Factors associated with Diarrhea among Children Under Five Years at Paediatric Ward Masaka Regional Referral Hospital in Masaka District. A Cross-sectional Study.

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Abstract

Background:
Diarrhea accounts for 9% of all child deaths worldwide, It is the leading cause of death among children under the age of five worldwide.

Methodology:
The cross-sectional study was carried out on all caretakers of children under five years at Masaka regional referral hospital. The Questionnaire was used to collect data and was analyzed using a tally, the sample size of 62 respondents also was analyzed using frequency tables graphs, and pie charts.

Results:
The study revealed that only (38.7%) of the respondents defined diarrhea as the passing of watery stool 3 or more times a day, (61.3%) could not define diarrhea as WHO recommends, majority of 74.2% of the respondents had good knowledge of contaminated food/water as the cause of diarrhea in children under five years, 59.7% had good knowledge on general weakness, failure to feed, irritability, vomiting everything as the consideration to their children for treatment, 22.5% of the respondents had poor knowledge on treatment of diarrhea at home, 41.9% respondents had poor knowledge on what is needed to make ORS, 17.7% respondents had poor knowledge on how to prevent diarrhea in their children, 21% respondents poor attitude on exclusive breastfeeding.

Conclusion:
Mothers had poor knowledge of the definition of diarrhea but a good knowledge of the causes of diarrhea among children under five years and identify the danger signs.

Recommendation:
Therefore, the study recommends the need for continuous health education of the caretakers on how to treat diarrhea at home, requirements to make ORS, how to prevent diarrhea in the children, and how to breastfeed the children when they get diarrhea.

Email: galiwangovincent3@gmail.com **Date submitted: 06th/05/2022 Date accepted: 31st/05/2022**

1 Background of study

Diarrhea is the passing of loose or watery stools at least three times a day(Gali *et al.,* 2017). It can be classified as acute watery diarrhea, acute bloody diarrhea (dysentery), and persistent diarrhea which lasts for fourteen days or longer(Melese *et al.,* 2019). It causes 2,195 under-five children to die every day. According to the World Health Organization (WHO), globally around 6 million children (<5 years) suffered from diarrhea each year and more than half of the annual reported diarrhea cases were from developing regions in Africa and

South Asia, where childhood diarrhea is more likely to result in death and these deaths were due to irregular hygiene practices such as hand-washing and irregularly boiling of drinking water(Gali et al., 2017). Worldwide it is the leading cause of child morbidity and mortality in the world among children under five years of age, there are nearly 1.7 billion cases of childhood responsible for killing around 52500 every year(Guillaume *et al.*, 2020).

Diarrhea accounts for 9% of all deaths among children under age five worldwide. In 2013, this translated into about 580,000 child deaths, or, on average, 1,600 children dying each day due to preventable diarrhea. Most deaths from diarrhea occur among children less than 2 years of age living in South Asia and sub-Saharan Africa(Carvajal-vélez *et al.,* 2016).

According to Omona 2020 diarrhea accounts for an estimated 3.6% of all global burden of the diseases and it's the leading killer accounting for approximately 8%of the deaths among children less than five years despite the availability of simple effective treatments. Although the global mortality from diarrhea has been declining over the past 25 years the disease is still a major cause of mortality in children less than five years of age in developing countries, contributing up to 21% of deaths(Omona *et al.,* 2020). Despite the global decline in the death rates of children younger than 5 years old due to diarrhea, the risk of a child dying before becoming 5 years of age remains highest in the WHO African Region (90 per 1000 live births), which is approximately seven times higher than that in the WHO European Region (12 per 1000 live births)(Anteneh *et al.,* 2017). It is estimated that 2.5 million episodes of the dearrheal disease occur among children under the age of 5 years. Out of this number, well over 500,000 children are estimated to die annually(Charles I. K. Iwunze, Chukwuma U. Okeafor, 2018). Childhood diarrhea contributes to a major proportion of under 5 (U5MR) and infant mortality (IMR) rates. In 2015, diarrhea accounted for 9% of childhood mortality worldwide and about 1,400 children were dying every day thus 526,000 a year in low and middle-income countries(Mosweu, 2018). Globally, diarrhea accounts for 11% of all under 5 years of deaths, translating into 760,000 childhood deaths annually(Merali *et al.*, 2018).

In 2015, 5.9 million children globally died before reaching their fifth birthday where diarrhea was responsible for 9 % of these deaths. An estimated 1.7 million cases of diarrheal diseases arise each year(Hussein, 2017). In Pacific Islands Countries (PICs), like those in Papua New Guinea (PNG), the prevalence rate was 24.0%. In the Solomon Islands, diarrhea is among the leading causes of infant mortality, which resulted in 10% under 5 children's death(Gali *et al.,* 2017). The Solomon Islands also recorded the highest under-five diarrheal cases in 2005, compared to the 9 PICs with available data, and also more than 65% of children below five years were at high risk for this disease(Gali *et al.,* 2017). Despite global diarrheal deaths among children under 5 years decreased by 60% between 2000 and 2017. Ethiopian morbidity reports and community-based studies indicate that diarrheal diseases accounted for 20% of childhood death and 22% of childhood diarrheal diseases in 2000(Shine *et al.*, 2019).

In Africa, diarrheal diseases are the third leading cause of disease and death in children younger than five years of age and were estimated at 30 million cases of severe diarrhea and 330000 deaths(Carvajal-Vélez *et al.,* 2016,). According to Melese 2019 in Africa, more than four-fifths of all under-five deaths(82%) were caused by diarrheal diseases(Desta *et al.,* 2017). Every under-five child experiences five episodes of diarrhea per year, and around 800,000 children die of diarrhea and dehydration each year(Desta *et al.*, 2017).

