



Knowledge, Attitude and Practices of Parents on the Prevention of Diarrhoea in Children Aged 0-5years in Likomba, Southwest Region, Cameroon

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Abstract

Background: Diarrhoea disease is preventable, and is one of the leading causes of morbidity and mortality in both developing and underdeveloped countries, especially in children below 5 years of age. Studies have revealed that the spread and severity of diarrhoea disease is as a result of lack of knowledge, poor attitudes and practice of preventive measures in remote communities like Likomba community in the Southwest region of Cameroon. Thus, the aim of this study was to assess the knowledge, attitude and practices of the parents of Likomba community of the Southwest region of Cameroon on the prevention of diarrhoea in children aged 0-5 years.

Methods: This was a community based cross-sectional study carried between February and March 2023. Data was collected with a semi-structured questionnaire from consenting participants who had children between the ages of 0-5 years old while authorization was obtained from the regional delegation of public health of the Southwest region of Cameroon. The data collected was analysed using SPSS version 23.0 and presented on tables and figures. Statistical confidence was set at 95%.

Results: Out of the 162 participants, majority of participants (70.1%) properly defined diarrhoea; with 75.3% of participants rendering correct responses to possible causes of diarrhoea. In the event of the disease, only 12% of participants said they would immediately rush their child to the hospital and 16% gave an oral rehydration solution while the rest had diverse unconventional approaches. A good number of participants (61.1%) did not pay attention to whether their children washed their hands or not before meals or after using the toilet, while over 40% of the participants didn't have a toilet in their homes.

Conclusion: Participants had good knowledge with regard to diarrhoea and diarrhoea prevention measures; however, their attitudes and practices were inappropriate with respect to diarrhoea prevention.

Keywords: Knowledge, attitude, practice, prevention, diarrhoea, Likomba-Cameroon.

Introduction

Diarrhoea, which is preventable condition, is one of the leading causes of morbidity and mortality in both developing and underdeveloped countries, especially in children below 5 years of age. Each year, an estimated 2.5 billion children under five are affected worldwide, more than 50% of which reside in Africa and Southern Asia[1, 2]. Diarrhoea is the second leading cause of death among children under five worldwide, as it accounts for 1.3 million deaths annually with nearly 1.6 million in developing countries [3]; this is equivalent to 42,000 children dying every week, 6,000 everyday, 4 every minute and 1 every 14 seconds[3, 4]. In Sub-Saharan Africa, 1.5 million children die each year due to diarrhoea[5]. In Uganda, the prevalence of diarrhoea was 20% in children under 5 years[6]. Of all infectious diseases, diarrhoea ranks as the third leading cause of both mortality and morbidity after respiratory infections and HIV/AIDS; ranking above both tuberculosis and malaria[7].

Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial and parasitic organisms and is characterised by three or more loose or liquid stools per day due to an abnormal increase in daily stool fluidity, frequency and volume [8]. Children in low income countries are the most vulnerable to diarrhoea infections, since it is closely associated with environmental and socioeconomic conditions [9]. Children below 5 years, generally, experience an average of 3 episodes of diarrhoea every year; with each episode depriving the child of nutrition necessary for growth, thus, diarrhoea remains the major cause of malnutrition and dehydration [10]. According to the WHO and UNICEF in 2017, the global percentage of deaths among children below 5 years accounts for up to 8%; where 525,000 children die yearly, and 1,400 children die each day from diarrhoea despite its preventive and treatable measures [11, 12], and in Ethiopia, it accounts for 12%[13].

Diarrhoea disease is associated with poor environmental conditions, and Ethiopia is one of the countries in which open defecation is still practiced, and they lack functional hand washing facilities, thus the infection is highly spread amongst children [13]. In South Africa, the prevalence accounts for about 20% with morbidity and mortality rate, with the peak in children between 6-24 months [14]. A study carried out in the Southwest region of Cameroon reported a prevalence of 23.8%, which indicated that the knowledge of parents on the prevention of diarrhoea was low [16], making routine surveillance very important as demonstrated by Amabo et al. [17] in the Minawao refugee camp, Cameroon.

Generally, many studies have identified some risk factors of diarrhoea in children of 0-5 years of age which include; unsafe drinking water, poor hygiene practice and unimproved sanitation facilities^[18, 19, 20]. It has been recommended that an improved water source and environmental hygiene will improve the quality of life in children [21].

Despite the seriousness of diarrhoea, up to 66.7% of all cases in children can be avoided by providing readily available and inexpensive hygiene improvements and access to clean water and sanitation, but unfortunately, young lives continue to be lost to this preventable disease [22]. It is important to note that, failure to adhere to proper preventive practices leads to tremendous consequences for both households and health facilities. When diarrhoea becomes persistent in the community, it threatens children's quality of life and strains the capacity of the economy and families in terms of incurred cost in health sector and medical bills. However, reduction can be achieved by following preventives measures; therefore, the aim of this study was to access the knowledge, attitude, and practices of parents on the prevention of diarrhoea in children aged 0-5 years in Likomba, Tiko Southwest region of Cameroon.

