

https://dspace.org/

Women's knowledge, perception and practice of cholera prevention messages in Phalombe district, Malawi, in 2014

Gondwe, Tapiwa Sphiwe

2016-03-11
http://hdl.handle.net/10539/20071

Downloaded from a DSpace repository. https://dspace.org/



Women's Knowledge, Perception and Practice of Cholera Prevention Messages in Phalombe District, Malawi, in 2014

Tapiwa Sphiwe Gondwe

A research report submitted in partial fulfilment of the requirements for the degree of Master of Public Health in the field of Social Behavior Change and Communication. Faculty of Health Sciences. The University of the Witwatersrand. August, 2015

Declaration

I, **Tapiwa Sphiwe Gondwe,** declare that this research work on: '**Women's knowledge, perception and practice of cholera prevention messages in Phalombe District, Malawi in 2014'** is my own original work**.** Any other work done by other people quoted herein has been properly acknowledged in the report.

The report is being submitted in partial fulfilment of the requirements for the degree of Master of Public Health, in the field of Social and Behaviour Change Communication with The University of the Witwatersrand, Johannesburg. It has not been submitted for any other degree or examination in the mentioned institution or any other university.

Name: Tapiwa Sphiwe Gondwe

Student No: 868383

Signature:.....

Date:.....,,,,,,,,,,,,,,,

Abstract

Introduction

Cholera is one of the major public health problems in Malawi; with outbreaks occurring every year since 1998, mostly in the Southern region of Malawi, either during the rainy season or sometimes throughout the year (1). It is mainly due to insufficiency of drinking water and sanitation, under-employment, reduced education and poor schooling (1).

The occurrence and severity of cholera outbreaks is mostly enhanced by human behaviour in regard to practising healthy hygiene and sanitation (1). The health education, aimed at behaviour change is very important in preventing and controlling cholera (2). Nevertheless, much of cholera prevention lies at the level of individual responsibility with regards to the practice of healthy hygiene and sanitation (2).

There is little documented evidence which describes either the practice of cholera prevention messages by people in Phalombe District in Malawi, or their knowledge of the subject. This is why this study aims to explore and describe the knowledge, perception and the practice of hygiene (Cholera prevention messages) among women aged 18 and older in Phalombe District in 2014.

The results from the study will help in the future interventions regarding hygiene practices among women.

Methods

An explorative, qualitative study was done. The research sample was comprised of women, 18 years of age and older staying in cholera prone areas in Phalombe District. In depth face-to-face interviews were conducted in Mpasa, Nkhwayi, Chitekesa and

Nambazo areas and the participants' statements were recorded. Two focus group discussions were also conducted at

Mpasa and Nambazo in Phalombe District, Malawi. The analysis process started during data correction whereby the interview guide was developed against the constructs of the Health Belief Model (HBM). The data was collected in Chichewa (a vernacular language), translated and transcribed in English. Data was then analysed qualitatively and deductively, drawing on the constructs of HBM. Codes, categories and emerging themes were formulated and Max QDA was used for analysis.

The following research ethics were observed during the study: informed consent, permission from authorities, confidentiality and voluntary participation. References from existing literature were also sought.

20 (n=20) women from Mpasa, Nkhwayi, Nambazo and Chitekesa areas in Phalombe District, Malawi participated in the in depth interviews (IDI's) and two focus group discussions (FGD's) were also conducted, each comprising of ten women different from the ones in the IDIs.

Results

The following themes emerged during the analysis: Knowledge of cholera prevention messages, sources of the messages, message content, perception, motivators and barriers to practice, cholera and Gender and cholera and Lake Chilwa. (Table 2).

Cholera prevention messages available to women in Phalombe were from different sources like the Malawi government, through the Ministry of Health, Non-governmental organisations (NGOs), village chiefs, friends and billboards. Radio and television, despite being mentioned, were said to be not effective sources of messages

in the study areas because most women said they did not have radios or televisions. The content of the messages were; the need to have a latrine and care for it, washing hands with soap or ash and water, the use of safe drinking water, and sanitation, where every household is told to have a latrine, a refuse pit and a plate rack.

Although most women were able to recall the messages, they were not able to recall that they were supposed to wash hands with soap and water. They were not able to recall some critical times they were supposed to wash hands like before they started cooking. Most of them mentioned the need to wash hands after defaecation. The results show there is a gap between knowledge and practice.

The women have a positive attitude and perception towards the hygiene messages. The study observed that there are some barriers to practice which are; poverty, marital status, access to safe water, illiteracy, inconsistency of the interventions, cultural beliefs and negligence. Some motivators were also indicated in the study; perceived severity and the threat of cholera, perceived benefits, past illness of friends and relatives and campaigns by Health care workers (HCW's) and NGOs.

The results show that despite cholera affecting both men and women, women regard themselves as very important in preventing cholera because of the roles they play in the home, based on the hygiene messages.

Lake Chilwa was described by women as a great threat in as far as cholera is concerned.

Conclusions

Although the women in Phalombe have some general knowledge about hygiene and cholera prevention messages, the extent of that knowledge is quite limited. The knowledge of hygiene is usually not carried out in practice by the people for various reasons; which include poverty, marital status, cultural beliefs, insufficient water supply, insufficient knowledge and lack of access to sanitation facilities. HBM constructs may be used to understand the behaviour of individuals. The findings of this study suggest that apart from providing information about cholera prevention, the barriers and motivators to practice need to be addressed if the interventions are to be successful. Gender issues and issues surrounding Lake Chilwa should be addressed too.

Acknowledgement

I would like to thank God the Almighty for giving me the strength, determination and knowledge to conduct this study. Without Him, this study would not have been successful.

I would like to acknowledge my sponsors: Lilongwe University of Agriculture and Natural Resources (LUANAR) through the 'Capacity building for managing climate change in Malawi (CABMACC), for the opportunity they provided for me to do my studies at the University of the Witwatersrand.

I offer my sincere gratitude to my supervisors; Dr. Mercy Tinstwalo Hlungwani and Dr Fayonin Adebayo, who continually encouraged and guided me to the completion of this study.

My heartfelt thanks to my family; especially to my children Nelson, Thokozani and Annah, brothers, sisters, my mum and dad and everyone else who supported me in this study. I appreciate their support, patience and words of encouragement.

Last but not least, I wish to express my appreciation to Phalombe District Health Officer (DHO) for allowing me to do my study in their area; and providing me with the necessary information and assistance prior to my study. To the respondents who were willing to be interviewed, and also to those people who agreed to be photographed for the purposes of this study, my appreciation. Without their cooperation this study would not have been possible. I salute them. To all my classmates, I say you were a great, unforgettable team!

Dedication

I nostalgically dedicate this fulfilling achievement to my beloved late brother, Malumbo Kalizga Gondwe (RIP) who always supported me financially and enthusiastically encouraged me to keep going. May his soul continue resting in peace.

List of figures

Figure 1. Theoretical preposition of the Health Belief Model (HBM)

Figure 2. Map of Phalombe

Figure 3. A Billboard of one of the villages in Phalombe that has successfully dealt with open defecation

Figure 4. Message on a T shirt discouraging open defecation

List of tables

Table 1. Themes and categories from the interviews

Table 2. The study Design

Table 3. Operational Definitions

List of abbreviations

AWD	Acute Watery Diarrhoea
CDC	Centres for Disease Control
CHWs	Community Health Workers
CABMACC	Capacity building for managing climate change in Malawi
DHO	District Health Office
FGDs	Focus Group Discussions
HBM	Health Belief Model
HC	Health Centre
HH	Households
HREC	Human Research Ethics Committee
HSA	Health Surveillance Assistant
HWWS	Hand washing with soap
IDIs	In-depth interviews
IEC	Information, Education and Communication
LUANAR	Lilongwe University of Agriculture and Natural Resources
MDGs	Millennium Development Goals
NGO	Non- governmental Organisation
RIP	Rest in peace
Wash	Water, Sanitation and Hygiene
WHO	World Health Organisation

Table of Contents

Declaration i
Abstract ii
Introduction ii
Methods ii
Results iii
Conclusions v
Acknowledgement vi
Dedication vii
List of tables viii
List of abbreviations ix
Table of Contents x
CHAPTER ONE: INTRODUCTION AND BACKGROUND INFORMATION 1
1.2. Background of the study 1
1.3. Problem statement 2
1.4. Justification 3
1.5. Study aims and objectives 4
1.5.1. Overall aim 4
1.5.2. Specific Objectives 4
1.6. Operational definitions of terms 5
1.7. Conceptual framework 5
Figure 1: Theoretical preposition of the Health Belief Model 8
CHAPTER TWO: Literature Review 10
2.1. Introduction 10
2.2. Hygiene and cholera prevention 10
2.3. Gender and the hygiene practices 11
2.4. Knowledge 12
2.5. Cholera prevention messages 12
2.5.1. Washing hands with soap 13
2.5.2. Correct use of latrines and toilets 14
2.5.3. Safe Water 15
2.5.4 Sanitation 15
CHAPTER THREE: Research Methodology 17
3.1. Introduction 17

3.2. Research Design 17
Table 2: Study design that was used in the study 18
3.3. Study site 19
Figure 2: Map of Phalombe 19
3.4. Study population 20
3.5. Pilot Study 20
3.6. Sampling strategy 20
3.7. Data collection 21
3.7.1. In-Depth Interviews (IDIs) 21
3.7.2. Data Collection Procedure 22
3.8. Data analysis 22
3.9. Ethical Consideration 23
CHAPTER FOUR: Results 24
4.1. Introduction 24
4.2. Socio-Demographic characteristics of respondents 24
4.3. Results - HBM construct and others 24
4.3.1. Knowledge and recall of cholera prevention messages 26
Figure 3: A billboard in one of the villages that has successfully done away with faecal sharing in Phalombe District, Malawi 33
Figure 4: A T-shirt with a message discouraging open defaecation 35
4.3.2. Perception 36
4.3.3. Practice 42
4.4. Faecal sharing 48
4.6. Gender and cholera 48
4.7. Lake Chilwa and Cholera 49
CHAPTER FIVE: Discussion of Results 50
5.1. Introduction 50
5.2. Message sources and content 50
5.2.1. Sources 50
5.2.2. Content 51
5.3. Knowledge on messages and recall 51
5.4. Women's perception about and practice of the messages 53
5.4.1. Perception 53
5.4.2. Practice 53
5.5. Motivators and barriers 54
5.5.1. Motivators 54

5.5.2. Perceived barriers 55
5.6. Cholera at Lake Chilwa 56
5.7. Findings in relation to HBM 57
5.8. Conclusions and Recommendations 58
5.8.1. Introduction 58
5.8.2. Conclusion 58
5.8.3. Implications 58
5.8.4. Limitations 59
5.8.5. Recommendations 60
Appendices 62
Appendix A:Plagiarism declaration to be signed by all higher degree students 62
Appendix B: Information sheet: Women aged 18 and above, living in Phalombe District. 63
Appendix C: Women aged 18 and above, living in Phalombe District 66
Consent Form (Audio-taping): 66
Appendix D 67
Consent Form (Interview - Women aged 18 and above living in Phalombe) 67
Appendix G : Human Research ethics committee(medical) clearance 71
Appendix H: Malawi ethics clearance 72

CHAPTER ONE: INTRODUCTION AND BACKGROUND INFORMATION

1.1. Introduction

This chapter outlines the background information on cholera; hygiene practices and cholera prevention messages in regards to knowledge, perception and practice, among women in Phalombe District, in Malawi. A problem statement, the motivation to conduct this study, operational definitions, and objectives, are also outlined.