Each year, an estimated 2.5 billion cases of diarrhea occur among children under five years of age, and estimates suggest that overall incidence has remained relatively stable over the past two decades. More than half of these cases are in Africa and South Asia(Cairo *et al.,* 2020).

Sub-Saharan Africa is the region where high rates of child mortality are reported(Desta *et al.,* 2017).

Statistically, South Africa estimates that 20% of under-five deaths may be attributed to diarrhea with 31436 diarrhea cases recorded in 2016. Other sources estimate the mortality rate between 8-24% Children in low and middle-income countries are the most vulnerable to diarrhea(Nguyen *et al.,* 2021).

The prevalence of diarrhea among under-five children in the northern regions of Nigeria was 12.7 %. The results of this study showed that maternal education, religion, age, working status, unprotected water source, main floor material, DPT3, and polio3 vaccination were found to be positively asso-

ciated risk factors for childhood diarrhea(Hussein, 2017).

In South Sudan diarrheal diseases are the leading causes of young child morbidity and mortality in South Sudan. The prevalence of diarrhea among under-five-year-old children in Rubkona was estimated to be 43.6 %(Puok *et al.,* 2018).

In Botswana diarrhea disease is the leading cause of illness among under-five-year-old children, accounting for 20 % of under 5 mortality. It forms a vicious circle with malnutrition. In 2015 only, diarrhea accounted for 6% of childhood deaths translating to 157 deaths(Mosweu, 2018). Childhood diarrhea accounted for 6 percent of deaths of children in Botswana and this is due to good knowledge, attitude, and practices of caregivers are pivotal to the protection, prevention, and treatment of childhood diarrhea, hence reducing mortality(Gofaone, 2018).

In Ethiopia, diarrhea is the second cause of clinical presentation among the under-five-year child population(Desta *et al.,* 2017). The prevalence of diarrhea among under-five children decreased from 26% in 2000 to12% in 2016 and 2017. The decrease in the prevalence of diarrhea could be explained by: (1) behavioral change among households, (2) an increase in the proportion of children living in households with access to an improved drinking water source, living in urban areas, educated parents, exposure to media, a small number of family members(Gimeno-Gilles et al., 2016). Studies in Ethiopia also showed that low maternal education, poor sanitation, contaminated water source, duration of breastfeeding, failure to wash hands, absence of rotavirus vaccination, failure to dispose of feces hygienically, age of the child, and adequate food hygiene were significant predictors of diarrheal diseases under-five children(Shine *et al.*, 2019).

The prevalence of diarrhea among children less than five years in the three selected East African countries, averaged 27%range from a minimum of 11% to a maximum of 54%. The five-year prevalence escalated extensively in Kenya, Ethiopia, and Somalia(Nwaoha *et al.,* 2017).

In Kenya, in 2018, 1,499,146 cases of diarrhea were reported among children under five years. Among the causes of diarrhea in 2018 in Kenya, Nairobi accounted for 136,028 cases. A study showed that in 2017, 25.6% of children living in Nairobi informal settlements had diarrhea. Although in the same study, the exact prevalence of diarrhea among children in Mathare informal settlements was not mentioned, primary caregivers(PCGS) reported that their children contracted diarrhea at least once every two weeks. PCGS play an important role in the management process of diarrhea as they are the first person directly related to the child(Guillaume *et al.,* 2020).

In Uganda diarrhea is among the top four causes of morbidity in infants and young children(Omona et al., 2020). The UDHS of 2016 reported that the prevalence of diarrhea among children less than five years in Uganda was 20%. In 2017 diarrheal disease deaths reached 6.41% making the country to be ranked 27th worldwide(Omona *et al.*, 2020). Presently diarrhea remains among the top ten causes of morbidity in the country with rotavirus being responsible for about 40% of all diarrheal cases(Omona *et al.,* 2020). There are limited studies on the factors influencing diarrheal prevalence among children under-fives in Mathare informal settlement. As diarrhea is mostly managed at home by PCGS, we need to establish factors influencing management practices to come up with effective health promotion programs. The specific objectives were to determine the attitude of caretakers about diarrhea among children under five years, to assess the knowledge of caretakers about diarrhea among children under five years, and to describe the health-seeking habits of caretakers of children under five years in paediatric ward Masaka regional referral hospital Masaka district.

2 Methodology.

3 Background of the study area

The study was conducted at Masaka regional referral hospital in Masaka district which is a government health facility. The hospital is located in Masaka city in south-central Uganda approximately 132km and it is strategically located in Masaka city on a latitude of 0 19 27.60 N and longitude of 31 44 2.39 E. It offers services to several districts of Kalangala, Lyantonde, Masaka, Sembabule, Kalungu, Lwengo, Bukomansimbi, and Rakai. It has a capacity of 330 beds it has a major construction going on which will make the bed capacity to about 540. It has 23,456 annual admissions giving a bed occupancy rate of 90.6%, the hospital-based offers general services including emergency services and nutrition support to both children and adults. . It is a referral hospital for the districts of Kalangala,

Lyantonde, Masaka, Sembabule, Kalungu, Lwengo, Bukomansimbi, and Rakai.

Study design

The study was a descriptive cross-sectional study that focused on caretakers with children under five years suffering from diarrhea attending to paediatric ward at Masaka regional referral hospital. A cross-sectional study design was used because it is cheap and less time-consuming as it is a one-time activity. The quantitative study design is best for data collection from a large number of respondents.