Materials and Methods

Study design, research setting and participants

This study was conducted from March to April, 2023 in the Likomba community, Tiko; in the Southwest Region of Cameroon. Likomba is situated along the Bimbia River at the Gulf of Guinea, 12 miles (19 km) east of Limbe (formally known as Victoria).

A community based cross-sectional study was designed for the collection of data. A convenient sampling technique was used to collect the data. Was included all parents and guardians who were mentally stable, having no physical impairment of sight or speech or hearing, and who consented to take part in this study; and had children 0 to 5 years of age. Parents who did not sign the consent form and had any of the above-mentioned impairments were excluded from this study.

The sample size was determined using the Fisher's formula with a confidence level of 1.96, precision of a 5%, and prevalence of 18% [16] and we obtained an estimated sample size of 162 participants.

Validity and Reliability of the research questionnaires

After a deep literature review and assessment through an expert panel made up of the author and co-authors, the content of the questionnaire was validated and accepted to be used in this study. Secondly, a pre-test was carried out using a construct validity test by comparing the results of filling in the self-administered questionnaires with the results of the interviews and the results were validated by the expert panel.

Data Collection

After administrative authorizations and consents obtained, a face to face interview was employed by using a well-structured questionnaire that assessed the socio-demographic status, knowledge, attitude and practices of parents/guardians regarding prevention of diarrhoea in children aged 0-5 years. The questionnaires were prepared in English language and were explained to respondents in any language they best understood; in this case, English and pidgin.

Data management and analysis

After collecting the data, they were checked for accuracy, then coded and entered into a MS Excel 2016 spread sheet. The data were analyzed using the Statistical Package of Social Sciences version 23 (SPSS Inc., Chicago, IL, USA). Descriptive analysis was used to describe participant's knowledge, attitude and practice on the prevention of diarrhea in children aged 0 to 5 years in the Likomba community, Tiko. Results were presented on tables and figures, while data analysis was done at a 95% confidence.

Ethical Consideration

Authorization Ref No; 626/658/MINSATE/SWR/RDPH/PS to conduct the study was obtained from the Regional Delegation of Public Health, Southwest Region. In addition, permission was obtained from the Chief of Likomba community before the house to house interviews were performed. Consent was obtained from the parents, and they were made to understand that their participation was voluntary. All information collected was kept confidential through physical and electronic barriers. The fundamental principles of medical research according to Helsinki's Declaration were strictly respected.

Results

Most of the participants were female (81.5%), with 45% of the participants within the ages of 21 and 30 years. A good number of the participants (49.3%) had a monthly income of at most FCFA 30,000. Most participants (60%) had just a single kid.

Figure 1 above depicts the knowledge of participants with regards to proper definition of diarrhoea, and indicates that many participants (70%) defined diarrhoea properly.

Many participants (75.3%) were aware of the most common causes of diarrhoea in children; which is the ingestion of contaminated materials, for example food and water.

Most participants, 100 out of 162, agreed that early weaning of a baby can expose the child to diarrhoea. Also, all participants agreed that hand washing was a preventive measure to protect one from contracting diarrhoea (Table 2).

Most participants didn't follow diarrhoea management procedures, as prescribed by the WHO, since over 70% neither administered an ORS nor rushed the child to the hospital immediately.

Most participants did not give considerable attention (61.1%) to the hand washing of their children before meals or after using the toilets.

Over 40% of the participants admitted they hadn't toilets in their homes. And up to 14.8% getting their drinking water from streams and springs.

The community water, the SNEC and the underground water were their main sources of both drinking and cooking water; and participants said they preferred the community water because it is sometimes treated,

whereas, the SNEC which is directly connected via Ndongo River, was always dirty. Participants admitted that open defecation was practiced in the river (figure 6) and further complained that the SNEC water was greatly influenced by on the state of the river; when it rained, the river is dirty, thereby making the water flowing from the SNEC tap to be dirty. Also, they complained that at times the water flows with maggots inside, and had a bad smell. Nevertheless, they still used the SNEC water because the community tap, which is the preferred, didn't flow all the time and was always crowded.