1.2. Background of the study

Cholera is one of the major public health problems in Malawi, with outbreaks occurring every year since 1998 (1). Cholera outbreaks mostly occur in the Southern region of Malawi, either during the rainy season or sometimes throughout the year (1). For instance, in the 2011/ 2012 cholera outbreaks, 10 out of the 13 Districts in the southern region were affected. The Districts around Lake Chilwa, which includes Zomba, Phalombe and Machinga, were the most affected with 1,806 cases and 38 deaths (2) . Studies have found several social and cultural risk factors that were linked to cholera outbreaks (3). Some of which are; unsafe water sources, low coverage of pit latrines, lack of space for the households to build pit latrines, lack of hand washing facilities, fishermen staying in floating shelters on Lake Chilwa who defecate in the lake and use the same water for domestic purposes; poor sanitation in public markets and cross-border disease spread (2) .

There are also some cultural beliefs which also lead to the recurrence of cholera in Malawi; like the belief that cholera is like a wind, it passes, hence no one should bother; cholera is as a result of witchcraft, and chlorine for treating water smells and tastes bad (4).

In Malawi, only 62% (95% urban, 58% rural) have access to safe drinking water and 64% (90% urban, 60% rural) have adequate sanitation, which means that a significant number of Malawians are exposed to infectious diseases, such as cholera and other diarrhoeal diseases (2). Even those with access to improved water sources may still drink unsafe water due to contamination at the source, or unhygienic handling and usage practices (2).

Because of the rapid onset and spread of the disease, the key to reduce or eliminate cholera is through prevention. As a faecal oral disease, prevention is only possible through the promotion of improved hygiene practises and through increased access to safe water and sanitation facilities (2). This is why cholera prevention interventions include messages that promote hand washing, using and drinking safe water, having and properly using latrines, and general hygiene.

Cholera is a recurrent health challenge in Phalombe District (2). The District has a history of cholera during both dry and rainy seasons (5). Due to this, there are a lot of cholera prevention campaigns that happen in the District. These include use of billboards with the messages, health education drama, health workers involvement in communicating the messages, T–shirts with the messages and many more (5).

1.3. Problem statement

Cholera is a recurrent problem in Phalombe District (2). The District has a history of cholera during both dry and rainy seasons (5). Some of the contributing factors are

mainly the drying up of lake Chilwa which triggers high vibrio content of the water, floods and poor sanitation and hygiene (2). The flooded places compromise the ability of displaced persons to follow optimal hygiene and sanitation practises; e.g. using and drinking safe water and hygienic preparation of uncontaminated food (6).

There have been several interventions to address the cholera challenge in Phalombe; like chlorination and the use of chlorine verification, health education campaigns, Information, education and communication(IEC) campaigns, and community mobilization meetings (5). Using these interventions to address the problem of cholera over the years have not been totally successful (5). Phalombe District has still been hit with cholera, and in trying to prevent recurring cholera outbreaks, ways of promoting improved hygiene practises have been used as interventions. This is why cholera campaign billboards are elected in the District, and other communication message channels e. g; radio, drama, TV and health workers are used to convey cholera prevention messages (5).

This study aims at establishing if these messages are really internalized by the women in the District.

1.4. Justification

Cholera prevention messages, such as using and drinking safe water or washing hands often with soap, if acted upon, are essential to the eradication of cholera (7). Prevention is the key to reduce or eliminate cholera, due to its rapid onset and spread (8).

There has been limited social science research on how messages influence perceptions and practices related to cholera-preventing behaviours in Phalombe (8). The perceptions and practices of women are critically important; as they are mostly

responsible for collecting and treating water for household use, cooking food, taking care of their family members and many other household chores around which cholera prevention messages are based (8). If their reception of past messages is understood, future messages and interventions can be better tailored to promote effective and sustainable cholera prevention interventions. Hence a study to explore the knowledge, perception and practice of these messages among women will be important for future interventions regarding cholera prevention.

1.5. Study aims and objectives

1.5.1. Overall aim

The study aims to explore the knowledge, perceptions and practice of cholera prevention messages by women aged 18 and older in Phalombe District in 2014.

1.5.2. Specific Objectives

1. To explore the cholera prevention messages content reaching women in Phalombe District in 2014;
2. To explore what women aged 18 and older know and recall about past cholera prevention messages promoted;
3. To explore perceptions of cholera prevention message-content among women aged 18 and older and
4. To describe motivators and the perceived barriers for women aged 18 and older to practice the behaviours promoted in the recommended cholera prevention behaviours.

1.6. Operational definitions of terms

For the purpose of this study, some terms have been defined in the table below:

Table 1: Operational definitions

Term	Definition
Knowledge	This is the understanding the respondents have about definition, risk factors and signs and symptoms of cholera infection, prevention of cholera and the treatment of cholera.
Practice	The ability of the respondents to; identify good sources of water for drinking, ensure that water for drinking is safe, wash hands with soap at all critical times, dispose of refuse correctly, wash and peel fruit before eating, keep left over food safe, heat leftovers thoroughly before eating and to rush a suspected case of cholera to a health institution. In other words the action taken by individual respondent to practise the cholera prevention behaviour.
Perception	The feelings people have towards the prevention and control of cholera and cases of cholera, the feelings people have about sharing food at gatherings, their thoughts on washing fruit, as well as washing hands.
Good hygienic practices	Actions people take to stay healthy, like washing hands thoroughly and often, taking a shower every day, wearing clean clothes and keeping the home clean.
Good sanitation	This is defined by safe, private and hygienic defaecation and the maintenance of adequate, accessible facilities for this purpose.

1.7. Conceptual framework

Cholera as a health challenge in Malawi requires more of a behavioural approach intervention in addition to the biomedical interventions. This study used the Health Belief Model (HBM) to understand the relationship between knowledge, perception and practice of cholera prevention messages among women. It used the constructs of the Health Belief Model which suggests that people are most likely to take health-related action if they feel that by so doing they can avoid a negative health condition (9).

The Health Belief Model is based on the domains of perceived susceptibility (to disease), perceived severity, perceived threat, perceived barriers, perceived benefits,

and how these lead to a health behaviour (9). In this case the model was explored and analysed to see how it explains why cholera is still a problem despite all the cholera prevention messages that have been communicated in Phalombe.

The Health Belief Model theorises that any achievement related to health is dependent on the concurrent occurrence of three factors: firstly the existence of adequate stimulus (or health concern) to make health issues noticeable or relevant, the certainty that one is prone to a severe health challenge or condition which is referred to as perceived threat and the belief that following a particular health sanction would be helpful in reducing the perceived threat, and at a subjectively-acceptable cost (10-13).

Perceived susceptibility – It is a person's independent perception of the risk of acquiring a disease. There is wide variation in a person's feelings of personal exposure to an illness or disease (10-13).

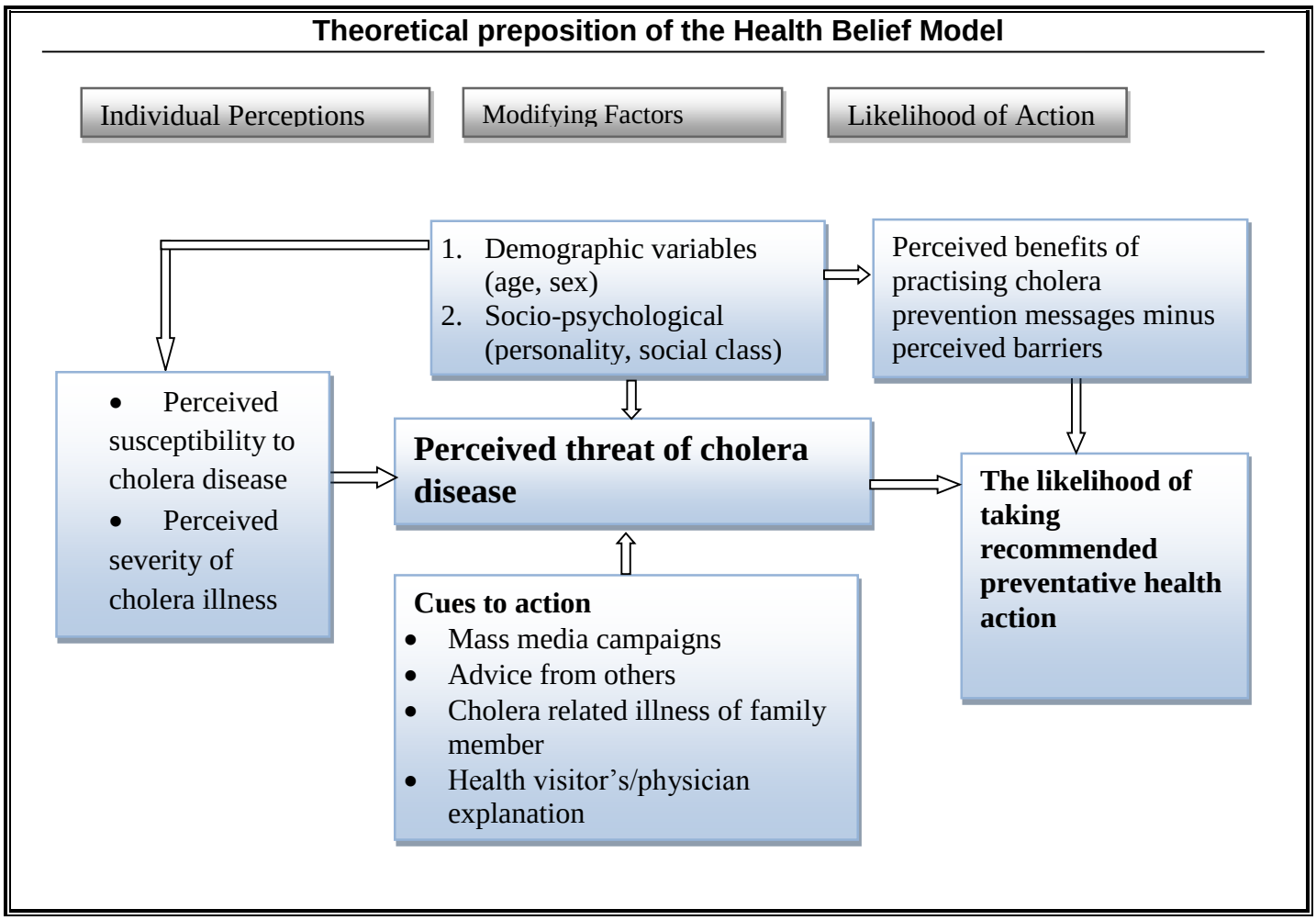
Perceived severity - This refers to a person's feelings on the weightiness of contracting an illness or disease (or leaving the illness or disease untreated). There is a wide disparity in a person's feelings of severity; often a person considers the medical consequences (e.g., death, disability) and social consequences (e.g., family life, social relationships) when evaluating the severity (10-13).

Perceived benefits - This refers to a person's perception of the effectiveness of various actions available to reduce the threat of illness or disease (or to cure illness or disease). The course of action a person takes in preventing (or curing) illness or disease relies on their consideration and evaluation of both perceived susceptibility and perceived benefit, such that the person would accept the recommended health action if it was perceived as beneficial (10-13).