Study population

The study population was the caretakers of children under five years admitted with diarrhea at paediatric ward Masaka regional referral hospital Masaka district

Sample size determination

The sample size was determined using the Kish Leslie formula.

N=

Where;

n is the desired sample size

Z is the standard normal deviation (1.96) corresponding to a 95% confidence level

P is the proportion in the population estimated to have particular characteristics, which is the percentage of children aged 0-5 years who have diarrhea (20%).

Q = 1 – P

d Is the degree of accuracy desired (0 1

Therefore,; n =

= , =62

n=62 respondents

Sampling technique.

A simple random probability sampling technique was used to select caretakers to participate in the study; this gave all the caretakers with children under five admitted with diarrhea equal chances of being selected to participate in the study.

Sampling procedure.

The researcher identified all the caretakers with children below five years admitted with diarrhea. Here simple random sampling was used, it involved selecting respondents from the study population by chance, and the lottery technique was used where yes and no was written separately on small papers, folded, put, and mixed in a small box. Then caretakers picked one at a time, whoever picked yes participated in the study

The procedure was done until 62 respondents were achieved.

study variables

These included dependent and independent variables

Dependent variables

The dependent variables of this study included the knowledge, attitude, and health-seeking habits of the caretakers towards diarrhea and the management of diarrhea among children under five years.

Independent variables

The independent variables of this study included age, occupational, marital status, tribe, and religion together with the education levels of caretakers of children under five years.

Piloting the study

A pilot study was carried out a week before the start of actual data collection Masaka regional referral hospital at paediatric ward Masaka regional referral hospital. This involved selecting sample caretakers of children under five years with diarrhea who were given questionnaires to answer accordingly to check the effectiveness of the questionnaires and to rectify any errors before actual data collection.

Data collection tool

The tool to be used were questionnaires which included questions about the caretakers' attitude, knowledge, and health-seeking habits about diarrhea among children under five years. It also include questions about the demographic data of the respondent questions were simplified to the easiest language so that caretakers could easily understand and interpret the questions very well.

Data collection method

Data was collected from the respondents using the questionnaire. Here the sample of caretakers with children suffering from diarrhea was given questionnaires which they answered and the questionnaires were collected back from them for those who were unable to read or write, I helped to translate and write down the answers of respondents. This method is simple and cheap as many questionnaires were administered to many respondents simultaneously. Also, record keeping and retrieval are easy.

Data collection procedure

Data was collected from a sample of caretakers of children who were admitted with diarrhea at Masaka regional referral hospital in Masaka dis-

trict. The caretakers were explained to and their consent was sought using both an informed and oral consent after which they were allowed to fill the questionnaires and for the respondents who were unable to read or write, they were helped by the researcher to help them understand better the questions and write down their answers.

Data were collected from 62 samples of caretakers. Five caretakers were interviewed a day. Data was collected from Monday to Friday. The answered questions weres collected, counted, and prepared for analysis and interpretation.

4 Data analysis and presentation

Hand sorting and tallying according to the themes developed from the objectives and literature review were used to analyze the information in the questionnaires. Charts and/or graphs were used to present the analyzed results and this was done by the researcher. Data were also recorded, categorized, and analyzed manually. Data were statistically analyzed and presented in frequency tables, pie charts, and bar graphs. This method gave time to the researcher to look at the mistakes of different data collection tools and presenting data in frequency tables and pie charts and bar graphs statistically reviewed the distribution of different variables.

Quality control

Questionnaires will be pre-tested and reversed by the researcher. The collected data was analyzed and interpreted by the researcher

Inclusion criteria

All the mothers of children under five years of age admitted at MRRH were eligible for the study.

Caretakers of children under five suffering from diarrhea who gave consent were included.

Exclusion criteria

Caretakers whose children were above five years of age

Caretakers of children under five suffering from diarrhea who didn't consent

Ethical Consideration

An introductory letter allowing the researcher to collect data from the respondents was issued to the researcher from Medicare health Professionals College which had to be approved by the school, then to the director of Masaka regional referral hospital and/or the in charge of the health facility where the research was conducted. Participants were given details about the ongoing program to help them easily analyze and know what they are answering. And the use of consent forms was done to attain respondents' consent and only the respondents who consented were the only ones to participate in the study. This helped to prevent bias in responses given. Ethical issues like confidentiality, clients' and caretakers' privacy, autonomy, and no harm were followed during the research through not sharing their information, names, and other things with other people without their permission, seeking both oral and informed consent from the respondents and using screens or private rooms to talk to the respondents and explain to them the aims of the study so that they were aware that it didn't cause any harm to them.

study limitations

Wrong information from the uncooperative respondents was a challenge but this was overcome by a thorough explanation of the purpose of the study, confidentiality of their information, and privacy. Some of the respondents demanded gifts before being interviewed and became reluctant. This was solved by a clear explanation of the intentions and purpose of the research that was going to be done for the study purpose. Bias from respondents was reduced by a simple random sampling technique to choose participants.

Results

Demographic data of caretakers of children below five years with diarrhea.

Almost half (46.8%) of the respondents were aged between 20-24 years

The majority (82.3%) of the respondents were living in a marital relationship.

Almost half(46.8%) of the respondents had primary education as their maximum attained level.

The majority(45.2%) of the respondents were Baganda.

The majority (41.9%) of the respondents were Catholics

The majority 13(21%) obtained primary as their maximum level and were aged between 20-24 years.