Variable	Items	Frequency	Percentage
Sex	Male	30	18.5%
	Female	132	81.5%
Age	≤ 20	29	18%
	21 – 30	75	46%
	31 – 40	48	29.6%
	41 – 50	9	5.6%
	51 – 60	1	0.6%
Level of Education	Primary	40	24.7%
	Secondary	86	53.1%
	Tertiary	36	22.2%
Marital status	Single	61	37.6%
	Married	101	62.3%
Income	≤ 10.000	59	36.4%
	10.001 – 30.000	21	12.9%
	30.001 – 50.000	39	24.1%
	≥ 50.001	43	26.5%
Number of Children	1	59	36.4%
	2	30	18.5%
	3	38	23.5%
	≥ 4	35	21.6%

Table 1: Demographic Data.

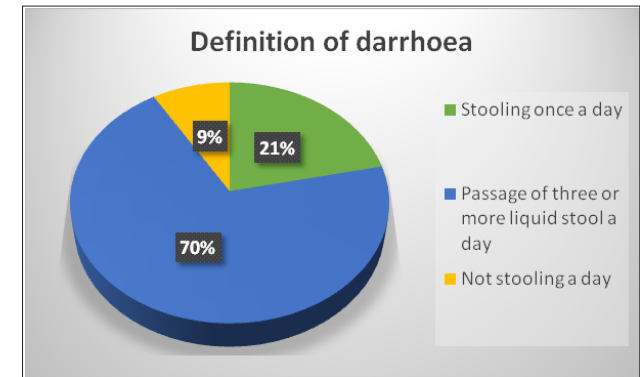


Figure 1: participants responses based on the definition of diarrhoea.

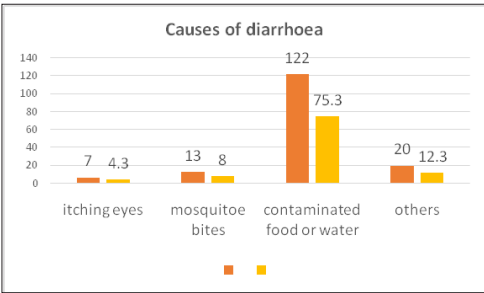


Figure 2: Causes of diarrhoea.

Question	Variable	Frequency	Percentage (%)
Diarrhoea can be prevented	True	132	81
	False	30	19
Diarrhoea can be treated	True	138	85
	False	24	15
Proper hygiene does not prevent us from contracting diarrhoea	True	93	57
	False	69	43
Exclusive breast feeding reduces our child's chances of having diarrhoea	True	80	49
	False	82	51
Early weaning exposes the child to diarrhoea	True	100	62
	False	62	38
Diarrheal can be prevented by washing hands regularly	True	162	100
	False	0	0

Table 2: Knowledge on Diarrhoea.

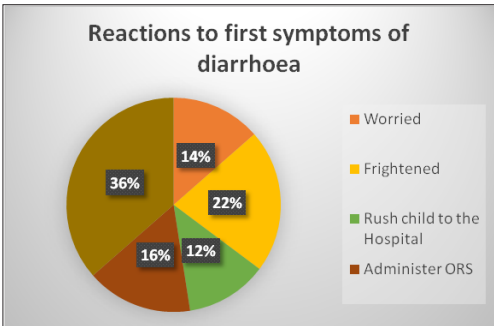


Figure 3: Participant's reactions at home when their child first presents with any symptoms of diarrhoea.

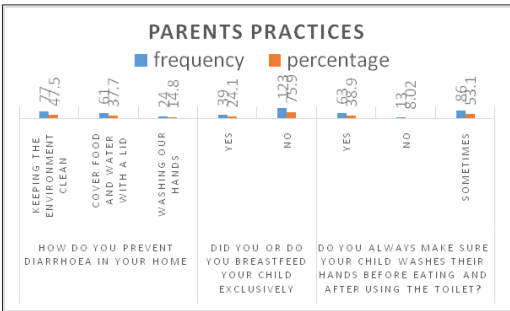


Figure 4: Practices of parents on the prevention of diarrhoea.

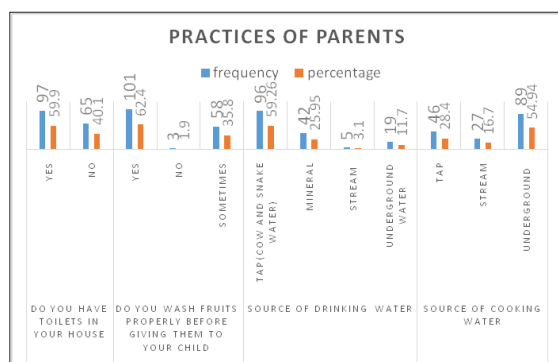


Figure 5: Practices of parents on diarrhoea prevention.



Figure 6: An image of open defecation (Snapped with phone camera by the field researchers, iPhone 8).

