

Knowledge, Attitudes and Perception of Caretakers towards Control and Preventive Practices of Malnutrition and Diarrhoeal Diseases in Under-Five Children in Pemba Districts of Zambia

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Abstract

Malnutrition and Diarrhoeal diseases pose a significant threat to the health, well-being, and survival of under-five year old children in resource constrained world. It is estimated that (25%) out of the total mortality of under-five year old children die worldwide as a result of diarrhoea (UNICEF, 2012) and more than half of these deaths in developing world particularly in Zambia has an underlying association with malnutrition (UNICEF, 2015). The objective of this study was to assess the levels of Knowledge, Attitudes, and Perceptions towards malnutrition and diarrhoeal diseases preventive and control practices among caretakers of under-five children of Pemba District. This study used a Cross section study design. The study population was adult care-takers of children aged between 4 months to 5 years. The sample size comprised of 210 caretakers. Health Centers in Pemba District were selected conveniently; 210 households were selected using a simple random sampling technique, and respondents from each sampled household were picked purposively. Data collection was conducted using a semi-structured interview questionnaire. Data was analyzed using SPSS version 24, and X2 test and Correlations were used and conclusion done at 0.05 significance level. The study revealed that majority (76.6%) of caretakers demonstrated low levels of knowledge, with 51% demonstrating poor attitudes towards control of malnutrition and diarrhoeal diseases, and some (57.1%) demonstrated fair practices, among the HBM variables, Perceived benefits towards diarrhoeal disease prevention showed a moderate correlation (Pearson's) of 0.30 at 0.01 level (2-tailed). The poor result identified in this study reveals the reasons for the current diseases burden especially malnutrition and diarrhoeal disease trends in the district. Perceived benefits, therefore, was established to be moderately correlated and should be used to design any intervention measures aimed at correcting the situation.

Keywords: Knowledge, Attitudes, Perceptions, Practices, Diarrhoea, Malnutrition and Caretakers.

Introduction

Children under the age of five constitute a large number of vulnerable and special risk groups that entirely depend on their parents and caretakers to look after and provide them with the necessary basic requirements that contribute to maintaining their health status. Children below the age of five years have to cope with the killer triad of diarrheal diseases, respiratory tract infections and malnutrition, resulting in high under-five morbidity and mortality (Ramani et al, 2010).

The association between malnutrition and diarrheal mortality is cyclical in nature and has

been reported for decades (Guerrant et al, 2012). Diarrheal illnesses affect weight as well as height gains, with the most dramatic effects observed in cases of recurrent illnesses and consequently, malnutrition leads to reduced human performance and inadequate physical growth and cognitive development. (Masibo and Makoka, 2012).

Following the Government of Zambia's vision of bringing the health care as close to the individual families as possible (MoH, 2016), under-five children should demonstrate good health status. But it is observed that between 2013 and 2015, Pemba, one of the Zambian

districts experienced the magnitude increase in diarrhoeal and malnutrition diseases that stood at approximately 3% and 1% (from 21.5 to 24 % and 3.7 to 4.7 %) respectively (Pemba DHO, 2015).

The investigator understands that studies such as this, determines levels of behaviour change that would support and sustain principles that promote good practices towards better nutrition and prevent diarrhoeal diseases.

Therefore, this study seeks to assess the Community's levels of knowledge, attitudes, and perceptions towards preventive practices for the two common conditions of malnutrition and diarrhoea.

Material and methods

The study was conducted in Pemba Districts of the southern province of Zambia, which is located at about 250 Km from Lusaka, the capital city of Zambia. A mainly rural set up and its population lives on subsistence farming. This study used a Cross section study design with mixed method approach involving both qualitative and quantitative complementary methodological approaches.

The study population was adult care-takers who met the selection criteria and have young children aged between 4 months to 5 years and had been residing in Pemba district for over six months. The sample size of 210 caretakers was arrived at using the formula $(p_1q_1 + p_2q_2) / (p_1 - p_2)^2$ {assuming a confidence level of 95%. $n = (1.28 + 1.96)^2 \{ (0.4 \times 0.6) + (0.2 \times 0.8) \} / (0.4 - 0.2)^2 = 105$; $N_c = N * deff$. $N_c = 105 \times 2 = 210$ }.

Health centers in the district were selected conveniently; 210 households from the respective catchment areas under the district were selected using a simple random probability sampling technique. Care takers of under-five children from each sampled household were picked purposively.