Most of the Baganda 13(21%) attained primary level as their maximum level.

Most of the Catholics 11(17.7%) attained primary level as their maximum level.

All the 62(100%) caretakers had a good attitude toward handwashing with soap and water. The ma-

Table 1. Age distribution of the respondents n=62

Age	Frequency(n)	Percentage(%)
<20 years	9	14.5
20-24	29	46.8
25-29	10	16.1
30-34	8	13
35-39	2	3.2
40-44	1	1.6
>_ 45	3	4.8
Total	62	100

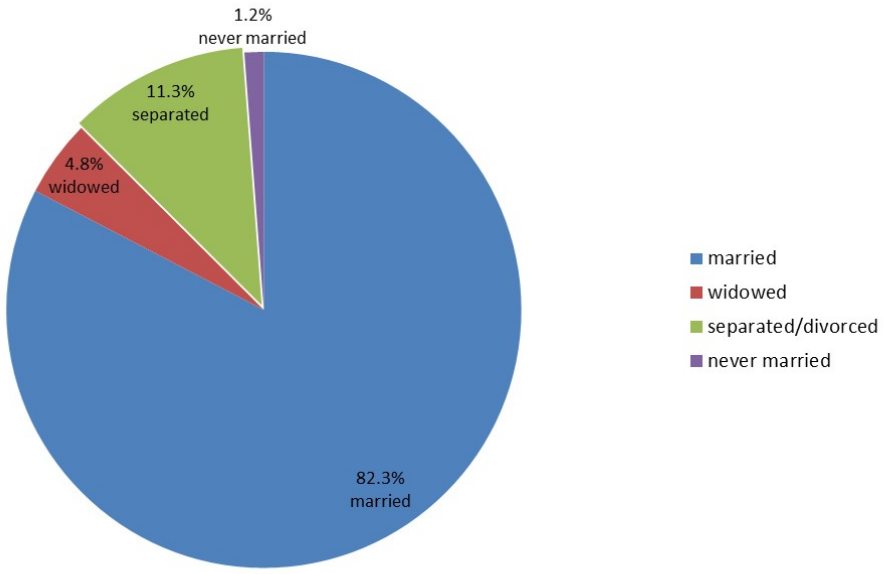

Figure 1. Pie chart shows the marital status of the respondents.

Table 2. A cross-tabulation showing the age and education level of the respondents. Education level n=62

Age(years)	Tally	Primary	%	Secondary	%	Tertiary	%
<20	9	7	11.3	2	3.2	0	00
20-24	29	13	21	11	17.7	5	8.1
25-29	10	5	8.1	4	6.5	1	1.6
30-34	8	2	3.2	4	6.5	2	3.2
35-39	2	0	00	2	3.2	0	00
40-44	1	1	1.6	0	00	0	00
>_ 45	3	1	1.6	0	00	2	3.2
Total	62	29	46.8	23	37.1	10	16.1

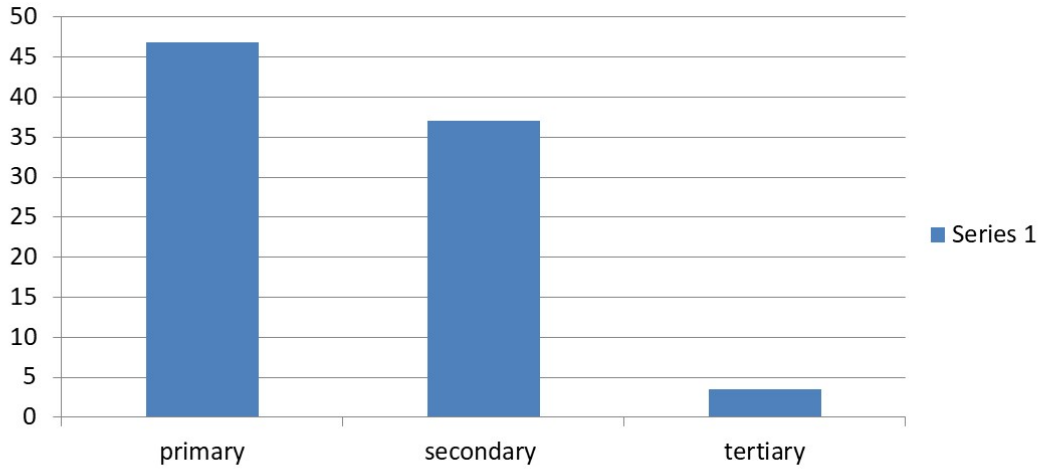

Figure 2. A bar graph showing the maximum educational attainment of the respondents.