Perceived barriers - This refers to a person's feelings on the hindrances to performing a recommended health action. There is wide variation in a person's feelings of barriers, or obstructions, which lead to a cost/benefit analysis. The person weighs the effectiveness of the actions against the perceptions that it may be expensive, dangerous (e.g., side effects), unpleasant (e.g., painful), time-consuming, or inconvenient (10-13).

Cue to action - This is the stimulus needed to prompt the decision-making progression to accept a recommended health action. These cues can be internal (e.g., chest pains, wheezing, etc.) or external (e.g., advice from others, illness of family member, newspaper article, etc.) (10-13).

Self-efficacy - This refers to the level of a person's confidence in his or her ability to successfully perform behaviour. This construct was added to the model most recently, in the mid-1980s. Self-efficacy is a construct in many behavioural theories as it directly relates to whether a person performs the desired behaviour (10-13).



Source: (14, 15)

Figure 1: Theoretical preposition of the Health Belief Model

In this study, the following specific constructs of the model were explored and analysed, to see how applicable they are in influencing women in practising hygienic behaviours and adopting the cholera prevention messages. These constructs are how perceived severity of cholera can influence the women's perception and practice. This is bound to the assumption that if they feel that cholera is a severe and deadly disease, they are likely to practice the desired behaviours. Secondly, perceived barriers to practising cholera prevention messages, asserts that women are more likely not to practice the hygiene behaviours if there are more negative factors in their way. Thirdly, perceived benefits of practising these behaviours can motivate women to do so (14,

15). The analysis of these constructs will also be done in order to determine responses from the HBM organized questions.

CHAPTER TWO: Literature Review

2.1. Introduction

This chapter will provide an overview of issues related to knowledge, perception and the practice of the hygiene messages to prevent cholera by women. The issues will be explored based on the constructs of the health belief model. The main purpose is to situate the current study in the framework of the previous studies.

2.2. Hygiene and cholera prevention

Unsafe water, sanitation and hygiene are important determinants in a number of other diseases, such as malaria and cholera and many others and a high global disease burden is attributed to some of these diseases (16, 17).

The burden on health caused by unsafe water, poor sanitation and hygienic practice, has been estimated on a global level taking into account various outcomes of disease, mainly diarrhoeal diseases including cholera(18). People are at risk of suffering from cholera due to the ingestion of unsafe water and the lack of water associated with: inadequate hygiene, poor personal and domestic hygiene, contact with unsafe water, and the inadequate development and management of water resources or water systems, and also the faecal-oral pathogens in the environment (18). Various diseases are rampant due to the lack of clean drinking water and sanitation (16, 17). Among the poorest, nearly one-third defecate in the open, making the everyday environment unsafe for children (16, 17).

Water, sanitation and health are closely interconnected. Viewed worldwide, the lack of sanitary waste disposal and clean water for drinking, cooking and washing cause over 12 million deaths annually (19). In the majority of cases, diarrhoeal deaths occur

worldwide due to inadequate hand washing; just being able to wash one's hands with soap and water can reduce the incidence of diarrhoea by 35% (20, 21).

Good hygienic practices, which include, hand washing and the safe disposal of faeces, are important in maximising the health benefits of safe water and sanitation facilities (16, 17). Studies have shown that when hygiene education comes together with the provision of water and sanitation, deaths caused by diarrhoeal diseases are reduced by an average of 65% (22, 23). Hygiene education and promotion encourages people to replace their unsafe practices with simple, safe substitutes. Most people are only too happy to use clean water and safe sanitation facilities once they are freely accessible; but without knowledge of good hygienic practices, the health paybacks will be greatly reduced (21).

2.3. Gender and the hygiene practices

Cholera is transmitted principally through contaminated water and food. This means that everyone; men, women, boys and girls are vulnerable to infection. Nevertheless, gender issues surrounding cholera cannot be overlooked (24, 25).

Women and girls often bear superior obligation for the prevention of cholera because of their traditional roles in the preparation of food, collection and handling of water, construction and cleaning of sanitation facilities i.e. cleaning latrines , and enforcement of household hygiene (24, 25). They are also more likely to bear responsibility for the care of a sick or dying family member, including washing and disinfecting clothes and bedding, preparing the body for burial, and preparing food for mourners (24, 25).

Men, on the other hand are more mobile and more likely to eat outside the home, making them more vulnerable to infection due to poor hygiene in food outlets (26). In addition, more men undertake economic migration; workers with high mobility, such as truck drivers and merchants, comprise a potentially high-risk group (24, 25).

2.4. Knowledge

The facts, information, skills and understanding that people have, through learning and experience in the prevention and control of cholera is very important (27). If this local knowledge that already existed in people was established, the communication interventions would be effective.

Most endemic countries in Southern Africa have been trying to impart knowledge in people all these years, but cholera has remained a major threat to Africa (28). It is important that people should know what cholera is; how it is spread, its symptoms and how people can prevent it (29).

2.5. Cholera prevention messages

There are five key messages that guide the cholera prevention programme. The first one is that the populations are told to drink and use safe water (3, 30-32). Water can be made safe by boiling it or treating it with a chlorine product or other household bleaches (3, 30-32) . The message emphasises that people need to know how to properly boil their water and also to follow instructions always, when treating the water (3, 30-32). The water should always be stored in a clean covered container.

Washing hands often with soap and safe water is another message. This message emphasises the critical times when people are supposed to wash hands as; before preparing and eating food, after using the latrine or toilet, after cleaning a child's bottom and also after taking care of someone ill with diarrhoea (3, 30-32).

The third message talks about using latrines or burying faeces and that people should not defaecate in any body of water. In this case, people are encouraged to use latrines or other sanitation systems like chemical toilets to dispose faeces (3, 30-32). They are also encouraged to clean latrines and all the surfaces contaminated with faeces.

Cooking food well, keeping it covered, eating it whilst still hot, and also peeling fruit and vegetables is another message on cholera prevention (3, 30-32) . Lastly, the household should clean up safely, in their kitchen, and places where the family bathes and washes clothes (3, 30-32) .

2.5.1. Washing hands with soap

Hand washing with soap (HWWS)can be one of the most cost-effective means of preventing infection in developing countries such as Malawi (20) . However, HWWS is rare in these settings. Results of formative research studies from 11 countries; Ghana, Kerala State in India, Kenya, Kyrgyzstan, Madagascar, Peru, Senegal, Tanzania, Uganda, Vietnam and the Sichuan and Shaanxi Provinces of China, were reviewed to understand the planned, motivated and habitual factors involved in HWWS (33). The studies found out that only 17% of child caretakers HWWS after the toilet and that hand washing 'habits' were generally not inculcated at an early age. It was also found that the fear of disease can motivate hand washing, but only in the case of epidemics such as cholera (33).

In a study in Bangladesh, most informants related food contamination with dust or dirt; almost half of the informants also related food contamination with feeding their child without washing hands with soap (26). Some informants suggested other causes for food contamination such as flies landing on food and not reheating stored food properly (26).

Of 350 surveyed respondents, the five most frequent methods described to prevent food contamination were washing utensils with soap and water (215, 61%); washing vegetables, fish, and meat (197, 56%); washing hands with soap before feeding a child (192, 55%); cleaning the food preparation area (165, 47%); and washing hands with soap before food preparation (129, 40%). Most informants linked the need for hand

washing mainly to remove visible dust/dirt on hands and also to remove germs (26). They suggested that “If someone does not wash hands before feeding, then dirt will go into the stomach and it will create disease like diarrhoea, dysentery, typhoid, stomach ache, and worms.” (26)

Despite that those washing hands with soap in critical times have proved this to be an important message in cholera prevention, there are several barriers to this desired health behaviour. The absence of soap and water near the cooking place was a barrier to HWWS during food preparation (26). A study in Chittagong District discovered that soap is not available in the kitchen where women prepare food and feed their children (26). Another respondent from Dinajpur District also stated her toilet and bathing room are in two different directions which made it difficult for her to wash hands with soap all the time (26).

The other barriers mentioned were; the lack of habit, the lack of understanding of the importance of using soap before food preparation and when feeding a child, and having no previous adverse experience when not washing hands with soap (26).

This study revealed that people do not have the habit of practising hand washing with soap. For years, people were just used to washing hands with water only (26).

2.5.2. Correct use of latrines and toilets

Human excreta and the lack of acceptable individual and home hygiene have been the main spread of many infectious diseases including cholera (34). It is estimated that 2.2 million people die annually from diarrhoeal diseases and that 10% of the population of the developing world are severely infected with intestinal worms related to improper waste and excreta management (28). Correct use of latrines and toilets can end open defaecation; very important in addressing cholera.

2.5.3. Safe Water

According to Mintz et al, the World Health Organisation (WHO) defines safe water access as rational access through an improved or an unimproved source (35). A piped household connection, public standpipe, borehole, protected dug well or spring, and/or rainwater collection are examples of improved sources (35). An unimproved source on the other hand includes: vendors, tanker trucks, surface water, and bottled water when we fail to confirm source and quality, and unprotected dug wells and/or springs. Practical access to an improved source is defined as the availability of at least 20 litres a-person a-day, from a source within one kilometre of the household (35).

2.5.4 Sanitation

Improved sanitation facilities refer to those that separate human waste from daily activities and contain, or dispose of waste in a manner that keeps bacteria permanently separate from daily activities (36-40). These include: flush or pour-flush toilets/latrines connected to a piped sewer system (most plumbing systems in fully industrialized nations fall in this category), a septic tank, a pit latrine, a ventilated improved pit (VIP) latrine, a pit latrine with slab, or a composting toilet (36-40). On the other hand, unimproved facilities include a pit latrine without a slab or platform (this allows fluids to seep into the ground water or toward a nearby river or stream), hanging latrine, bucket latrine, or open defaecation which includes fields, forests, bushes, bodies of water or other open spaces (36-40).

According to the United Nations Children's Fund, access to improved water and sanitation facilities does not, of and by itself, necessarily result in improved health (36-40). There is evidence which indicates that hygienic behaviour, in particular hand washing with soap at critical times, such as after defecating, and before eating and

preparing food, is equally important (41). Hand washing with soap can significantly reduce the incidence of diarrhoea, the second leading cause of death amongst children under five years old worldwide (41). Good hand washing practices have also been shown to reduce the incidence of other diseases; notably pneumonia, trachoma, scabies, skin and eye infections, and diarrhoea-related diseases such as cholera and dysentery (41).

CHAPTER THREE: Research Methodology

3.1. Introduction

This chapter addresses research methodology in terms of research design, population, sampling procedures, research instruments, data-collecting procedures and data analysis. It also highlights ethical concerns that the researcher took into consideration during the study.

3.2. Research Design

The study is a qualitative research design that investigates the knowledge that women above 18 years of age in Phalombe have on cholera prevention messages, as well as their perception about the messages. The motivators and the barriers to practising the recommended behaviours will also be established. This was done through conducting in-depth interviews. Two FGD's were also carried out to get more information from what came out of the in-depth interviews.

