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Original Research Article

Management of diarrheal diseases among children under five years: a case study of mothers at Kakamega county, Kenya

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ABSTRACT

Background: Despite much effort and successes in the management of diarrhoea, the disease has remained among the top five causes of mortality and morbidity in Kenya, particularly among infants and children below five years. Advent of HIV/AIDS and the harsh economic situation is Kenya has led to increase in diarrhoea diseases. This study was conducted to determine the mother's knowledge, attitude and practice in the management of diarrheal diseases among children under five years of age.
Methods: This was a cross-sectional study conducted at Lurambi sub-County, Kakamega County. Systematic sampling technique was used to determine the study population. The research instruments were; observational checklists, an in-depth interview schedule, self-administered semi-structured questionnaires and focused group discussions. Quantitative data analysis was conducted using SPSS and involved univariate and bivariate analysis. Qualitative data was analyzed by thematic content analysis.
Results: Overall, 88% mothers each with at least one child under five years took part in the study. 84% of the respondents had knowledge of the causes of diarrhoea; however only 31% knew methods of diarrhoea prevention. 41% of the respondents managed diarrhoea cases with non-recommended home remedies such as salt and sugar solutions. The study also established that 37% of the health workers were not trained on diarrhoea management despite them being directly involved in the case management.
Conclusions: Overall, the research identified a gap between knowledge and practice. There is need for improving home based case management and implementing a community strategy for diarrhoea management.

Keywords: Knowledge, Attitude, Practice, Diarrhoea

INTRODUCTION

Diarrhoea is one of important causes of mortality and morbidity globally. World Health Organization (WHO) estimates that, 1.87 million people who die every year due to diarrhea diseases (including cholera). 90% are children under 5 years and most of these deaths are in developing countries.[1] Every year 1.5 million babies are born in Kenya, 30,000 do not survive the first month and a further 120,000 die before their fifth birthday. That is

one child death every three and a half minutes, every day of the week, all year long.[2]

In Kenya diarrhea, malaria, acute respiratory infectious especially pneumonia, malnutrition and anemia are the main causes of mortality in children under five years according to Division of Child and Adolescent Health.[2] According to Division of Child and Adolescent Health, only 55% of mothers/caregivers were correctly assessed and classified appropriately while 9.7% of the caregivers were advised on home management of diarrhoea translating to poor case management

The national survey by the Ministry of Public Health and Sanitation revealed that diarrhea is the fourth most common illness seen in health facilities in Kenya and accounts for one in five of all hospital admissions. It is the overall fourth most common cause of death among children under five years of age in Kenya with a case fatality of up to 21%.[3]

Unsafe water supply, inadequate sanitation and hygiene cause 88% of diarrheal diseases. improved water supply reduces diarrhea morbidity by between 6%-25%, hygiene interventions including hygiene education and promotion of hand washing can reduce diarrhea cases by up to 45% and Improvement in drinking water quality through water treatment e.g. chlorination at point of use can reduce diarrhea by 35-39%.[4]

In Lurambi sub-County, Shieywe Ward, Kakamega County, diarrhea is one of the leading causes of mortality and morbidity in children below five years.[5] This study targeted to establish what mothers/caretakers know and their attitudes and practices. It also targeted to establish what type of messages the mothers/respondents received from health workers and how they were delivered to them. The study specifically sought to assess the mother's knowledge on causes, management and prevention of diarrhoea among children under five years. It also sought to determine the mother's attitude on feeding a child with diarrhoea and their practice on management of diarrhoea.

Timely home based care management by parents and other care takers of children under 5 years can reduce morbidity and mortality associated with diarrhea. The results of the study intended to inform policy and planning activities in the county in order to reduce high morbidity rates experienced due to diarrheal diseases.

METHODS

A cross sectional study design using quantitative and qualitative methods of data collection was conducted at Lurambi sub-county, Shieywe ward, Kakamega county. This study was conducted from November 2013 to January 2015. The study utilized multistage sampling techniques where Lurambi sub-County was purposively selected due to the many diarrhoea cases reported at the county hospital from this locality. Proportionate sampling was then used to sample Shieywe ward as it had majority of the study population. The researcher then used systematic random sampling to get the representative study sample where each Nth household with at least one child under five years was included in the study. The study participants were 366 mothers each with at-least one child under five years of age.