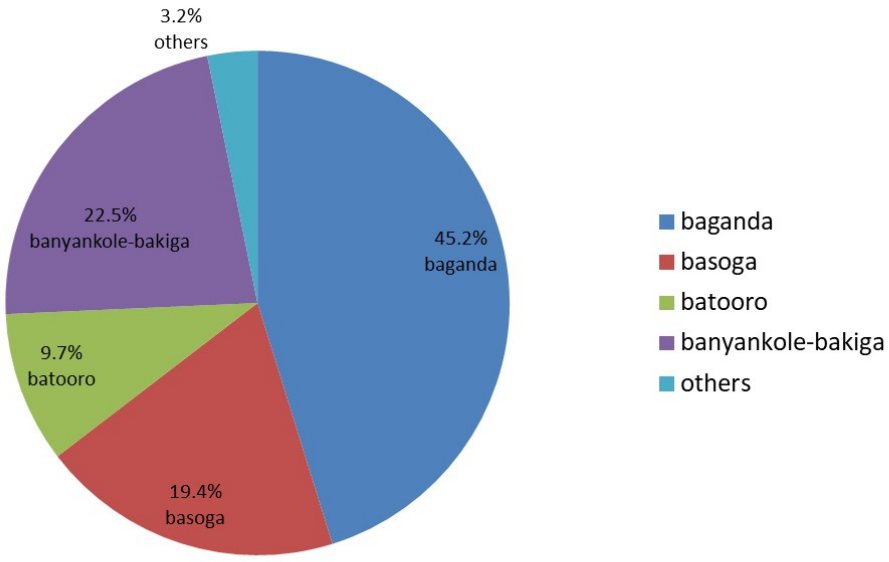

Figure 3. A pie chart shows the tribes of the respondents

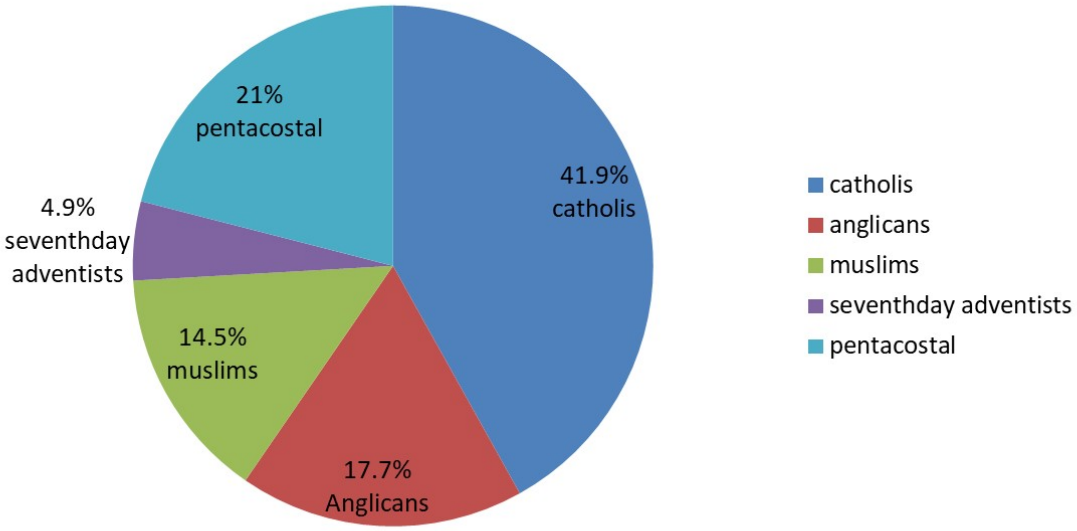

Figure 4. A pie chart showing the religion of the respondents.

Table 3. A cross-tabulation showing the tribe and education level of the respondents. Education level n=62

Tribe	Tally	Primary	%	Secondary	%	Tertiary	%
Baganda	28	13	21	10	16.1	5	8.1
Basoga	12	7	11.3	3	4.8	2	3.2
Batooro	6	3	4.8	2	3.2	1	1.6
Banyankole-bakiga	14	8	12.9	5	8.1	1	1.6
Others	2	1	1.6	0	00	1	1.6
Total	62	32	51.6	20	32.3	10	16.1

Table 4. A cross-tabulation showing the religion and education level of the respondents n=62

Religion	Tally	Primary	%	Secondary	%	Tertiary	%
Catholics	26	11	17.7	9	14.5	6	9.7
Anglicans	11	5	8.1	5	8.1	1	1.6%
Muslims	9	4	6.5	3	4.8	2	3.2
Seventh day Adventists	3	2	3.2	1	1.6	0	00
Pentecostal	13	7	11.3	4	6.5	2	3.2
Total	62	29	46.8	22	35.5	11	17.7

Table 5. The attitude of caretakers towards diarrhea among children under five years at Masaka regional referral hospital. showing the attitude of respondents
n=62

Good attitude	Poor attitude
48(77.4%)	14(22.6%)

Table 6. shows the attitude on different aspects n=62

Category	Good attitude	Poor attitude
Hand washing with soap and water after visiting and cleaning child's buttocks can prevent diarrhea	62(100%)	0(0%)
Exclusive breastfeeding can prevent diarrhea	49(79.0%)	13(21%)
Diarrhea can kill	43(69.4%)	19(30.6%)
Vaccination can prevent children against diarrhea	57(91.9%)	5(8.1%)

jority 36(58.1%) had a poor attitude breastfeeding the child to prevent diarrhea.

Knowledge of caretakers about diarrhea in children below five years (n=62)

More than half(59.7) of the respondents had good knowledge

The majority 38(61.3%) didn't know the correct definition of diarrhea while 33(53.2%) didn't know the exact cause of diarrhea.

Health seeking habits of caretakers of children below five years

More than half(64.5%) of the respondents had poor health-seeking habits

More than half (64.5%) of the respondents sought health care for their children after >6 episodes, 51.6% of the respondents took their children to a clinic first before going to a health facility/hospital, 63.0% of the respondents said their children are given both medicines and fluids when they are at the health facility.

5 Discussion, Conclusion, and Recommendation

6 Discussion:

Demographic data of the caretakers of children below five years with diarrhea

Almost half (46.8%) of the respondents were aged 20-24 years and the majority (82.3%) of the respondents were living in a marital relationship. This could generally be due to giving birth at an early mostly around 18-19 years, school dropout, and lack of funds to support the children to go to school.