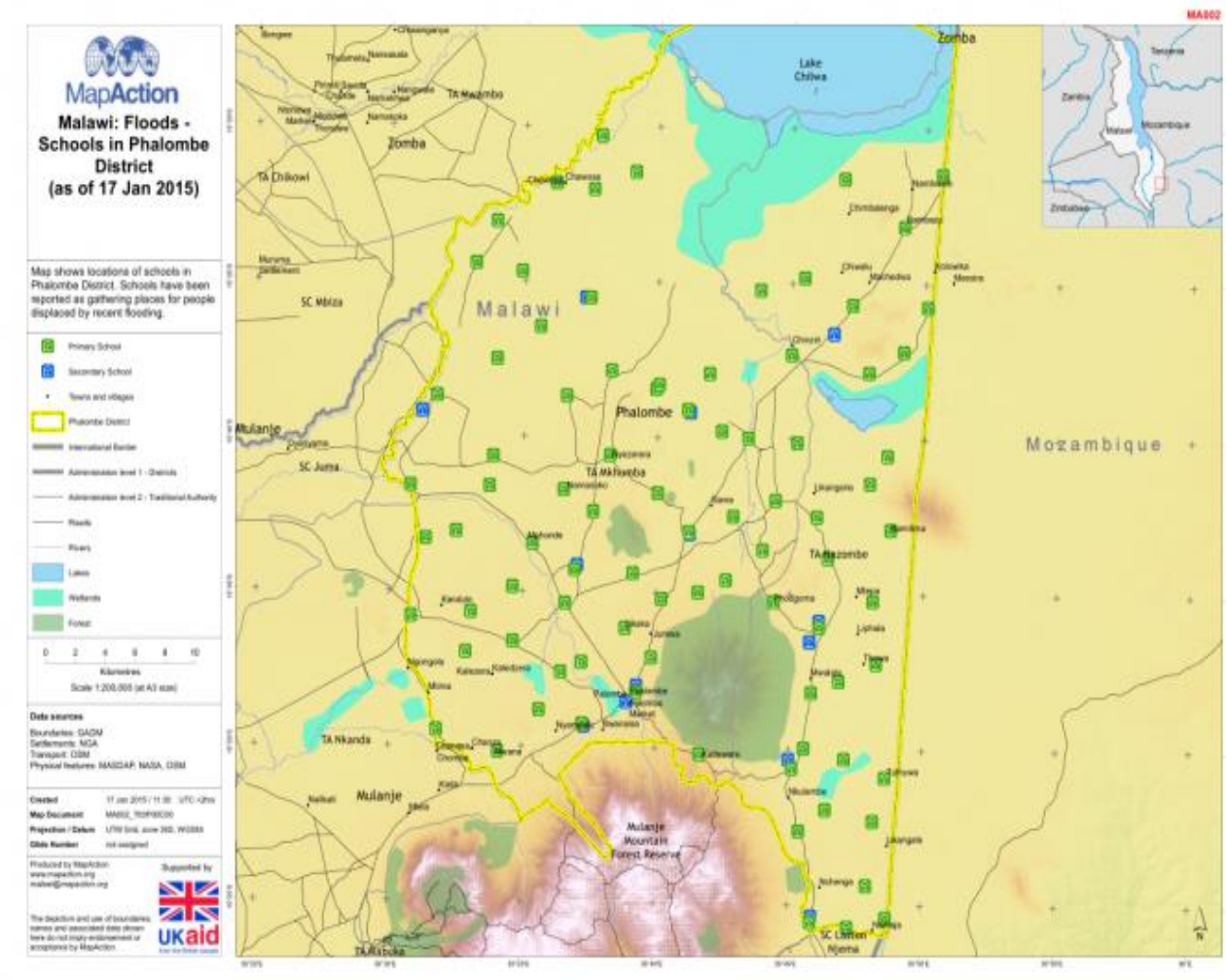
Studies further state that another advantage of the qualitative research method is that it provides the researcher with the flexibility to probe initial participant responses further: to ask why or how. In this study, the researcher listened carefully to what participants said; engaged with them according to their individual personalities and styles, and used probing questions to encourage them to elaborate on their answer

Table 2: Study design that was used in the study.

Objectives	Study Design	Informants	Method of data collection	Method of Analysis
1. To explore the cholera prevention messages content reaching women in Phalombe District in 2014 2. To explore what women aged 18and older know and recall about past cholera prevention messages promoted in Phalombe District, in 2014 3. To explore perceptions of cholera prevention message content among women aged 18 and older in Phalombe Districts in 2014 4. To describe motivators and the perceived barriers for women aged 18 and older to practice the behaviours promoted in the recommended cholera prevention behaviours in Phalombe District in 2014	A qualitative study	Women aged 18 and older, staying in Nkhwayi, Chitekesa, Mpasa and Nambazo areas in Phalombe District.	Interviews using an interview guide with items on knowledge, attitude(Perception) and practice (KAP) Focus group discussions	MAX QDA was used to code the data and come up with themes.

3.3. Study site

The study was carried out in Phalombe District in the southern region of Malawi. Phalombe has a total land area of one thousand three hundred and ninety four (1394) square kilometres, and a population of three hundred and thirteen thousand two hundred and twenty seven (313,227) (42). Most of the people in the Districts live in rural areas as they mainly depend on subsistence farming (43). The study was undertaken in Nambazo, Chitekesa, Nkhwayi and Mpasa areas; because in these areas, they had cholera cases last year, and they are also declared as cholera prone areas by Phalombe DHO.



Source: Map Action Malawi: Floods, Schools in phalombe district

Figure 2: Map of Phalombe.

3.4. Study population

The study population was women aged 18 and older, and had lived in the targeted villages for at least one year by the time of the research in 2014. 20 participants were interviewed in the IDIs. Two FGDs were conducted with 10 different participants in each group.

3.5. Pilot Study

The study guide was field tested. This was not a full pilot study. A pilot study is the mini or sample study that is conducted in order to test the feasibility of data collection tools. The pilot (pre-test) is a test-run on aspects of the main study (44). This is done during the questionnaire or interview schedule development to refine the data collection instrument. In this study, the instrument test was conducted with three women. The feedback from the instrument test effected changes to the tools like adding more probing questions to get deeper information, as-well-as rephrasing of questions that were not clear to the respondents. For example the first question "Please tell me what you understand about cholera" was rephrased after realising that the question "What is Cholera" was not very clear to the respondents.

3.6. Sampling strategy

A purposive sampling strategy was used to select the respondents for the study. Purposive sampling is a strategy that is used to select the respondents for a particular purpose (45). This approach is useful when selecting members of difficult-to-reach, specialized population for an in-depth investigation (46) . The strategy is very appropriate for exploratory research in which this particular study falls in (46).

3.7. Data collection

This study used primary data sources through in-depth interviews and two focus group discussions so as to comprehensively understand the problem statement identified. The interviews were recorded as both field notes as well as electronic recording in order to be sure that most information was gathered. In all the interviews, consent forms for both the verbal interview (**Appendix B and C)** and recording of the interview **(Appendix D)** were signed to ensure acceptance by the respondents. The respondents who declined to sign the two consent forms were not included for the study.

3.7.1. In-Depth Interviews (IDIs)

The study utilized primary data collected through one-on-one In-depth Interviews (IDIs) with the selected women. This type of data collection method is generally used to gain a detailed picture of a participant's beliefs about, or perceptions or accounts of, a particular topic (47). This was necessary and suitable since the researcher was interested in a detailed explanation of the topic. The face-to-face contact with the respondents facilitated the responses and quality information as well as availing no need for literacy (44). However, the interviews have their own limitations; they create an artificial environment that may intimidate the respondents. In addition, interpersonal factors (e.g. respondent's suspicion) may interfere with data collection processes (44).

The collected data was recorded. The recording allows a much-fuller record than notes taken during the interviews (47). Most of the data missed when taking notes was added from the tape records. After the assurance of confidentiality and anonymity was given, the participants agreed to be recorded during the interview sessions. The interviews took between forty-five (45) minutes to one (1) hour per individual session.

3.7.2. Data Collection Procedure

All the respondents were contacted physically by the researcher with the help of a CHW. The research brief was given to the prospective respondents; if they agreed to participate, an appointment was made with the researcher. The interviews were conducted by the researcher with all the respondents. The researcher met the respondents at their nearest health centre. An interview guide was used **(Appendix D and E).**

3.8. Data analysis

A range of approaches to qualitative analysis have been developed (48). Data collected in this study was in the form of texts and interview transcripts from the IDIs and FGD's audio recordings, respectively. Data was analysed deductively, drawing on constructs from the Health Belief Model as a measurement. This process began during data collection, as the interview guide was developed against the constructs of the theory.

The audio-taped data was translated to and transcribed in English, maintaining the verbatim meaning for easy analysis. Data was analysed qualitatively through the use of firstly; codes, categories and then the emerging themes were drawn from both the field notes and audio-taped interviews. This was done using Max QDA.

3.9. Ethical Consideration

The study's ethical clearance was requested and issued by the University of the Witwatersrand Human Research Ethical Committee (HREC); clearance number (M 140930) **(Appendix F).** The permission to conduct the research in Phalombe District in Malawi was obtained from the Ministry of Health Research Committee with clearance number: (1346) (**Appendix G**). The District Health Officer for Phalombe was also briefed on arrival in the District; the DHO provided me with a HSA who assisted me in the visits. The prospective respondents were then briefed about the study and that participation was voluntary; consent forms for both the interviews and the recordings were completed before participating (**Appendix B, C and D**).

Lastly, the necessary pre-arrangements were in place with the medical social workers for follow-ups, in the case of highly-distressed participants after the interviews. However, none of the participants engaged the services of the medical social workers after the research.

CHAPTER FOUR: Results

4.1. Introduction

This chapter presents the results of the study. The data analysis started during data collection and extended in this chapter, in which further analysis was carried out in order to deduce categories and common themes. As highlighted in Chapter 3, analysis of data was done through the thematic analysis of verbatim transcriptions of the interviews using Max QDA software (49). The analysis of data is also situated within some few constructs of the Health Belief Model (HBM), to explore the knowledge, perception and practice of cholera prevention messages among women in Phalombe District in Malawi, in 2014.

4.2. Socio-Demographic characteristics of respondents

All the respondents in this study were women residing in Nkhwayi, Mpasa, Chitekesa and Nambazo areas in Phalombe District, in Malawi. They were all not formally employed. Out of the 20 respondents, 14 were married, four were widowed and two divorced. The age range of the respondents was between 19 and 60.

4.3. Results - HBM construct and others

From the IDIs and the FGDs conducted, four themes were found from the codes, and these are; knowledge and recall of cholera prevention messages, perception, practice, cholera and gender, and cholera at Lake Chilwa.

Table 2: Themes and codes from the interviews

Codes	Category	Theme
• What is cholera • Causes of cholera • Symptoms of cholera	What respondents know about cholera	**Knowledge of cholera prevention messages**
• Having and proper use of latrines • Washing hands with soap • Water for drinking • Caring for the food we eat	Ways of preventing cholera	**Knowledge of cholera prevention messages**
• Sources of the messages • Content of the messages • Ways of teaching the messages • Why people fail to follow the messages	Cholera prevention messages	**Knowledge of cholera prevention messages**
• Perceived susceptibility • Perceived severity • Perceived threats • Why is cholera still a challenge • Beliefs	Motivators and barriers to practise	**Perception**
• Faecal sharing	Cause and prevention of cholera	**Knowledge of cholera prevention messages**
• Cholera and Gender	Cholera and Gender	**Cholera and Gender**
• Lake Chilwa and cholera	Lake Chilwa and cholera	**Lake Chilwa**

4.3.1. Knowledge and recall of cholera prevention messages

Most women were able to say what cholera is by either explaining the definition, symptoms, causes and ways of preventing cholera.