Data collection was conducted using a semi-structured interview questionnaire for caretakers of under-five year old. The study used a Health Belief Model to understand the clients' beliefs. Data was collected through a questionnaire and Focus Group Discussion (FGD). A pilot study was conducted in a neighbouring district and the researcher sought ethical approval and clearances from the ERES Converge Research Ethics Committee. Approval was also sought

from the National Health Research Authority, the Provincial Health Office, and Pemba District Health Offices. The study respondents (Caretakers) were recruited on voluntary basis and the purpose of the study explained to them. Respondents' confidentiality was assured and maintained.

Data were analysed using a software package for social sciences Version 22.0 (SPSS-V22.0). Chi-square for test of association, Analysis of variance and the correlation coefficient (Pearson's) test was used to test the HBM variables in relation to prevention practices of caretakers.

The conclusions were made basing on the P value of > 0.05 . Qualitative data analysis was done using the process of content analysis.

Results

Demographic factors of caretakers of the under-five children

Table 1 shows that the mean age of the caretakers of the under- five children was 32.3 ± 9.0 with majority of them being females 194 (92.4%). Most of these 100 (47.6%) caretakers belonged to seventh day Adventist religious grouping. More than three quarters 160 (76.2%) of them were married while most of them 103 (49%) were home makers. The mean number of people in their households was 6.4 ± 3.0 while the mean number of under-five children was 1.5 ± 1.2 while that of the total number of children in their households was 3.9 ± 2.3 .

Knowledge, attitudes, and perceptions towards malnutrition and diarrhoeal preventive practices of care-takers of under-five children in Pemba district

A total of 210 caretakers of under -five children were assessed on their existing knowledge levels, attitudes and perceptions on their practices towards malnutrition and diarrhoeal diseases. This was done in the Pemba district of the Southern Province of Zambia.

Figure 1 shows that the more than three quarters 161 (76.6%) of respondents recorded low levels of knowledge. The caretakers mean Score for their levels of knowledge was at 14.2 ± 4.0 (Total score: 28).

Table 2 illustrates more than three quarters 179 (85.2) knew what is malnutrition and contrary more than half 136 (64.8%) did not

know how to manage malnutrition in under-five children, and 169 (80.5%) did not state correctly what a balanced diet is.

Practices on prevention and control of malnutrition and diarrhoeal diseases in the under-five children

The figure 2 shows that the majority 120 (57.1%) of respondents recorded fair practices on control and prevention of diarrhoea and malnutrition. The mean score of the respondents' level of practice was at 12.9 ± 3.6 . (Total Score: 24)

Table 3 above illustrates that almost all the study respondents 194 (92.4%) failed to state what they would do if their under-five child developed diarrhoea and more than three quarters 188 (89.5) find it hard to practice what they are told by health care providers due to various reasons; others could only give one correct answer to multiple answer questions.

Table 4 illustrates that almost all the study respondents 201(95.7%) reported regular undertaking of taking their under-five children for growth monitoring during the under-five children clinics.

Care-takers attitude towards malnutrition and diarrhoeal diseases in the under-five children

Figure 3 shows that a little more than half (51%, n=107) of the study respondents demonstrated poor attitude towards control and prevention of diarrhoeal diseases and malnutrition in them under five children while less than half (49%, n=103) of the study respondents demonstrated moderately good attitudes.

Caretakers perceptions towards preventive practices on malnutrition and diarrhoea

The Clients attitudes were further analysed using the Health Belief Model (HBM) Constructs (Perceived susceptibility, severity, benefits, barriers and self-efficacy). The following table 4 describes the findings on the HBM constructs with frequencies, the means (SD).

Table 5 illustrates that among the HBM variables, Perceived benefits towards diarrhoeal diseases shows a moderate correlation (Pearson's) of 0.30 at 0.01 level (2-tailed) with the mean of 21.5 ± 4.0 (Score range of 5-25). Other variables show a small correlation or none at all.

Table 1. Caretaker attributes of the sampling distribution (n=210)

Variable	Category	n (%)
Age of caretaker/parent/guardian of children.	Mean \pm SD	32.3 \pm 9.0
Gender of caretaker/Parent	Male	16 (7.6)
	Female	194 (92.4)
Highest level of education	Never been to school	13 (6.2)
	Primary level	15 (7.1)
	Secondary level	128 (61.0)
	Tertiary level	54 (25.7)
The religious background of caretaker/parent	Roman Catholic	55 (26.2)
	Jehovah's Witness	8 (3.8)
	Seventh Day Adventist	100 (47.6)
	Pentecostal's	11 (5.2)
	UCZ	5 (2.4)
	RCZ	4 (1.9)
	Other	27 (12.9)
Marital status of caretaker/Parent/ guardian	Single	37 (17.6)
	Married	160 (76.2)
	Divorced	7 (3.3)
	Widowed	5 (2.4)
	Separated	1 (0.5)
Employment status of caretaker	Employed for wages	19 (9.0)
	Self-employed	81 (38.6)