Almost half (46.8%) of the respondents had primary education as their maximum attained level. This could generally be due to school dropout, and low sensitization among the parents.

The majority (45.2%) of the respondents were Baganda. This is because Masaka is located in central Uganda.

The majority (41.9%) of the respondents were Catholics. This could be due to most people in Masaka being known to be Catholics.

The majority (21%) of the respondents obtained primary as their maximum level and were aged 20-24 years. This could generally be due to school dropout, the low value attached to education, and the lack of funds to support the children at school.

Most of the Baganda (21%) attained primary as their maximum level. This could generally be due to the parents forcing their children into early marriage, the low value attached to education, and parents who need immediate dowry from their girls which force them into early marriage.

Most of the Catholics (17.7%) attained primary as their maximum level. This could generally be the engagement of the children into church and mosque activities like nuns and monks hence spending most of the time in churches or mosques which would be used to study and low sensitization.

The attitude of caretakers towards diarrhea among children below five at Masaka regional referral hospital.

This study showed that 48(77.4%) had a good attitude while 14(22.6%) had a poor attitude. This agrees with the results from the study conducted in Juba south Sudan about caretakers' attitudes on the prevention of diarrhea which showed that 65.5% of the caretakers had a good attitude while 34.6% had a poor attitude. However, the results of the study disagree with the results from the study conducted in Mogaditshane village, Botswana which showed that 43% of the respondents had a good attitude while 57% had a poor attitude.

The study showed that all the respondents had a good attitude towards hand washing after visiting the toilet and cleaning the child's buttocks

Table 7. showing the knowledge of respondents

Good knowledge	Poor knowledge
37(59.7%)	25(40.3%)

Table 8. Showing the knowledge of caretakers in different aspects

Category	Good knowledge		Poor knowledge	
Definition of diarrhea	24	38.7%	38	61.3%
Cause of diarrhea	46	74.2%	16	25.8%
What do you consider to take the child for treatment	37	59.7%	25	40.3%
How do you treat diarrhea at home	40	64.5%	22	22.5%
If you take your child to health facility, how is the child treated	39	62.9%	23	37.1%
How do you prevent diarrhea in your child	51	82.3%	11	17.7%
What do you need to make ORS	36	58.1%	26	41.9%
When do you give ORS to a child with diarrhea	28	45.2%	34	54.8%

Table 9. showing the health seeking habits of the respondents

Good health seeking habits	Poor health seeking habits
22(35.5%)	40(64.5%)

Table 10. shows the health-seeking habits of the caretakers in different categories

Variable	Frequency(n)	(%)
When do you seek health care for your child with diarrhea?		
Immediately (first episode)	8	12.9
3-6 episodes a day	4	6.5
>6 episodes	40	64.5
After one day	8	12.9
After 2 days	2	3.2
After 3days	0	00
Where do you usually take the child first for the health care before coming/ going to a health center/hospital?		
Clinic	32	51.6
Traditional healers	2	3.2
Pharmacy	4	6.5
Stay home and do home management	24	38.7
What type of professional health care do you get when you take your to the health facility?		
Medicines only	9	14.5
Fluids only	14	22.5
Both medicines and fluids	39	63.0

with 100% for both variables as respondents who supported both points as preventive measures of diarrhea.

This study also showed the good attitude of respondents towards exclusive breasting with 79.0% respondents. From this study, the attitude of respondents towards immunization was good as 91.9% of them affirm it, this slightly disagrees with the results from the study done by Mosweu 2018 which showed only 70.24% of respondents agreed that immunization is one way of preventing diarrhea.

The attitude of the caretakers towards the treatment of diarrhea with ORS was very good with 90% of supporters of whom 33.3% strongly agree that diarrhea can be treated with ORS which is in slight disagreement with the results from the study done by Amare and Mullu 2015 which shows that 44.2% respondents strongly agreed that ORS can be used in the treatment of diarrhea as it replaces the lost fluids and electrolytes.

Concerning a cause of the death among children below five years, the attitude of the respondents was good as 69.4% of respondents agreed that diarrhea can cause death, this is slightly disagreeing with results from the study conducted by Mosweu 2018 which revealed 97.62% as having agreed to diarrhea as a potential cause of death among children below five years

All these differences in attitude could be related to the differences in education levels, age of the respondents, and their geographical locations among others.

Knowledge of mothers and caretakers about diarrhea among children below five years

This study showed that 59.7% of the respondents had good knowledge while 40.3% had poor knowledge. This is in agreement with the study done at Tonle Sap lake Cambodia showed that 85.1% of the respondents had good knowledge while 14.9% had poor knowledge. However, results from this study were in disagreement with the study conducted among the refugee and host communities in the Gambella region of Ethiopia which showed that 2.2% of the respondents had good knowledge while 59.8% had poor knowledge.

The knowledge of caretakers about diarrhea among children below five years is very important in reducing the morbidity and mortality of these children. This study showed that the knowledge of the caretakers was poor as only 38.7% gave the right definition of diarrhea about WHO definition and this is in strong disagreement with the findings from a study done by Thiam et al 2017 where 92.5% of the respondents gave the right definition of diarrhea. However, findings from this study are in line with the results from the studies done by Mekonnen et.al 2018 which showed and 27.2% of respondents respectively as having good knowledge of the definition of diarrhea.