Cholera disease

Most of the respondents were able to explain what cholera is by saying its symptoms and causes, and not by its scientific definition.

'Cholera is a diarrhoea disease, which begins with houseflies. If there is no toilet in the household, no pit for refuse, but also if we fail to frequently wash our hands, we may find ourselves getting sick from cholera.' (***IDI's woman from Chitekesa 2014).***

Signs and symptoms of cholera

The women were able to identify and recall the signs and symptoms of cholera. They recognised cholera when a person complains about stomach ache, vomits and has open bowels. One woman said;

'*A person starts complaining about stomach-ache, after that the person develops diarrhoea, he/she loses a lot of water, when he visits the toilet for maybe four times, then he starts vomiting, the eyes sink, then the person becomes so weak, the skin becomes dry then we know that this may be cholera.'* (***IDI's woman from Nambazo 2014).***

The women even explained the symptoms further by describing how the vomit and the faeces look like, as one woman puts it;

'*When someone vomits, the vomit is white, and slippery, like water from rice, exactly like that, and within a short time you find that a basin is full of vomits. The faeces do*

not smell as normal faeces, they have no smell at all, they look just like water coming out.' (***IDI's woman from Nambazo 2014).***

Causes of cholera

Majority of the women said that lack of hygiene and protected water sources were the main cause of cholera in their areas. And they explained what they meant when they talked of unhygienic practises as not having the toilet/latrine, open defaecation, failure to wash hands, drinking unsafe water and not caring for the food they eat. This is what they said;

'*What I can tell you my sister is that cholera here in Phalombe is a challenge, but the source of this problem is (lack of) water. Water is a problem here; treated water sources are scarce. In the past, we were using water from the river and it was being found that people were getting sick now-and-again because the water from the river is not safe but we had no other option.'* (***IDI's woman from Mpasa 2014).***

The women said that despite being provided with some safe sources of water, this is still a challenge as they say;

'*We have problems in drawing water. One borehole is not enough for the whole area's population. For example, in our area of Nampwalala we have one borehole, so we cannot manage to go there and wait for our turn to draw water; we just draw our water from the river. And we do not have piped water. So we just go and draw water from the river because that is our readily available source.'* (***IDI's woman from Mpasa 2014).***

Almost all women also said that due to some reasons, they do not most of the times treat or boil their water;

‘*Then, after drawing water from the river, due to our many household chores as women, before you even boil or treat the water, a child may want to drink and you just allow the child to drink, though you may know that it is not good. You only get scared of cholera after the child has already drunk the water. It is just that sometimes there are so many chores to be done, so we are not necessarily (casually) neglecting the hygienic practises.’* (***IDI’s woman from Nkhwayi 2014).***

Poverty was also identified as one of the causes of failure; the women said they fail to follow some hygienic practises because they don’t have enough utensils and money to effectively practice hygiene. One woman said;

‘*Lack of utensils is another problem. You will find that in your home, you just have a few plates and not enough to cover the food despite the messages saying we should cover the food after preparation. You will find that you just have one cup, this means that even if you may be willing to be hygienic but it will always be a challenge. Better on cups, but I may have only one pail for drawing and storing water. But as a woman, I still try to be hygienic despite the problems.’* (***IDI’s woman from Nkhwayi 2014).***

In addition to the above reasons, the women also attributed cholera in their area to illiteracy levels.

‘*The people who ignore the practices are mainly those who are illiterate; it is very difficult to convince these people’.* (**FGDs *woman from Nambazo, 2014).***

The women recalled several ways in which to prevent cholera from the messages. These are being hygienic, caring for the food they eat, caring for drinking water, washing hands with soap, and having and properly using the toilet.

a. Caring for food we eat

For them to prevent cholera, the women said that they are supposed to take care of the food they eat. When preparing the food, they need to make sure that their surrounding and utensils are clean, and that the food is supposed to be covered always after preparation. This is what one woman said;

'*The food when we want to prepare we should make sure the kitchen, and all the things we will use are clean, we should see to it that there are no houseflies flying on and off the food. If we have refuse near our kitchen we should remove that and throw everything in the refuse pit, so that we should not attract the houseflies into our kitchen. So a refuse pit is an important thing to have in a household if we are to prevent cholera and other diarrhoea diseases.'* (***IDI's woman from Nambazo 2014).***

'*The food should always be covered. Do not let houseflies play on the food. We should properly keep the food covering the relish we have cooked, when serving, cover the food as well, our food should always be covered and should be eaten hot. '* (***IDI's woman from Mpasa 2014).***

b. Water for drinking

Water supply was identified as a critical thing, putting the population at risk of cholera in Phalombe. The women said most of the water sources they use are unprotected and they need to take care of the water they drink so as to prevent cholera. The women

said there are several ways they can care for the water they drink. One of the women said;

'*The water we draw, like in our case, from the river; we are told that we should boil it, but after this, we should not just leave the water uncovered. We should also get a sieve or a clean cloth and sieve the water into a clay pot. The sieve should have tiny holes so that it should not allow residues to go through. Then we should cover the pot. This is where the issue of two cups comes in now. We need to have two cups one for drinking and the other one for getting water from the pot. These cups should be well washed and clean. Everyone in the home should be trained to do that.'* (***IDI's woman from Nkhwayi 2014).***

In addition to boiling and covering the water, the respondents also said the other way is to treat the water they drink with free residual chlorine (FRC) or Water Guard.

'*We can also treat the drinking water with Water Guard or chlorine, then keep the water in the pot and cover as said earlier on.*' (***IDI's woman from Mpasa 2014).***

c. Washing hands with soap or ash

The women also described hand washing with soap (HWWS) or ash as an important health behaviour in trying to prevent cholera and they recalled the critical times when they are supposed to wash hands. This is what the women had to say;

'And when we come from the toilet we should wash our hands. For those who have young children, they should wash hands before and after changing their baby's napkins.' (***IDI's woman from Nkhwayi 2014).***

'Okay, we need to wash our hands before we eat our food, that is any food; even a mango, we should not just go to a tree, get a mango, without washing our hands or the mango itself. Even the children, they need to be trained on this. We can also wash

our hands anytime we feel our hands are dirty. *This is a mango season so before we take our mangoes to eat, we need to wash our hands as well as the mangoes.'* (***IDI's woman from Nkhwayi 2014).***

'*Yes when we just wake up in the morning we need to wash hands before we start any household chores. I am saying this because if you are married a lot of things happen at night, so the first thing in the morning is to wash hands and our face.'* (***IDI's woman from Mpasa 2014).***

d. Having and proper use of latrines

One key message that the women identified was the need for every HH to have a toilet or latrine and properly use it. They said the HCWs and NGOs coming to them with messages emphasize on the benefits of having a toilet in preventing cholera. This is what they said;

'*So they are encouraging us to be hygienic by having a toilet in every home, and as I am talking now, three quarters of people in our village here have a toilet because of this organization. Although open defaecation was not a problem to us, it was not a crime because everyone else was doing it.'* (***IDI's woman from Chitekesa 2014).***

'*They tell us that our toilet should not just be constructed, but should be well taken care of. Whether it is made of grass or not, that is not a problem; we should smear the floor very well, and we should have water at the toilet and we should not say I will wash hands at home.*' (**FGDs *woman from Nambazo, 2014).***

'*Yes we need to need to have a toilet in every household; and we should have something to cover the toilet hole. We should also properly smear or mop the toilet and sweep its surrounding. We can also apply ash into the toilet hole to avoid a bad*

smell. Just outside the toilet, we should have a can of water to clean our hands; we should wash with soap or ash, we should wash hands before touching any food, cup or other utensils.' (**FGDs *woman from Mpasa, 2014).***

Sources of the messages

All the respondents said there are several sources of the hygiene messages in their areas. Firstly, they said they get the messages from the health care workers (HCWs) and other organisations like Inter- Aide and Red Cross. This is what one of the women said;

'*Yes, most messages we get from the HCWs; from our HC, and also from Inter-Aide organization which has been working here in the past two years*.' ***(IDI's woman from Nkhwayi, 2014).***

An illustration of the messages from the organizations is the figure below showing a message from a village that has successfully done away with open defaecation, encouraging other people to do the same.



Figure 3: A billboard in one of the villages that has successfully done away with faecal sharing in Phalombe District, Malawi.

Apart from the HCWs, which is the Ministry of Health, and non-governmental organizations like Inter-Aide, the women said they also get the messages from friends in women's meetings; as one of the women puts it;

'*I also hear the messages from my friends; we have women's groups and in our meetings, we choose one person to teach us on different topics; cholera prevention is one of them, and sometimes we ask the HCWs to provide us with one woman HCW who can teach us on this.' (**IDI's woman from Mpasa, 2014).***

The women also mentioned radio as a source of the messages, though they said there are challenges on this source. One of the women said;

‘*Even on the radio, there are messages about how we can take care of our homes to prevent cholera and other diseases. It is just that in the village here, only a few people have radios; most of them do not even listen to them. So I can say the effective way of telling us these messages is through health workers.’ (**IDI’s woman from Mpasa, 2014).***

The women also mentioned the village headmen as a source of these hygiene messages;

‘*I also think that our village headmen or chiefs also assist in making sure that each and every household has a toilet, refuse pit; at least they are trying to be hygienic.’ (**IDI’s woman from Nkhwayi, 2014).***

Content of the messages

The respondents said that there are several messages that they are taught about cholera prevention. Firstly, they said the messages teach them about general hygiene. One woman said;

*‘They tell us that our toilet should not just be constructed, but should be well taken care of. We should take care of our household and surrounding. We should take care of our bodies. We should properly use the toilet; we should not defecate on the sides of the toilet hole. If a young child defecates outside the toilet, we should quickly take that poo into the toilet.’ (**IDI’s woman from Chitekesa, 2014).***

In addition to this, the women said the messages emphasize on them having certain things that show someone is hygienic, this is what one woman said;

‘*They teach us on the necessary things to have at home for us to be hygienic; things like the toilet, refuse pit, clothes drying line, plate rack, and the like.’ (**IDI’s woman from Nambazo, 2014).***

In addition to using the toilet and general hygiene, the women also talked about washing hands and general hygiene. This is what another woman had to say;

'*First, we should have a toilet and use it properly; the toilet hole should always be covered. The toilet should be cleaned every day and hot ash should be poured into the toilet to kill the bad smell and flies. We should put a bottle of water next to the toilet outside the toilet, hinged on a tree branch, so that everyone one coming from the toilet should see it and therefore not forget to wash hands. Soap or ash should also be put there to be used for washing hands. I usually put ash because the pied crows take away the soap.'* ***(IDI's woman from Nkhwayi, 2014).***



Figure 4: A T-shirt with a message discouraging open defaecation

The women also said that the messages also tell them how they can take care of the water they drink and the food they eat, so as to prevent cholera. They had this to say;

'*They say we should treat our water for drinking with chlorine or Water Guard, and that if we don't have these, then we have to boil the water before drinking. The health*

*workers distribute chlorine to us but the Water Guard we buy from the shops here at home. They also say that we should have two cups on the clay pot, one for drinking water and the other one for getting water from the pot. We should not use one cup to get water from the pot and use the same for drinking. (**IDI's woman from Chitekesa, 2014).***

Another woman had this to say on what the messages say about food;

*'She also taught us that we should always take care of our food. We need to be careful; mangoes are now in season, these bring houseflies which spread cholera, so we should get all the mango husks and seeds to the refuse pit after eating. We should not throw these anyhow.' (**IDI's woman from Nambazo, 2014).***

The respondents said the messages also discourage them from faecal sharing which comes when people are still defaecation openly;

*'The other thing was that an organization came teaching about faecal sharing; they emphasized that it is us who are unhygienic who are making other people sick. If someone dies of cholera, we who are unhygienic should count ourselves as taking part in that death, maybe because that person ate our faeces that we defaecated openly or our child defaecated openly. I felt so bad and thought every sickness in the village will point at me.' (**FDGs Nambazo woman, 2014).***

4.3.2. Perception

The women perceived cholera and the messages in different ways basing on several factors.