	A home maker	103 (49.0)
	A student	6 (2.9)
	Retired	1 (0.5)
	Unable to work	0 (0.0)
Number of children they have, mean \pm SD	Mean \pm SD	3.9 \pm 2.3
Number of under-five children they have, mean \pm SD	Mean \pm SD	1.5 \pm 1.2

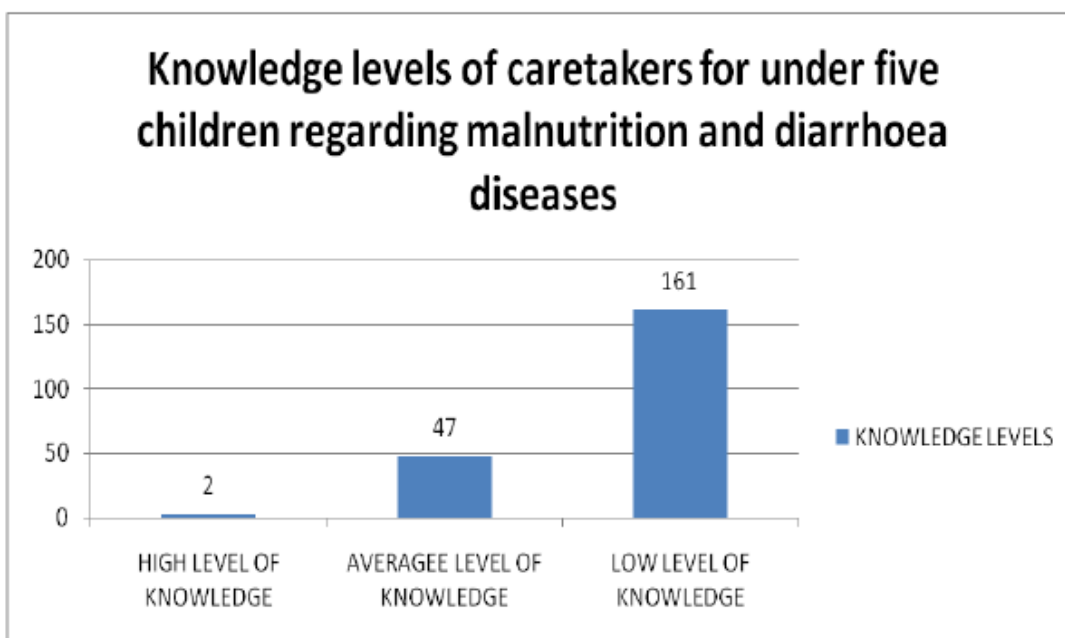


Figure 1. Knowledge levels of caretakers for under-five year old children regarding malnutrition and diarrhoeal diseases