Quantitative data was collected using semi structured questionnaires, observational checklists and an in-depth interview schedule. Qualitative data was collected using purposively selected focused group discussions (FGDs). The researcher conducted a total of 2 FGDs each with a minimum of 6 and a maximum of 10 participants. Quantitative data analysis was conducted using Statistical analysis for quantitative data was performed using IBM Statistical Package for Social Sciences (SPSS) and involved univariate and bivariate analysis while Qualitative data was analyzed by thematic content analysis.

RESULTS

Characteristics of the participants

A total of 366 mothers with children under the age of five took part in the study. Majority 88% had at least one child under five years. Most of the study participants were housewives with most having at least a primary school education (Table 1).

Living conditions of the participants

Majority of the homesteads (61%) were generally clean and nearly all the homesteads (95%) had latrines. However, only 23% of the latrines had a hand washing facility nearby (Table 2). 50% of the homesteads had a composite pit while the other half did not have.

Age group most affected by diarrhoea

Figure 1 below show the age group most affected by diarrhoea. 70% of the respondents reported that children below the age of 5 years were the most affected by diarrhea.

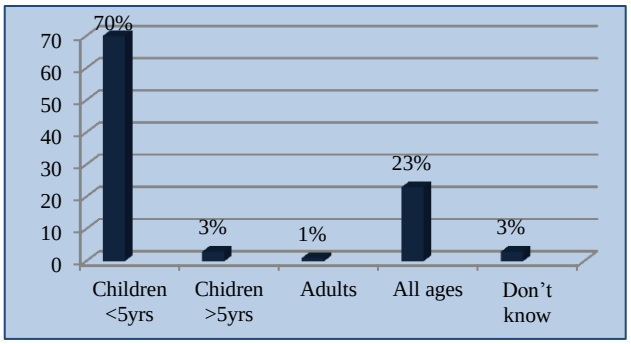

Figure 1: Age most affected by diarrhea.

Knowledge on diarrhoea

Despite majority (45%) of the respondents reporting diarrheal cases occur during all seasons, only 31% were knowledgeable on prevention of diarrhoea. The main source of knowledge on diarrhoea management was other mothers (58%); health workers accounted for only 42%. Noteworthy is that majority of the respondents felt handwashing, disposal of stools, improved weaning and exclusive breastfeeding could not prevent diarrhoea (Figure 2).

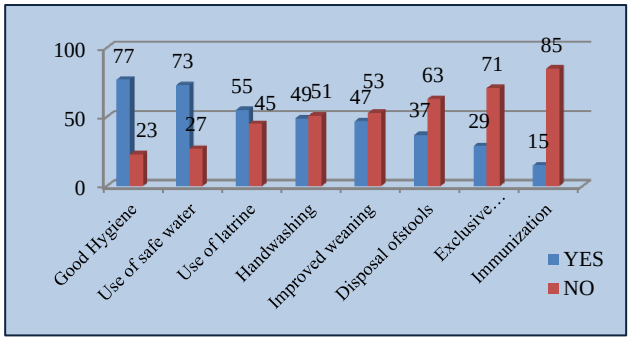

Figure 2: Method of preventing diarrhea.

Practices during the management of diarrhoea

Majority of the respondents 79% took their children to the health facility when they had diarrhoea followed by 17% who treated at home using home remedies. Majority (64%) of those mothers who took their children to the hospital used oral rehydration solution (ORS). 59.1% of those who used ORS given at the hospital however did not correctly prepare it. During diarrhoea, majority (87%) continued breastfeeding as a way of managing the diarrhoea (Table 3).

Health workers contribution to diarrhoea management

More than half of the sampled health workers 58% (14) were nurses. Majority of them 87% were involved directly in the management of diarrhoea in children under five years through health education. 54% of the health workers gave routine health education, 21% gave health education to individual patients while 13% gave in organized groups, 12% however did not give any education (Figure 3). Majority of the health care providers reported the need for continuous training on emerging issues in diarrhoea management.