Perceived severity of cholera

The majority of the respondents highlighted that they were aware of cholera. They associated cholera with a fast death. The women explained how severe and dangerous cholera can be. One of the women had this to say about cholera;

*'Cholera is a challenge here. When a person is sick and at home and you delay taking the patient to the hospital, that person can die within a few hours; if it attacks you like this time (10:30am), by the afternoon, you may be dead. So that is why we follow these advices because it is a disease that kills quickly. Thank you'. (**FDGs Mpasa woman, 2014)***

The women also described the severity of cholera in terms of how fast it can attack all family members in a short period of time, as one woman puts it;

'*When my relatives got sick, they started vomiting and had diarrhoea, and became so weak. My brother was the first to get sick, then he was taken to the hospital, later on it was discovered that his wife and child also got sick while at home, then almost the whole family was in hospital; this is why I ended up being a guardian, since there was no one who could take care of the other. But since they came early to the hospital, they survived. From that time, I realized that prevention is better than cure. So I made a decision that I will always have all the necessary things as we are told by the health workers; things like a toilet, a pit for refuse, and practise all the other practises they tell us'.* (***IDI's woman from Chitekesa 2014).***

The women also shared how severe cholera is, through their past experiences when cholera attacked their relatives; one woman said;

'*Cholera has also reduced, because in my village, people saw (and learnt) the time my husband got sick. It was expensive (treating him) and we almost lost him. From that time, people realized that cholera is a deadly disease and they became more careful and they are now hygienic. Since the sickness of my husband, two years ago, there were other cases in that year but after that, I haven't heard about someone suffering from cholera in my village, in other villages yes'.(**FDGs Nambazo woman, 2014).***

In addition to cholera just being a severe disease, the women emphasized that it is a big threat when the disease attacks children. This is what one woman had to say;

*'What made me follow these advices is that this disease is very dangerous if it starts just now, (10:30am) by 12 noon, the child may die. Cholera is so dangerous to children, they easily become so weak when they vomit and open bowels' (**FDGs Mpasa woman, 2014).***

The women pointed out that the severity of cholera is even more when people delay in going to the hospital; the person may in this case die before they arrive at the hospital, as one woman states that;

*'I started following these (practises) when my sister lost a son. An already grown child, he was seven years old. I realized cholera is a dangerous disease. The child got sick at school, around 11am, his friends escorted him home, and around midnight, the child died. Though I realize that if we had all the messages we have today, the child could have survived, but instead of rushing to the hospital, we took the child to the traditional healer who kept on saying that, the father of the boy, who was my sister's ex-husband had bewitched the boy.' (**FDGs Nambazo woman, 2014).***

The women also tried to emphasize the severity of cholera by comparing with other diseases that are also common in Phalombe; as one woman put it this way;

'*In my case, I follow the messages because cholera is a dangerous disease, because it doesn't take long for someone who has suffered from cholera to die. Some of the dangerous diseases we know like malaria; you can get sick today, wait overnight, take painkillers and go to the hospital the next day. But with cholera, if someone gets sick during the night, you may not wait for the morning because the person could already be dead by then. Cholera takes a few hours to kill someone because the person loses*

*a lot of water through vomiting and diarrhoea. Let's say if someone gets sick in the morning, if the HC is far from home, the person may die before they reach the HC, just on their way.' (**IDI's woman from Nkhwayi, 2014).***

Perceived susceptibility

The women had a wide variation on how they felt they are vulnerable to cholera; firstly, the women said a person is susceptible to cholera if she does not practice hygiene behaviours, and they said;

*'Cholera is really a dangerous disease; if you do not practice the hygiene behaviours, we increase our risk of suffering from cholera and other diarrhoea diseases.' (**IDI's woman from Nkhwayi, 2014).***

In addition to this, some women said that despite that they don't feel susceptible to cholera, they would like to follow the hygiene practices such as having a toilet; failing to do so puts them at a risk of suffering from cholera. One of the women said;

'*I just forgot one thing, which is a challenge in my village. Some women do not have men or husbands to construct the latrines and dig the refuse pit for them. It is very difficult for them, and they may not have enough money to hire someone to do that for them'. (**IDI's woman from Mpasa, 2014).***

Some women said this depends on the season of the year, saying they are more vulnerable during the rainy season than the dry season. This is what one of the women said;

'*Cholera is a challenge here especially during the rainy season, since this time most of the refuse and many bad things including faeces from open defaecation are carried by running water to our homes. Also, this is mango season, and we eat mangoes and throw the mangoes anyhow. This attracts big houseflies, which are mainly found in the*

*toilets, to the homes and everywhere in our space' (**IDI's woman from Nkhwayi, 2014).***

In addition to this, the women said that availability of mangoes at this time increases their risk to cholera;

'*Another problem is mangoes; this is a mango season; people eat mangoes as they walk, at the market, at school and even at home. They can get mangoes direct from the tree, eat and throw the remains there. This is dangerous because mangoes if thrown everywhere, attract houseflies. I can tell these flies are the ones that bring cholera to us' (**FDGs Nambazo woman, 2014).***

Some women linked their vulnerability to cholera to their villages being close to Lake Chilwa. They considered Lake Chilwa as where cholera begins. One of the women said these words in trying to explain how vulnerable they are;

'*Here at Nambazo, most of the villages are close to Lake Chilwa, which is a problem. We have cholera cases almost every year, because people get sick at the lake and the disease is spread to us. But my worry is at the Lake, I think, the HCWs should put much effort to teach the fishermen and people who do fish business at Lake Chilwa. These people stay there temporarily; as such they don't care about having toilets, they have temporary shelters which sometimes are floating houses. So they defaecate in the bushes or in the lake, and yet they use the same water in the lake for the whole period they spend at the lake. They drink the same water, they use it to prepare food and for bathing.' (**FDGs Nambazo woman, 2014).***

This was agreed to by a woman from Chitekesa who had this to say;

'I can say cholera is still a challenge here especially in areas close to Lake Chilwa. So the people in Nambazo and ourselves here at Chitekesa have almost the same risk;

*we are close to the lake and our men and boys are frequent visitors of the lake.' (**IDI's woman from Chitekesa, 2014).***

Susceptibility was also based on other people not following the hygiene practices. The women said that despite them practising the hygiene practises, if some people in the village do not do that, they are still at the risk of suffering from cholera since cholera is spread through faecal sharing. One of the women had this to say;

*'For cholera to be eradicated, we should all work together to follow the hygiene practises that are preached to us. Cholera cannot be eradicated if I decide to practice the hygiene behaviours and my neighbour doesn't follow the same. In that way, I will still be at risk since I may indirectly eat the faeces of someone who is defaecating openly somewhere.' (**IDI's woman from Nkhwayi, 2014).***

Some women also said that they are vulnerable to cholera because despite being told to treat the water they drink every day, chlorine is not provided to them throughout the year. Even the teachings are seasonal; one of the respondents said;

*'I know HCWs always come at this time to teach us, but they could have been doing this all-year-through, so that people internalize the messages before the rains begin. So I want to ask them to start organizing meetings with people at least all-year-round and chlorine should be distributed to us throughout the year, not just during the rainy season'. (**IDI's woman from Nambazo, 2014).***

In addition to this, some women also said that they are more vulnerable because their villages are far from Phalombe District and have roads that are impassable during the rainy season, making it impossible for the HCWs or the organizations to visit them, whether to teach them or bring chlorine to them;

*'The other problem is that our area is far away from Phalombe Boma; so during the rainy season, it is difficult for the HCWs to reach out to us. That is why if you compare organizations working here, you will find that just a few are working this side. This is a problem because cholera is a problem during the rainy season, this is the time we need chlorine and more messages but the roads become impassable and we are left isolated. If you go to areas like Mpasa and Migowi that are so close to the District, you will see the difference.' (**FDGs Nambazo woman, 2014).***

Lastly, the women also said they are vulnerable in Phalombe because of water problems. They do not have enough protected water sources;

'*Water is a big problem here in our area; the boreholes are not enough such that people get water from the wells, swamps and Phalombe River, and some even from Lake Chilwa. This makes cholera a problem up to now.*' (***FDGs Nambazo woman, 2014).***

4.3.3. Practice

Motivators

Despite the presence of some barriers hindering the respondents from practising good hygiene, the women said that there are several factors that motivate them to practise hygiene. The motivators are either perceived benefits or perceived threats.

Perceived threats

The threats posed by cholera, were a motivation for the respondents to practice the cholera prevention messages.

a. Past relatives and friends' illness

The respondents said that they are motivated to practice good hygiene in order to prevent cholera, because they witnessed relatives and friends who suffered and/or died from cholera.

'*My sister, when hot charcoal burns you once, you will never allow it to burn you again. I had a terrible experience when my husband got sick. I realized how deadly cholera is, he is alive just by the grace of God.*' (***IDI's woman from Nambazo, 2014).***

Another woman agreed to the same when she said;

*'Yes, I try to follow the hygiene practises, because I observed what happened to my brother's household; they used to ignore all the hygiene practises, they did not have a toilet and they used to defaecate openly. Even when a child defaecated openly, they could leave the faeces until rain water carried it away. They used to drink any water without treating it; I should say, they were, most of the times unhygienic. But what happened this other day, is that both my brother and my in-law and their child were diagnosed of cholera. And we lost the child. This made me to think otherwise and make sure I will always be hygienic.' (**IDI's woman from Chitekesa, 2014).***

b. Severity of cholera

The severity of cholera itself was a motivator for the women to practise hygiene, so as to prevent this deadly disease. The women said that they follow the hygiene practises because they are afraid of cholera which is a deadly disease, as it doesn't take long before a sick person dies.

'In my case, I follow the messages because cholera is a dangerous disease; it doesn't take long for someone who has suffered from cholera to die. Some of the dangerous diseases we know like malaria, allow you to get sick today, overnight, wait, take

*painkillers and you go to the hospital the next day; but with cholera, if someone gets sick during the night, you may not wait for the morning because the person will already be dead by then. Cholera takes a few hours to kill someone because the person loses a lot of water through vomiting and diarrhoea. Let's say if someone gets sick in the morning, if the HC is far from home, the person may die before they reach the HC, just on their way.' (**IDI's woman from Nkhwayi, 2014).***

4.3.3.1.2 Perceived benefits

The women said that there are several benefits when they practise the cholera prevention messages.

a. A Healthy living

The respondents said that hygiene practises in the HH ensure that the families are healthy. They said the risk of diseases like cholera and other diarrhoea diseases can be prevented, relieving the women from a burden of looking after sick children and relatives in hospitals or at home.

*'So on my own, I realized it is better for me to organize my toilet, and I will see to it that I will give my children a good life. I was a regular friend of the hospital, before I gave in to their advice. One child after the other got sick.' (**FDGs Mpasa woman, 2014).***

b. Cholera prevention campaigns

The women said that the HCWs and NGOs teaching them about cholera is a benefit and a motivator on its own. They always try to follow the hygiene practises, because they feel that if people are coming to teach them, then it means they care for them.