Discussions

This study was aimed at assessing parent's knowledge, attitude, and practices on the prevention of diarrhoea amongst children of age 0 to 5 years in Likomba community Tiko, Cameroon. The results revealed that 93.83% (152) were aware of the existence of diarrhoea. Majority of parents, 51.2% (83) said the hospital was their source of information, 12.3% (20) said they got informed by family, 19.7% (22) said they got informed by friends while 16.6% (27) were informed through the media. This is in contrast with the study of Shioda *et al.*[23] in Kenya, where respondents said the health centre was their only source of information. Most participants 70% (113) defined diarrhoea correctly as being "The passage of three or more watery stools a day", thus, they were in line with the definition of Jesse, *et al.*[24]. With regard to the causes of diarrhoea, 75.3% (122) said diarrhoea is caused by contaminated food and water, which corresponds to causes of diarrhoea outlined by Mosisa, *et al.*[25]. About 70% of the participants had good knowledge of diarrhoea prevention and could properly define diarrhoea, 62.3% gave the main symptom of diarrhoea and 75.53% gave appropriate causes of the diarrhoea, thus, similar to a study carried out in Nigeria by Ogunbiyi, *et al.*[26].

Furthermore, regarding parent's behaviours when their child first presents with any symptoms of diarrhoea, 12% (20) said they will rush the child to the hospital, 14% (22) turn to be worried, 22% (35) were simply frightened and did nothing, 16% (26) said they administer oral rehydration solution (ORS), while a greater portion 36% (59) of the study participants had other alternative traditional methods which most were not medically advised and healthy enough. When diarrhoea persists for 03 days, 64% (103) rushed their child to the hospital, 16%

(26) administered ORS while 20% (33) had other responses. From the above results, parents had relatively negative attitude towards diarrhoea prevention because a greater proportion of them will only rush their child to the hospital when diarrhoea persists for many days, this agrees to a study carried out in civil hospital by Qamar, *et al.*[27] in Karachi, Pakistan.

This study, also revealed that about 53.09% of the study population sometimes taught their children hand washing, 24.1% of participants practice exclusive breastfeeding during diarrhoea disease. Almost half of the participants (40.12%) didn't have toilets whereby some of them openly defecated in the river (as seen in figure 6) and others defecated in buckets and used the river as a point for disposing the faeces, this is a very poor practice which agrees with a study reported by Shyam, *et al.*[28] whereby the people of this area still practiced open defecation which agrees with a study reported by Yilikal *et al.*[29] More than half (59.26%) of the participants got water from the tap (COW and SNEC) for drinking, while for cooking the highest number of participants (54.94%) used underground water which is similar to work done by Wasiq, *et al.* [30].

In a nutshell, the practices of participants were poor as they still practice open defecation, and don't have good sources of drinking or cooking water. These factors predispose their children to diarrhoea, this report is in line with a study carried out by Workie *et al.*[31] in Direedawa, Eastern Ethiopia.

Conclusion

The study shows that the parents of Likomba, Tiko with children aged 0-5 years generally have good knowledge on diarrhoea prevention, but their attitudes and practices towards diarrhoea prevention were unsatisfactory.

Recommendation

There should be collaboration between the Regional Delegation of Public Health and the community health providers in order to set up health educational programs to improve sensitization on diarrhoea prevention, as well as for the building of toilets for each household.

Health education, dissemination of information and community conversation should be implemented to create a positive attitude, and practice towards diarrhoea prevention in children of 0-5 years, and this can also limit cholera outbreak.

Declarations

None.

Ethical consideration

Authorization Ref No; 626/658/MINSATE/SWR/RDPH/PS to conduct the study was obtained from the Regional Delegation of Public Health, Southwest Region. In addition, permission was obtained from the Quarter Heads of Likomba community before the house to house interviews were performed. Consent was obtained from the parents, and they were made to understand that their participation was voluntary. All information collected was kept confidential through physical and electronic barriers. The fundamental principles of medical research according to Helsinki's Declaration were strictly respected.

Consent for Publication

All authors consented and accepted for this article to be submitted for publication.

Availability of Data and Materials

Most data generated or analysed during this study are included in this article. Also, all findings that support the result of this study is included.

Conflict of Interest

The authors certify there is no conflict of interest.

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Author's Contributions

G.L.N: Study conception, design, data collection, analysis, results interpretation and writing. S.N: Study conception, design, writing and editing. T.E.A: results interpretation, writing, and editing. R.A.M: Results interpretation, writing and editing. C.J.N: data collection, writing and editing. M.P.S.F: results interpretation, writing, and editing. H.M.F: study design, data analysis and editing B.K.M: study design, writing, data analysis and editing. All Authors fully reviewed the manuscript.

Abbreviations

- W.H.O: World Health Organization
- SNEC: Societe National des Eaux du Cameroun
- COW: Community Water
- E.D.H.S: Ethiopian Demographic Health Survey

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