Oral rehydration solution (ORS) is an important solution during diarrhea, the knowledge about preparation and when to give it was assessed, and found that only 58.1% of respondents know the right volume for the mixing a Sacket of ORS and 45.2% of respondents say ORS should be given every after passing loose stool. This is in line with results from the study done by Workie et.al 2016 which show 62.4% of mothers as those who know the right volume for mixing a Sacket of ORS and 34.9% as those who said ORS should be given after passing every loose stool. This shows that most respondents know how to prepare ORS solutions while at home but don't know exactly when they should be given to a child with diarrhea.

Despite the majority of the respondents not knowing the right definition of diarrhea, their knowledge about the causes of diarrhea is good as they gave eating/ drinking contaminated water that is 74.2% respondents which is in line with the results from the study done by Agegnehu et.al 2019 which show that 70.1% respondents gave contaminated food as one cause of diarrhea, though slightly less than the 85.5% who also said drinking contaminated water was the cause of diarrhea as shown in the study done by Workie et.al 2016. Poor waste disposal/ improper toilet use, poor personal hygiene, and teething were the other causes supported by the respondents of the study with 46.7%, 30%, and 20% respectively.

This study shows that caretakers/mothers have good knowledge about Immunization and handwashing with soap and water after cleaning the child's buttocks and visiting the toilet and poor knowledge about the proper use of toilets and latrines as the preventive measures with 43.3%, 70% (more than a half of the respondents) and 26.6% respondents respectively affirming them. the results of knowledge about proper toilet/ latrines from this study is in disagreement with results from the study done by Agegnehu et.al 2019 which showed the most known preventative measure is proper

latrine use rather than hand washing as shown by 54.8% and 51.5% respondents affirming respectively. These deviations are associated with the respondents from my study giving more than one answer as preventive measures of diarrhea and their levels of awareness.

The study also showed that 60%respondents have good knowledge about lethargy and general weakness as dangerous signs of diarrhea of whom 20% identified lethargy and 40% general body weakness which can be attributed to the sensitization about diarrhea. This was slightly better than the results from the study done by Workie et.al 2016 which showed only 51.2% of respondents identified lethargy or weakness as the danger signs of diarrhea. This difference in the results is due to fact that different education levels and high sensitization.

Health seeking habits of caretakers with children below five years at Masaka regional referral hospital Masaka district.

This study showed that 22(35.5%) of the respondents had good health seeking habits while 40(64.5%) had poor health-seeking and this disagrees with the results got from a community-based cross-section study conducted on the prevalence of diarrheal illness and health-seeking behavior by age group and sex among the population of Gaza strip which showed that approximately 52% had good health seeking habits while 48% had poor health-seeking habits. This showed that caretakers don't have diarrhea as seriously. This could be due to differences in education levels and low sensitization among the caretakers.

This study showed that 32(51.6%) went to private clinics for treatment,24(38.7%) stayed home and did home management, 4(6.5%) went to the pharmacy and 2(3.2%) went to traditional healers. This disagrees with the results got from a study conducted in juba south Sudan which showed that 92.4% of caretakers preferred treatment for their children with diarrhea to be at public health facility and also disagrees with the study done in Tiko Cameroon sub-Sahara Africa which showed that of the respondents 55.2% sought no treatment for their children while 26.6% went to medical centers or pharmacies for treatment, 12.6% used home care to manage diarrhea and only 6.0% respondents sought and /or used traditional help. However, the results were in agreement with the study conducted on caretakers' practices on diarrheal diseases among the children under five years in Turkana county Kenya which showed that only 58.9% of the children with diarrhea were taken to the health facility for the treatment by the caretakers while the 41.1% of the children with diarrhea were not taken to hospital for treatment. This could be due to inadequate health facilities, sensitization, and expensive medical facilities.

This study showed that 39(63.0%) of the respondents received both medicines and fluids when they took their children with diarrhea at the health facility, 14(22.5%) got only fluids, and 9(14.5) got only medicines. This disagrees with the study done by Omole in samara, Kaduna state Nigeria that found out that despite the awareness of some recommended methods, certain inappropriate responses such as the use of the counter prescription drugs purchased from chemists such as patient medicine stores and pharmacies(28%) and the use of herbal remedies and concoctions(18.9%)

This study showed that the majority of the respondents sought health care for their children after 6 episodes of loose stool while only 8(12.9 %) went immediately(1st episode), 4(6.5%) after 3-6 episodes. This disagrees with the results got by Abuzerr et.al 2018 which showed that approximately 52.6% of respondents took their children in the first episode while 33.6% went in the second episode).this showed that the mothers/ respondents with children suffering from diarrhea don't take diarrhea to be a serious condition and that's why they don't seek health care as immediate as possible and this can be attributed to the low levels of awareness about diarrhea and maybe the distance between their homes and the health facilities

38.7% of the respondents from this study stayed home with their children who had diarrhea while the 3.2% took their children to traditional healers, 51.6% took their children with diarrhea to private clinics, and 6.5% to pharmacies for Rx before they could finally decide to come to the health center/ bigger unit but yet finally they all went to a health facility and this shows that these mothers/ caretakers get first aid for their children before they can finally go to bigger health facilities for further management. This disagrees with results from the various studies done by; Wanjiru 2018 whose study showed that only 58.9% of children were taken to the health facility for treatment (Rx) and the 41.1% stayed without treatment. and the study by Omole

et.al 2019 revealed that only 28% of the respondents went to pharmacies while for Weldesamuel et.al 2018 revealed that only 76.2% sought modern health care which he attributed to the education level of the caretakers. This difference might have been due to the differences in the type of respondents we use in these study for example this study used mothers/ caretakers of children with diarrhea who were already in the health facility which might have not been the same with other respondents from the other studies and also their levels of education.