*'I understand the messages because I know that all the organizations and health care workers providing these messages to us, cannot just come to do so to pass hours, but they do so for our own good; if we can follow them, we are the ones who will benefit because we will not go to the hospital sick. I know that by following the messages I am not just protecting myself and my family, but the whole community here. This is because if I suffer from cholera, or my child suffers from cholera, our neighbours and friends can also suffer from cholera from that or from our unhygienic practises.' (**IDI's woman from Mpasa, 2014).***

c. Reduction in cholera cases

The respondents said that the reduction of cholera cases after the campaigns and hygiene practise is a motivation to them. There has been a reduction of cholera cases since they started practising hygiene messages, they are being told. This is because the people have changed their practise.

*'In my case I was so happy; I received the messages because I saw how we used to stay like animals, without a toilet, a bathroom nor a kitchen. I saw how people suffered from cholera and other diseases; I felt the messages had come at the right time and I can assure you people have really changed; as for those that are still stubborn, I hope with continued teaching, they will change.' (**FDGs Nambazo woman, 2014).***

Barriers

There are several barriers and challenges that hinder women from practising the encouraged hygiene behaviours. Poverty, marital status, inconsistent interventions, Illiteracy and cultural beliefs were perceived as the common barriers to practising the cholera prevention messages. The women said that despite the messages being delivered to them, the above challenges hinder them from practising the hygiene behaviours.

Poverty

The most common barrier to practising hygiene was poverty. The women said that most of the households (HH) were so poor that they did not have enough kitchen utensils to efficiently be hygienic. This is what one of the women said;

'*Of course, the other reason is that of poverty. I agree that in our villages we are poor; sometimes we may not have enough utensils to use, like plates enough to cover the food after cooking, or enough cups so that we should use two on the clay pot; so that one is used for drawing water from the pot and another one for drinking*.' (***IDI's woman from Mpasa, 2014).***

In addition to the lack of utensils, the women also said they sometimes fail to afford a bar of soap.

'*The other challenge is poverty; we cannot overlook this. Most of us in the villages don't afford to buy a tablet of soap and the other things we have mentioned to help us prevent cholera. We are not able to buy Water Guard, we do not have enough plates to cover our food, we may not have a husband to construct a latrine for us, we may not have a nice pail with a cover, we may not have enough cups to spare two for water.*' (***IDI's woman from Chitekesa, 2014).***

Marital status

In addition to poverty, the women also said that if a woman was single, divorced or widowed, it becomes a challenge for them to practise hygiene because they may not be able to do other things like constructing a latrine on their own.

'*I just forgot one thing, which is a challenge in my village. Some women do not have a man or husband to construct the latrine and dig the refuse pit for them. It is very*

*difficult for them and they may not have enough money to hire someone to do that for them' (**IDI's woman from Nambazo, 2014).***

Inconsistency

Inconsistency is another barrier to practising hygiene among women. They pointed out inconsistency on how the HCWs provided chlorine to them. They are usually provided with chlorine only during the rainy season.

'*Sometimes the HCWs distribute chlorine to everyone in the villages, though they do not do this all year round, so if we do not have chlorine, we just boil, but boiling is difficult because of the lack of time and firewood*.' ***(IDI's woman from Nkhwayi, 2014).***

This may affect their use of chlorine. This was said to be the same with the messages which are also brought to them only in the rainy season or when there was a cholera outbreak.

'*We don't treat water regularly. It is just when there is a cholera outbreak that we are very careful, but this time we relax and we don't even boil the water or treat the water. When there is an outbreak they tell us that. Otherwise this time we just get the water and put in a protected place like a clean pot or pail and we keep them not covered; just leaving the water standing without covering it is not good'*

Illiteracy

Illiteracy is another barrier to practising safe behaviour.

'*Another issue that I saw in the past is that people who were very stubborn are those who never went to school; so to start explaining to them one-by-one for them to understand what hygiene is, was a bit difficult such that some of us plus other volunteers reached an extent of digging the pit latrine to help them. But after all that*

*you would hear them saying 'so it means you get paid for this, or what do you get from the government?' (**FGDs woman from Mpasa, 2014).***

'*The other problem in our area here is that the women are the ones that are more illiterate than men; we have women who don't know how to read or write, so when these messages are coming, it is a challenge, so they will do well with verbal ones, but sometimes it is difficult to understand these as well.*' (***IDI's woman from Mpasa, 2014).***

4.4. Faecal sharing

The women also said that the messages also emphasize on the challenge of faecal sharing;

'*The HCWs also teach us about faecal sharing; they say if we openly defaecate, we eat the faeces indirectly. When the houseflies go to the faeces, they carry some faeces with them and put it on our food. To avoid this, we need to have toilets. If we see someone going into the bush, we need to take him to the chief so that he can remove his stool and possibly pay a fine.'*

4.6. Gender and cholera

The women said that despite that both men and women have a role to play in preventing cholera, they regard themselves as more important because of the roles they play in the home. One woman said;

'*Yes, I am very important so are my woman friends. This is because men do not draw water, they do not prepare food, and they do not change children's napkins. Men do not clean the home or even the toilet; it is a woman who does all that, and it is a woman's role to make sure that all the things I have talked about are done in such a way that cholera is prevented*'. ***(IDI's woman from Nkhwayi, 2014).***

‘*As a woman I look at myself as a very important person in Cholera prevention, because when we talk of a home, they mean a woman; for children and a husband to eat good and well-prepared food, it is a woman who looks into this. If we are talking about drawing water from the borehole or the river, it is mostly the woman who does that and she is the one who can take care of the water, preparing it so that it would be safe for drinking. Even for the message of using two cups for getting and then drinking, it is a woman who makes sure that this is followed in her home’. (**IDI’s woman from Chitekesa, 2014).***

4.7. Lake Chilwa and Cholera

Lake Chilwa was described by all women as where cholera starts from; most of them said they were at risk because of the lake.

*‘I can say cholera is still a challenge here especially in areas close to Lake Chilwa. So the people in Chitekesa and ourselves here at Nambazo have almost the same risk as we are close to the lake; our men and boys are frequent visitors of the lake. The first problem is that we don’t have enough boreholes and there is no piped water in the areas. As such, most of us are still using water from the wells, swamps and the river, and even the lake’. (**FDGs Nambazo woman, 2014).***

CHAPTER FIVE: Discussion of Results

5.1. Introduction

This chapter will discuss the cholera prevention messages' sources and content; what women in Phalombe knew and could recall about the messages, their perception, as well as the motivators and barriers to practising these messages. The results in this study were drawn from the HBM constructs as a theoretical framework, as-well-as others falling outside of the framework.

5.2. Message sources and content

5.2.1. Sources

There are several channels of messaging that can be used in hygiene campaigns, in trying to prevent a disease like cholera. These can be socio-traditional and socio-cultural channels; i.e. chiefs, religious leaders, who may organise village meetings; institutional channels like government ministries and NGOs; mass media channels like television, radio, printed press and billboards; and commercial channels through the sale of WASH related products in the shops.

The study observed that although almost all these channels are used to send the messages about cholera to people in Phalombe, the most effective way would be the use of the socio-cultural channels and the institutional channels whereby the chiefs, religious leaders or queen mothers and the HCWs, as well as the NGOs can organise meetings with the villagers to spread the messages to them. It was revealed in the study that most people do not have radios, televisions and cell phones, so using these modes of communication may not be as effective.

Despite the issue of illiteracy, it was observed that the printed press; for instance on T shirts and billboards, was also effective in sending the messages to the people.

5.2.2. Content

The messages available to women in Phalombe were; the importance of having a toilet or a latrine and how to care for it. They also were discouraged from faecal sharing. They were also told to have other sanitation facilities like a plate rack, refuse pit, a kitchen, a bathroom and a line for drying clothes.

The respondents were also told to wash hands with soap; the critical times to do so being after defaecation, changing a child's napkin and before eating.

They were also told to treat the water they drink with chlorine, Water Guard or by boiling.

5.3. Knowledge on messages and recall

Cholera eradication requires that people should know; what cholera is, the causes, how it is transmitted, the signs and symptoms of a person suffering from cholera and how cholera can be prevented.

The study showed that the women had some knowledge about cholera. They were able to explain how cholera is transmitted, the signs and symptoms as well as how cholera can be prevented. Despite having the knowledge, their knowledge was limited. For instance, the women were able to mention just a few of the critical times when they are supposed to wash their hands. Almost all respondents were able to say that they are supposed to wash hands after toilet use and before eating, a few respondents also mentioned washing hands when they changed their children's napkins. They were not able to recall that they are also supposed to wash hands before they start cooking.

And despite them knowing that they are supposed to wash hands, most of the respondents did not mention that they are supposed to wash their hands with soap. The respondents agreed that though they know that it is important to wash hands, in some critical specified times, they don't. This shows that there is a gap between knowledge and practice too. This gap may be the reason why cholera is still a challenge in the district.

This is in agreement with a study conducted in Bangladesh that identified the gap between hand washing with soap knowledge and practice; at different critical times i.e. before eating, after defaecation, after cleaning a child's stool, before feeding babies, before cooking and serving food across programme intervention period (41, 50). It was revealed that the majority (90%) of respondents have knowledge about hand washing with soap before eating and after defaecation, but only 21% and 88% of respondents respectively reported to do so (41, 50). This finding illustrates the knowledge-behaviour gap in hand washing with soap. Another study carried out in Kenya supports this study too, indicating 71% of respondents understood the importance of hand washing after defaecation but only 31% did so (41, 50).

This shows that there is need for long term motivating activities to improve hand washing practice with soap, since in some critical period of hand washing, the community people are still unconscious about the necessity of hand washing with soap.

On the same, the respondents knew that they are supposed to treat their water by either boiling, chlorine or Water Guard, but they were not very sure on the measurements of chlorine, and how much they are supposed to boil the water for the germs to be killed.

5.4. Women's perception about and practice of the messages

5.4.1. Perception

The women had different perceptions regarding cholera depending on how they perceived threats, severity, as well as their past experiences.

5.4.2. Practice

Despite having the knowledge on cholera, most of the respondents confessed that although they try to practice the cholera prevention hygiene messages, their practice is poor. Hand washing with soap was not practised in most of the critical times when they are supposed to.

Some hygiene practices were believed to be more important than others, as evidenced by hand washing with soap after defaecation, but not before food handling. Having a toilet was also regarded as more important than other messages.

Transformation of hygiene-related knowledge into practice, and practice into habit is hampered by some factors: the lack of interest, traditional knowledge, poverty and the lack of willingness to practice, traditional beliefs, illiteracy, marital status and a lack of safe water supply.

The study also revealed that most of the respondents were not treating their water. They said they fail to boil water because of the lack of firewood; and they fail to treat water with chlorine because chlorine is provided to them only during the rainy season. Although Water Guard is available on the market, most of them said they do not afford buying Water Guard.

Despite the messages to stop open defaecation, there are still some people who are defaecating openly. At Lake Chilwa too, people defaecate in the lake, making faecal sharing put the whole population at the risk of cholera.

The study also found out that some of the respondents do not wash fruits like mangoes before eating, and they eat left over food without reheating. The low practice of the hygiene messages put the women at a high risk of cholera. The observations made by this study are may be very important to researchers that may be doing similar studies in future.

