tablets and I give them to my child to control the condition..." (Caregiver 13, Village 6).

In addition, another caregiver reported using oral rehydration salts and gives them to the children in cases where the symptoms of diarrhea are detected. In this regard, this participant was quoted as saying;

"I normally give ORS to my children whenever I notice diarrhea. I learnt about it when I was raising my firstborn. A friend of mine was a health worker and is the one who told me about it..." (Caregiver 16, Village 7).

Another caregiver was quoted, explaining in the following verbatim;

"....whenever I realize that my child has diarrhea, I move her quickly to the health facility. We were told during antenatal care that the moment you risk treating a child with diarrhea at home, he/she can die immediately because of dehydration..." (Caregiver 8, Village 3).

Factors influencing caregivers' management of diarrhea among children under five years

This theme described the factors influencing caregivers' management of diarrhea among children under five years. In this aspect, a number of factors were raised during the interviews and analyzed using binary logistic regression as presented in Table 4.



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Table 4 Factors influencing caregivers' management of diarrhea among children under five years

live years	3		
Category	AOR	95% CI	p-value
Female	2.569	1.239 - 5.327	0.011
Male (Ref)			
20 and below	1.290	0.370 - 4.499	0.690
21 - 30	0.991	0.974 - 1.008	0.294
31 - 40	2.321	0.129 - 0.797	0.014
41 and above (Ref)			
Never went to school	1.486	0.573 - 3.851	0.415
Primary	0.749	0.263 - 2.129	0.123
•		0.870 - 0.129	0.002
	1.024	0.952 - 3.101	0.529
Married	1.850	0.757 - 2.954	0.305
Separated (Ref)			
Housewife	1.930	0.887 - 0.976	0.003
Employed (Ref)			
_	1.104	1.009 - 1.208	0.231
Low	0.676	0.348 - 2.153	0.110
High (Ref)			
Catholic	0.364	0.863 - 2.153	0.183
Protestant			0.435
Muslim			0.864
Others (Ref)	******		
· · ·	1.288	0.609 - 2.720	0.508
	1.200	2.002 2.720	0.000
Positive	1.221	0.539 - 0.763	0.032
			2.002
	Category Female Male (Ref) 20 and below 21 – 30 31 – 40 41 and above (Ref) Never went to school Primary Secondary Tertiary University (Ref) Married Separated (Ref) Housewife Employed (Ref) — Low High (Ref) Catholic Protestant Muslim Others (Ref) Yes No (Ref)	Category AOR Female 2.569 Male (Ref) 20 and below 1.290 21 - 30 0.991 31 - 40 2.321 41 and above (Ref) 1.486 Primary 0.749 Secondary 1.919 Tertiary 1.024 University (Ref) Married 1.850 Separated (Ref) Housewife 1.930 Employed (Ref) - 1.104 Low 0.676 High (Ref) Catholic 0.364 Protestant 1.009 Muslim 0.156 Others (Ref) Yes 1.288 No (Ref) Positive 1.221	Category AOR 95% CI Female 2.569 1.239 – 5.327 Male (Ref) 0.370 – 4.499 20 and below 1.290 0.370 – 4.499 21 – 30 0.991 0.974 – 1.008 31 – 40 2.321 0.129 – 0.797 41 and above (Ref) 1.486 0.573 – 3.851 Primary 0.749 0.263 – 2.129 Secondary 1.919 0.870 – 0.129 Tertiary 1.024 0.952 – 3.101 University (Ref) 0.757 – 2.954 Separated (Ref) 1.930 0.887 – 0.976 Employed (Ref) 1.104 1.009 – 1.208 Low 0.676 0.348 – 2.153 High (Ref) 0.364 0.863 – 2.153 Protestant 1.009 0.932 – 1.091 Muslim 0.156 0.068 – 1.608 Others (Ref) Yes 1.288 0.609 – 2.720 No (Ref) Positive 1.221 0.539 – 0.763

The logistic regression results showed that out of ten hypothesized factors, six were statistically significant in influencing caregivers' management of diarrhea among children under five. Female caregivers were twice as likely to manage diarrhea compared to males [AOR = 2.569; p = 0.011]. Caregivers aged 31–40 were 2.3 times more likely to manage diarrhea than those aged above 41 [AOR = 2.321; p = 0.014], while other age groups showed no significant difference. Education also had a significant effect, with those having secondary education being 1.9 times more likely to manage diarrhea than those with university education [AOR = 1.919; p = 0.002], while other education levels showed no significance.