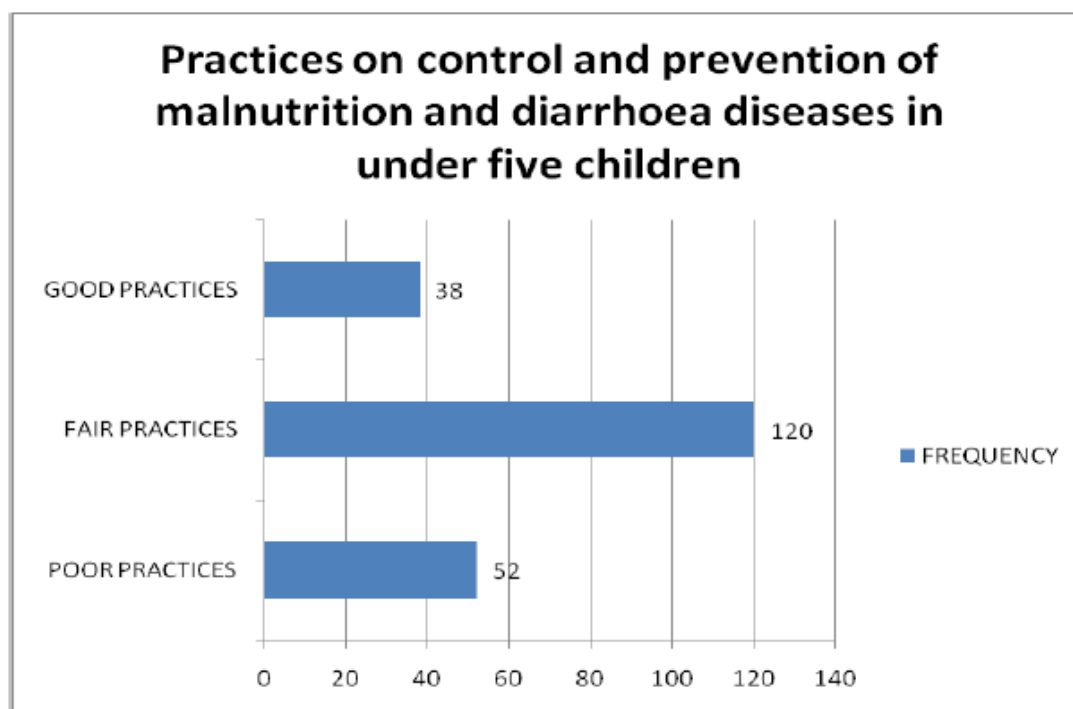


Figure 2. Practices on control and prevention of malnutrition and diarrhoea diseases in the under five children

Table 2. Knowledge levels of caretakers for under-five children regarding malnutrition

Variable	Category	n (%)
Knew what malnutrition is	Yes	179 (85.2)
	No	27 (12.9)
Knew how to tell if their child was developing malnutrition (out of 3 correct responses)	0 correct ways stated	38 (18.1)
	1 correct way stated	129 (61.4)
	2 correct ways stated	39 (18.6)
	3 correct ways stated	0 (0.0)
Knew how to treat malnutrition	Yes	74 (35.2)
	No	136 (64.8)
Knew what a balanced diet is	Yes	34 (16.2)
	No	169 (80.5)

Table 3. Practices on control and prevention of diarrhoeal diseases in under-five children

Variable	Category	n (%)
Stated measures they would put in place to prevent dehydration (out of 2 correct measures)	0 correct measure stated	26 (12.4)
	1 correct measure stated	118 (56.2)
	2 correct measures stated	65 (31.0)
Can prepare home-made ORS properly and correctly	Yes	77 (36.7)
	No	132 (62.9)
Can prevent diarrhoea occurrence in under five children (out of 2 correct practices)	0 correct methods stated	123 (58.6)
	1 correct method stated	46 (21.9)
	2 correct methods stated	40 (19.0)
Able to care for a child who develops diarrhoea	Yes	14 (6.7)
	No	194 (92.4)
Find it hard to practice what they are taught at clinic concerning prevention of diarrhoea	Yes	188 (89.5)
	No	20 (9.5)

Table 4. Practices on control and prevention of malnutrition in under-five children

Variable	Category	n (%)
Can effect correct practices when they notice signs of malnutrition (out of 2 correct practices)	0 correct practice stated	3 (1.4)
	1 correct practice stated	126 (60.0)
	2 correct practice stated	81 (38.6)
Regularly took their under-five children for growth monitoring during under five clinics	Yes	201 (95.7)
	No	6 (2.9)
Followed advise and measures put in place to avoid children becoming malnourished (out of 4 correct practices)	1 correct practice stated	158 (75.2)
	2 correct practice stated	19 (9.0)
	3 correct practices stated	17 (8.1)
	4 correct practices stated	11 (5.2)
Prepares separate food for the Under-five children.	Yes	167 (79.5)
	No	39 (18.6)

Table 5. The HBM variables means and correlations with behaviours on control and practices towards malnutrition and diarrhoeal diseases

Moderators	Health belief model variables				
	Susceptibility	Severity	Benefits	Barriers	Self-efficacy
Score Range	8 – 40	7 - 35	5 - 25	12 - 60	10 – 50
Mean (Malnutrition)	19.7 ± 7.2	28.2 ± 6	16.9 ± 3.6	25.7 ± 7.5	30 ± 7.2
Mean (Diarrhoea)	23.7 ± 8.0	19.8 ± 4.9	21.5 ± 4.0	18.3 ± 5.6	28.9 ± 7.1
Malnutrition	-0.058	0.168*	0.148*	-0.239**	0.133
Diarrhoea	-0.068	0.191**	0.307**	0.162*	0.280**