This study has revealed that mothers/caretakers still believe in traditional care as 3.2% of respondents are shown to seek health information from the traditional attendants and this is in line with other studies like the ones done by Tambe et.al 2015 which show that 6.0% respondents sought and/or used traditional help and Omole et.al 2019 which showed that 18.9% of their respondents used herbal concoctions for treatment respectively. This probably is due to the availability of the traditional attendants and the strong cultural beliefs among the people of Masaka.

This showed that 23(37.1%)of the respondents breastfed their children with diarrhea 6-8 times, 15(24.2%) breastfed only 3 times, 17(27.4%) breastfed 4-5 times and 7(11.3%) breastfed above 8 times. This agrees with the study conducted in shire town, Tigray Ethiopia about modern health-seeking behaviors among children with diarrhea which showed that 63.3% of the respondents breastfeed less than 8 times

7 Conclusion

The prevalence of diarrhea among the children below five in the Masaka district has remained unknown yet they are also suffering diarrhea and are contributing to the 20% diarrheal disease prevalence in Uganda.

This study rated the caregiver's attitude about diarrhea in children below five years as being good despite the poor attitude from a few respondents about exclusive breastfeeding vaccination as a preventive measure, treatment of diarrhea with ORS, and diarrhea as a cause of death; the knowledge of respondents was generally below average (50%) though good knowledge was in handwashing with soap after visiting the toilet and cleaning the child's buttocks as a preventive measure, and eating/drinking contaminated food/water as a cause of diarrhea this could have been due to the little sensitization of the caretakers about diarrhea among children below fives. About the health-seeking habits, these were found to be relatively poor as the majority sought health care for their children after 6 episodes of diarrhea and went to health centers/hospitals and which could be associated with low education levels, the presence of traditional health attendants, and lack of awareness. Knowing that Mothers/ caretakers of children below five years are very important figures that can help us bring the prevalence of diarrhea among children below 5years to 00% in our country Uganda which can only be achieved if their attitude, knowledge practices, and health-seeking habits are improved and kept at a very high level.

In virtue of work, considering as a solution to address the issue related to the factors associated with diarrheal diseases among children under five years. The diarrheal diseases were still public health issue in Uganda.

Consequently, to address the root causes of diarrhea a problem there is a need to understand the environmental and behavioral issues that result in diarrheal diseases. From that perspective, diarrhea indeed has a multifactorial cause, and addressing one cause is at risk of registering a little gain.

Recommendation

According to the results from this study, there's a need for more studies to be conducted to establish the practices of these caretakers with children below five years in the Masaka district so that a clear relationship between this prevalence in children and these factors is established for proper preventive measures to be established.

The government together with the ministry of health should work hand in hand to ensure that the caretakers of children below five years are well sensitized about diarrhea that is what diarrhea is, its causes, the preventive measures, and curative measures since caretakers are the first doctors for their children and this will help them know what is expected of them and how to keep their children health This finding emphasizes the need for continued strengthening of interventions on factors associated with diarrhea. Based on the result the following are recommended during the child's visit to health institutions during checkups, management, and follow-up.

Awareness creation should be promoted through the strengthened health education on risk factors like promoting good sanitation and avoiding the use of dirty materials to collect water to cab infections.

Similarly, it would be better if concerned stack holders work on increasing the knowledge of women and caretakers about diarrhea and its consequence as well as preventive methods which might be a stepping stone to reducing the prevalence of diarrhea among children under the age of five years.

Furthermore, research can be done on risk factors of diarrhea which include micronutrient deficiencies and minerals as well as laboratory studies, which should be conducted to identify the root cause of the underlying problems in the health care provider to alleviate the existing problem.

8 Acknowledgement:

I humbly extend my gratitude to my sponsor Peter, my parents, and my brother Galiwango Moses for the love, inspiration, moral & financial support accorded to me.

Am grateful to my supervisor Mr. KASUJJA HENRY for his time as well as endless support and guidance throughout this research report.

Above all, I acknowledge the almighty GOD for the protection and provision of wisdom to me during the times of writing this research report.

Abbreviations and Acronyms:

CDDS: Control of diarrheal diseases
DPT3: Diphtheria, pertussis, tetanus 3
IMR: Infant mortality rates
ORS: Oral rehydration solution
PNG: Papua islands guinea
PCGS: Primary caregivers
U5MR: Under-five mortality rate
UDHS :
Uganda demographic health survey
WHO: World Health Organization

Operational Definitions

Control of diarrheal diseases: This is to reduce the occurrence of diarrhoea.

Diarrhea: This is the condition where individuals experience defecation as much as three or more times per day with a soft consistency.

Diphtheria pertussis tetanus 3: This is the third vaccine dose given to children to prevent the occurrence of diphtheria, pertussis, and tetanus.

Infant mortality rate: Death below one year
Papua new guinea: Is a place in Europe.

Primary caregivers: These are mothers, fathers, relatives, or care providers who are in contact with under-five children and look after them.

Under-five mortality rate: Is the death below five years.

Knowledge: The facts or experiences known by a person or group of people or stateknowing or specific information about the subject.

Prevalence: Is several cases of a disease in an area.

Risk factors: Things that predispose a person to a disease

A Publisher details:

Publisher: Student's Journal of Health Research (SJHR)
(ISSN 2709-9997) Online
Category: Non-Governmental & Non-profit Organization
Email: studentsjournal2020@gmail.com
WhatsApp: +256775434261
Location: Wisdom Centre, P.O.BOX. 148, Uganda, East Africa.

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