In this regard, one participant was quoted in the following verbatim;

"....you see, we who never went to school have a problem, you cannot tell which drug will cure your child when you go to the clinic. That is why I normally opt for herbal medicine because I know it better..." (Caregiver 9, village 4).

Furthermore, occupation increased the log odds of the probability of the management of diarrhea among children under five years by 1.9. Being a housewife increased the chances of managing diarrhea by 1.9 times compared to being employed [AOR = 1.930; (95% CI: 0.887-0.976); p = 0.003].

Income status decreased the log odds of the probability of managing diarrhea among children under five years by 0.6 and was significant at (p = 0.011). Parents with low incomes were 0.6 times less likely to manage diarrhea among children compared to those with high incomes [AOR = 0.676; (95% CI: 0.348 - 1.682); p = 0.011]. In this case, the earlier stated null hypothesis that there was no significant relationship between income status and diarrhea management was rejected. Poverty was cited among the factors, as explained by these participants who were quoted in the following verbatim;

".....I was forced to go to the nearest clinic and buy tablets to give to my child because I had no money for transport to go to Bihanga Health Centre III. I had to go



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to the clinic because the owner knows me and could afford to give a debt..." (Caregiver 3, Village 1).

Lastly, attitude and perception increased the log odds of probability in the management of diarrhea among children under five years by 1.2. Parents with a positive attitude and perception were 1.2 times more likely to manage diarrhea than those with a negative attitude [AOR = 1.221; (95% CI: 0.539 - 2.763); p = 0.032]. One of the participants was quoted explaining that;

"....I don't think some of the issues that health workers say are the causes of diarrhea, like drinking unboiled water, are true. I have been drinking unboiled water for my entire life, and I have not died. Children have to develop such conditions as they grow, because as they are fed them, changes keep on coming and these changes bring about conditions in their health, including diarrhea..." (Caregiver 15, Village 7).

Discussion

Results on the caregivers' knowledge of the causes and symptoms found that most of the participants knew the causes of diarrhea and were able to recognize diarrhea in their children. Results show that caregivers were aware that when a child passed watery feces and had high temperatures, it was an indication that the child had diarrhea. This implies that caregivers of children under five years had basic knowledge of diarrhea in their children. Most of them confirmed that eating unhealthy food is the leading cause of diarrhea in children. Most of these mothers affirmed they got information about diarrhea from the health facilities.

This finding was similar to that of Apte et al. (2018), who found knowledge of diarrhea and its causes in the community to vary and to affect effective diarrheal prevention, control, and management practices. This is key in curbing the high burden of diarrheal diseases, especially among low-income earners. In particular, knowledge of causes of diarrhea, such as contaminated water or food, poor hand hygiene, poor fecal disposal, and poor feeding, can help to prevent diarrhea. Further, as a result of poor knowledge on diarrheal causes, Anim-Larbi (2017) reported that diarrhea disease prevention and control remain a challenging issue because of the ubiquitous exposure to individuals through multiple transmission routes, contaminated food, water, and generally unhygienic conditions, especially in the developing world.

Findings on the practice of diarrhea prevention by breastfeeding mothers found that most of them gave herbs to their children at home when they suspected that they were suffering from diarrhea. Others reported that they did nothing when they realized that their children were suffering diarrhea, until it worsened and they took them to the hospital. Another group revealed that their children's home mixture of oral rehydration salts. These findings demonstrate a high degree of poor preventive measures of diarrhea among breastfeeding, which increases the risks of diarrheal cases among children.