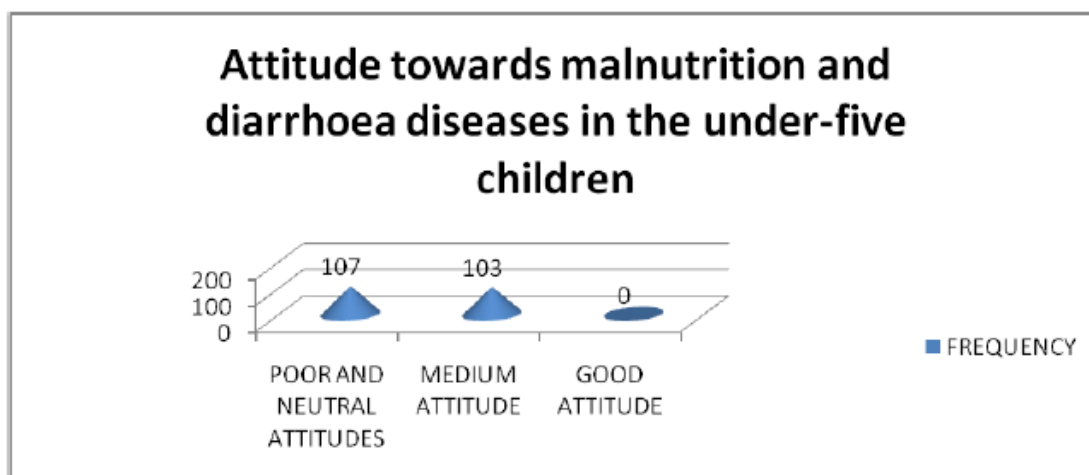


Figure 3. Attitude towards malnutrition and diarrhoeal diseases in the under five children

Discussion

This study found that more than half of the study respondents (60.5%, n=127) knew what diarrhoea is. This study finding is similar to a study conducted in Ethiopia by Dester et al (2017) in which 65% of participants knew the correct definition of diarrhoea. However, the studies conducted by Gazi, (2014) in India and Pakistan showed higher knowledge levels (90% and 72%) on the definition of diarrhoea respectively. This knowledge variation may be due to differences in socio-demographics of the study respondents.

Care takers of under-five year old children knowledge levels are important in relation to immediate and long-term nutrition outcome of children. In this study, the study respondents' knowledge levels towards prevention and control of malnutrition was poor with more than three quarters (76.6%, n=161) of respondents recording low levels of knowledge. This is contrary to a study done in Kenya in which the knowledge levels of more than three quarters (85%) of the mothers were high.

This study demonstrated that more than half of the study respondents (62.9%, n=132) could not prepare home-made ORS (sugar salt solution) properly and correctly and almost all the study respondents (92.4%, n=194) failed to state what they would do if their under-five child developed diarrhoea. Similarly, in a study conducted in Southwest of Ethiopia by Desta et al (2017), the study showed poor practice on rehydration and home management of diarrhoea as their study revealed that less than a quarter

(20%) of caregivers had not taken any measure during diarrhoea episode with their children, and only a meagre 5% of caregivers gave home fluids and about 10% of caregivers were able to give home-made ORS, that is, Salt-Sugar-Solution (SSS) and only 8% of them could prepare the solution correctly.

This study revealed that among the HBM concepts, Perceived benefits towards diarrhoeal diseases shows a moderate correlation (Pearson's) of 0.30 at 0.01 level (2-tailed) with the mean score of 21.5 ± 4.0 (Score range of 5-25). The significance of the construct perceived benefits in this study is a demonstration that caretakers who enrolled for this study and have a higher perception with regards to benefits of preventive measures are more likely to engage in behaviours and practices that promote the prevention and control of diarrhoeal diseases. Therefore, the study concludes that there is a linear relationship between perceived benefits and preventive practices towards malnutrition and diarrhoeal diseases in Pemba District.

Focus group discussions

This study shows that some participants expressed concerns over the beliefs that mothers have, and that prevent them from feeding in public "malnutrition may result from witchcraft, especially if the child if breastfed in public or it can turn onto other serious complications like having serious diarrhoea, becoming crippled or fail to walk properly again..." {Mrs Hanyaka, Mrs Mweemba, and Mss Mwiinga (not real names) in FGD 3,4,6}. This is in line with what Msiska et al, (2017) in their study done in

Malawi, they reported that more than three quarters (76%) of respondents confirmed that they do not feed in public because they believe that some community members may cast an evil eye on their children and the milk may become bad or poisonous to the children and that some may develop diarrhoeal or any other disease.

Conclusion

The study determined that the levels of knowledge and attitudes towards prevention and control of both malnutrition and diarrheal diseases were low and in contrast with the level of practices. More than three quarters of respondents 161 (76.6%) recorded low levels of knowledge, slightly above half (51%, n= 107) demonstrated poor attitudes while more than half (57.1%, n=120) of respondents recorded fair practices.

The findings of this study also indicated that the HBM construct of Perceived benefits is a factor predictive of behaviour likely to enhance the practices on control and prevention of diarrhoeal diseases in rural communities. Therefore, it is recommended that any future health promotion intervention such as the use of IEC material should incorporate the benefits of prevention and control of malnutrition and diarrhoeal diseases for better outcome.

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