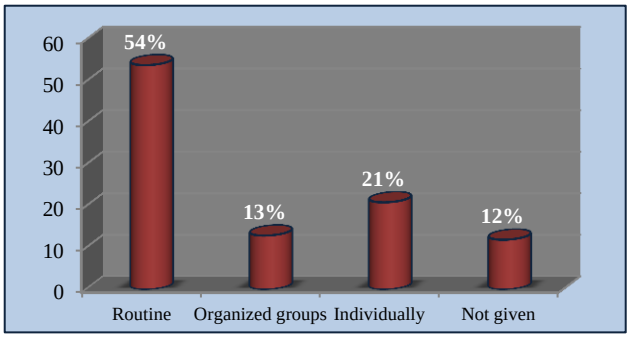

Figure 3: Health education on diarrhea.

Table 1: Socio-demographic characteristics.

Variable		Frequency (n=366)	Percentage (%)
Children under care	1–3 children	229	63
	4–6 children	108	29
	More than 7 children	29	8
Children under 5 years	1 and 2	324	88
	More than three	42	12
Relation to children	Mother	323	88
	Caregiver	43	12
Education level	None	22	6
	Uncompleted primary	69	19
	Primary	142	39
	Secondary	103	28
	College/university	30	8
Marital status	Single	40	11
	Married	267	73
	Divorced/separated	24	7
	Widowed	34	9
Religion	christian	326	89
	Muslim	38	10
	Others	2	1
Occupation	Employed	39	11
	Peasant farmer	68	19
	Self employed	75	20
	Housewife	176	48
	Unemployed/student	8	2

Table 2: Latrine facilities.

Variable		Number	Percentage (%)
Presence of latrine	Yes	350	95
	No	18	5
Type of latrine	VIP	120	34
	Temporary local	226	65
	Flashing toilet	4	1
Cleanliness of latrine	Clean	208	59
	Not clean	142	41
Presence of hand washing facility near latrine	Yes	79	23
	No	271	77

Table 3: Practice during management of diarrhea.

Variable		Number	Percentage (%)
Action taken when child gets diarrhoea.	Treat at home using home remedies	64	18
	Take to a traditional healer	11	3
	Take to a health facility	289	79
Whether used ORS	Yes	235	64
	No	131	36
Assessment of preparation of ORS	Correctly prepared	96	41
	Not correctly prepared	139	59

DISCUSSION

This study found out that the low level of education among mothers is a leading factor to an increase in diarrhea incidences as little effort is put on preventive interventions. There is need to increase literacy among mothers in order to improve basic sanitation and health care services.[6] The study revealed that diarrhea cases in occurred in all seasons. In Kenya rotavirus diarrhea is spread throughout the year.[7]

Most of the households had no hand washing facilities near the toilet. This means more cases of diarrhea or increase in incidences of diarrhea which compares well with a study done in Kajiado Kenya that revealed high diarrhea prevalence for those with dirty latrines and those who did not wash hand with soap and water after visiting latrines.[8]

The study found out that mothers used weaning foods which are not balanced and frequency of giving was low and some withheld breastfeeding during illness. The poor weaning practices leads to increase in diarrhea and malnutrition may set in. This is supported by a study by Checkley 2008 which found out that the higher cumulative burden of diarrhea the higher the risk of nutritional stunting.[9]

The study further revealed preventive interventions were poorly carried out due to low level education. Increasing literacy levels of the girl child influences the health of their children and family.[10]

CONCLUSION

The study concludes that diarrhoea is a major problem among children under the age of five years in Lurambi sub-county, Shieywe ward, Kakamega County. The mothers' lack of knowledge on diarrhoea prevention, low levels of education and poor socio-economic status were the major factors found to contribute towards diarrhea among children under five years. The study also concludes that the health workers are inadequately prepared to give health education to the mothers as there is an acute shortage of health workers who are inappropriately trained on diarrhoea case management. Their workload at the facilities also makes it difficult to disseminate health education on diarrhoea wholly.

There is need therefore to improve clinic based case management of diarrhoea through training and orientation; improve home based case management by empowering the mothers to give early and correct treatment at home; scale-up of information, education and communication (IEC) strategy up to the primary health care level to address issues of diarrhoea.

To achieve holistic collaborative approach, the County Government should implement the Community strategy on diarrhoea management and control at the community level.

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