These findings concur with prior findings by Htay et al (2011) in Muang District, Samut Sakhon province, Thailand, about diarrhea preventive behaviour of Myanmar immigrants' caregivers with children under five years. It was noted that children from households where there was feces around the pit-hole/on the slab were about three times more likely to have diarrhea than those children from the households where feces were not observed around the pit-hole (OR: 3.13, 95% CI 1.04.9.45).

The study found that caregivers who practiced the use of herbs and fluids were the main method used to manage diarrhea. This was similar to findings of a study conducted by King et al. (2010) to assess knowledge and practices of men and women on maternal and child health in rural Guinea-Bissau, where use of fluids was reported as the predominant method used to treat diarrhea at the household level. The main types of fluids used were fruit juice, herbal fluids, and plain water.

The age bracket increased the log odds of the probability of managing diarrhea among children under five years. Parents aged 31 - 40 were 2.3 times more likely to manage diarrhea compared to those aged 41 and above. Age has a significant impact on health-seeking Youthful caregivers are likely to make decisions. informed health decisions compared to young adults and aging caregivers. This is because of the robust parenting experience accumulated compared to young adults and the elderly, who only rely on herbs and prayer. However, a few studies suggest that, contrary to this finding, increased age is associated with a higher likelihood of managing diarrhea. This study finding is comparable to findings by Hashi and Gasana (2016), who stated that youth were more likely to utilize health services compared to the young and elderly.

Education level increased the log odds of probability in the management of diarrhea among children under five years. Parents who had completed secondary education were 1.9 times more likely to manage diarrhea compared to those with a university degree. Level of education plays a very important role in managing health situations and use of health services (Aleemi, Khaliqui, & Faisal, 2018).

Conclusion

The study assessed caregivers' knowledge on the prevention and management of diarrhea among children under five in Bihanga Sub-County, Buhweju District.



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Findings revealed that while most caregivers could identify symptoms such as watery stools and fever, their overall knowledge was inadequate; over half could only mention one or two correct preventive measures. Limited understanding led many, especially uneducated caregivers, to rely on herbs and informal medication sources.

The study examined caregivers' attitudes towards diarrhea prevention and found that attitudes were generally negative. More than half (55.3%) believed it was normal for children to experience diarrhea regularly. Such perceptions discouraged timely medical care and promoted complacency in prevention.

The study also determined caregivers' preventive practices and found them to be poor. A majority (80%) lacked handwashing facilities near latrines, and many used public toilets or resorted to unsafe waste disposal methods due to cost constraints. These practices significantly increased the risk of diarrhea transmission within households and communities.

Recommendations

Regular community sensitization programs should be revived to improve caregivers' understanding of diarrhea causes, symptoms, and prevention methods. Continuous health education through Village Health Teams (VHTs) and targeted postnatal programs will ensure caregivers acquire accurate biomedical knowledge and apply it in early detection and management.

Health promotion campaigns should focus on changing negative perceptions, such as the belief that diarrhea is a normal occurrence in children, by emphasizing its preventable nature and potential severity. Empowering caregivers with correct information can foster positive attitudes that encourage timely health-seeking behaviors. Caregivers should be trained on proper hygiene and sanitation practices, including handwashing with soap, safe waste disposal, use of clean latrines, boiling drinking water, and safe storage of water. Local government should increase the number of public toilets, enforce household latrine ownership, and improve waste management systems to support these practices.

Consent for publication

All Authors consented and approved the manuscript to be submitted for publication.

Availability of data and materials

All relevant data generated during this study are included in this manuscript. Additional details can be obtained from the corresponding author upon reasonable request.

Competing interests

The authors declare no competing interests.

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Authors' contributions

Paddy Mukama Ariho conceptualized the study, collected and analyzed the data, and prepared the original draft of the manuscript. Herbert Ainamani and Gershom Atukunda provided supervision throughout the research process. The manuscript was reviewed and edited by Paddy Mukama Ariho, Herbert Ainamani, and Gershom Atukunda.

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