5.5. Motivators and barriers

5.5.1. Motivators

Perceived severity and threats

In the study, the severity of cholera was able to motivate women to practice cholera prevention messages. The respondents confirmed that they are pushed to practice the desired hygiene practices because they know how severe cholera is, and that it is deadly.

This does not agree with a study which found out that perceived severity or adequate knowledge about a disease may not be sufficient to induce people to practise a certain behaviour (51).

This was evident in the responses of all women who linked their hygiene practices to their perceived severity of the disease.

Past relatives and friends' illness

The women who have experienced the illness of a relative or a close friend said this was a motivation for them to practice hygiene.

Perceived benefits

The study indicated that the perceived benefits of following hygiene practices were a great motivation for women to practise the messages. These benefits were; reduced cases of cholera since the campaigns began, healthy life without being admitted to the

hospital frequently, and the campaigns themselves with HCWs and NGOs going into villages teaching them.

5.5.2. Perceived barriers

The study noted that poverty is one of the challenges that restrict women from practising the cholera prevention messages. The women fail to efficiently practice these behaviours because they are poor and they cannot afford soap for use at the toilet, or enough equipment for their kitchen and storage of water. They cannot also afford the shop products used to treat water; i.e. Water Guard, which is sold at the market.

In addition to poverty, marital status is also a barrier, as divorced, single and widowed women revealed that they fail to practice some of the messages like having a toilet, because they don't have men who can do that for them. They may try to do so, but they cannot construct a strong toilet. In addition to this, their poverty is worse because they do not have men to fend for them.

The study discovered that most people in Phalombe do not have access to clean water, as there aren't enough boreholes. This is a barrier for them to practice hygiene as put in the messages. This made people fetch their water from swamps, Phalombe River and other unsafe sources. This is the case despite the Millennium Development Goal (MDG 7) of halving the number of people who did not have access to clean water by 2015; which was reached five years ahead of schedule in 2010, there are still a lot people in Malawi who rely on unimproved water sources.

Inconsistency in the provision of cholera prevention messages and treatment things like chlorine was another barrier to practice. The messages and chlorine are provided

mainly during the rainy season when there is fear of an outbreak. This affects practice among the people.

Another barrier was illiteracy, whereby the study revealed that illiteracy levels are high in Phalombe; as such most illiterate people find it difficult to understand the messages and effectively follow them. These barriers present a big challenge in cholera prevention, and there is a need to address these barriers.

5.6. Cholera at Lake Chilwa

The study found out that Lake Chilwa is a threat and is putting a greater risk of cholera on people in Phalombe. Despite Lake Chilwa being a source of income and attracting a lot of men from all over Phalombe to do fishing business, the unhygienic practices happening there put the fishermen and everyone in Phalombe at risk. The study found out that there are no toilets or boreholes at the lake, and the fishermen use the lake or surrounding bushes as their toilet. They defaecate in the Lake and in the bush, and they use the same water, straight from the lake to drink, bath and for cooking.

This concurs with the study done in Bangladesh, in Lake Bakerganj, where it was observed that water depth, conductivity, rainfall and copepod counts had an impact on the occurrence of cholera, in the cholera endemic environments, with water temperatures being directly correlated with cholera cases (52, 53).

The fishermen are said to believe that if they stop defaecating in the lake, then the fish will not reproduce and will eventually die, making their fishing business to go down as there will be no fish to fish and sell. They also believe that drinking water direct from the lake brings them good luck and by doing that, they will be successful fishermen.

5.7. Findings in relation to HBM

In this study, it was discovered that the HBM constructs; perceived severity, perceived threats, perceived barriers, perceived benefits and cues to action, can help in understanding the women's willingness to practising the cholera prevention behaviour.

It was also noted in the study that if there are more barriers than benefits, the women may not be able to practise the cholera prevention hygiene messages. So there is need that the benefits should be more than the barriers, since when making decisions, the women will always do a cost-benefit analysis.

The cues to action, which are; past cholera illness of relatives and friends, HCWs visits and explanation and mass media campaigns also motivated women to practise the cholera prevention messages.

HBM is reported to be one of the behavioural frameworks that is mostly used, and is the effective way to predict people's behaviours (11)

This agrees with the finding in this study, since it was found out that almost all the constructs of HBM were able to predict the practise of cholera prevention messages.

The women in the study said they knew how severe cholera is and they explained this motivated them to practise the desired hygiene behaviours.

5.8. Conclusions and Recommendations

5.8.1. Introduction

This chapter discusses conclusions from the study, implications of the study, its limitations and the recommendations made based on the findings from the study.

5.8.2. Conclusion

The study explored the knowledge, perception and practice of cholera prevention messages among women aged 18 and older in Phalombe District in Malawi in 2014. The study had four objectives; to explore the cholera prevention messages content reaching women in Phalombe District in 2014, to explore what women aged 18 and older know and recall about past cholera prevention messages promoted in Phalombe District, in 2014; to explore perceptions of cholera prevention message content among women aged 18 and older in Phalombe District in 2014 and to describe motivators and the perceived barriers for women aged 18 years and older to practice the behaviours promoted in the recommended cholera prevention behaviours in Phalombe District in 2014.

HBM construct can be used to understand the practice of cholera prevention behaviours as it has been seen in the study. The results of this study show that the women were motivated by the perceived severity of cholera, perceived threats, perceived barriers and perceived benefits of practising the messages.

5.8.3. Implications

The study suggests that when having a communication intervention like cholera prevention messages, several factors should be considered. Factors like economic

status of the community, marital status, illiteracy levels and availability of critical things like in this case, water and chlorine.

For such future studies, it is necessary that similar studies, but on a bigger scale should be conducted, and observation should be included in the studies so as to prove practice. Studies involving both qualitative and quantitative methods should be done in future.

The study also implies that the HBM constructs can be applied in finding out what motivates the women to practice the cholera prevention messages, because, it has been found out that perceived severity, perceived threats as well as perceived benefits really motivate the respondents to practice the desired behaviours.

5.8.4. Limitations

This study had several limitations; firstly the interviews could have created an artificial environment for participants, and this could affect how they responded. The respondents could also be suspicious and this could also interfere with data collection whereby the respondents could be biased, providing what they feel the researcher was looking for and not necessarily what they do.

Practice could not really be proved in interviews, since the women could possibly not explain what they do, but what they know are the right things for them to do.

On the other hand, since the study was a qualitative one and used IDIs and FDGs, rich data was collected, which gave a thorough explanation of the objectives of this study, but on the other hand the use of this single method is a weakness of this study.

5.8.5. Recommendations

5.8.5.1. Address poverty and illiteracy

Poverty and illiteracy were seen to be a challenge in practising the cholera prevention hygiene messages. The interventions trying to address cholera should address issues of poverty, i.e.; by providing chlorine, soap, buckets etc. They should also address the issues of illiteracy, by providing adult literacy schools in the villages.

5.8.5.2. Target Lake Chilwa and fishermen

The other interventions should target fishermen from all areas in Phalombe District and villagers around Lake Chilwa, so as to address the issues raised about open defaecation and hygiene issues in the area which are regarded as putting people in Phalombe at risk.

5.8.5.3. Water sources and sanitation facilities

The problem of water supply and sanitation facilities should be solved, so that all people are provided with safe water in trying to address the cholera challenge.

5.8.5.4. Consistency, sustainability and community members involvement

There should be consistency in the distribution of messages and requirements like chlorine, throughout the year; so that people can put the behaviours into their habit.

This is also true with the NGOs working in the areas; they should make sure that there is sustainability in the projects they start, so that when they leave the area, the people should be able to continue what they have been taught. This can be achieved if the villagers were involved in the campaign dissemination.

5.8.5.5. Continued message delivery

There should be continued training in home cleaning and maintenance, including the proper disposal of domestic and human wastes, the practise of proper storage and handling of water, proper hand washing techniques and how these practises relate to the prevention of hygiene-related diseases like cholera.

The messages should mostly use the socio-cultural channels, institutional channels and mass media; especially printed T shirts and billboards. These can be effective since the villagers do not have radios, televisions or cell phones and most of them do not buy newspapers.

Appendices

Appendix A:Plagiarism declaration to be signed by all higher degree students

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

FACULTY OF HEALTH SCIENCES

I **Tapiwa Sphiwe Gondwe** (Student number: **868383**) am a student registered for the degree of **Master of Public health** in the academic year **2015**.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signature: _____ Date: **11/08/15**

Appendix B: Information sheet: Women aged 18 and above, living in Phalombe District.

Hello and welcome.

My name is **TAPIWA GONDWE.** I am a student at the University of the Witwatersrand. I am conducting a research; looking at Women's Knowledge, Perception and Practise of cholera prevention messages in Phalombe District, Malawi in 2014. I will come to your village or anywhere you are comfortable to meet you and explain the study to you.

Invitation to participate:

I would like to invite you to volunteer to participate in the research study, which will be conducted in Phalombe District. You should agree to participate in the study only if you fully understand what will be asked and are completely happy with the procedures that will be involved. If you do not understand the information or have any questions, please feel free to ask me.

What is involved in the study?

If you would like to take part, you will be interviewed by me at your village. The interview will last for about 60 minutes. With your permission, this interview will be recorded so that I can make sure that I can gather the right information. Taking part in this is entirely voluntary and up to you; no person will receive any benefits or be disadvantaged in any way for choosing to participate or not to participate in the study. You may refuse to answer any questions you do not feel comfortable answering, and you may choose to pull out from this study at any point without any negative consequences.

Risks:

The interview will be conducted in a private place of your choice in the village. The potential risks you may face from participating in this study are:

- You may feel uncomfortable answering some questions that may be addressing some sensitive issues
- You will have to spare at least an hour to participate, hence may lose time for doing your routine household work

You are however informed that, you are free not to answer questions that may make you uncomfortable.

Benefits:

You will not get direct benefits from this study. The information collected in this study will be helpful in supporting government efforts to improve cholera challenges in the District.

Confidentiality:

All the information collected in this study will be strictly confidential. No information that identifies you will be included in this report. The interview material (tapes and transcripts) will not be seen or heard by any person besides my supervisor and me. The material will be kept in a locked cupboard that only my supervisor and I will have access to. All material will be kept for two years after publication, or six years in the absence of publication and then destroyed.

Once I have the results, and the final report has been written, the report will be seen by members of The University of the Witwatersrand, and LUANAR-Bunda campus.

Information and contact person:

If you have any questions regarding this study, you can contact:

Tapiwa Gondwe

I can be contacted by telephone at +265992291037

Contact details of researcher/s:

In the event that you want further information regarding your rights as a researcher or complaints regarding this research, you may contact the Chairperson of The University of the Witwatersrand, Human Ethics Committee at this number (+27) 11 717 2230/1

Appendix C: Women aged 18 and above, living in Phalombe District

Consent Form (Audio-taping):

I hereby confirm that the person seeking my informed consent to participate in this study has given me information to my satisfaction. He/she explained to me the purpose of the study and procedures involved, risks, benefits and my rights as a participant in the study.

I am aware that my voice will be recorded. I have been informed that only the research team and unless otherwise required by the Human Ethics Committee, and other human rights organizations will access the tapes and hear my recorded voice. I have been informed that the recorded voices will be kept in a lockable cabinet and destroyed by shredding two years after the publication of research.

I am aware that it is my right to withdraw my consent in this study without any prejudice. I hereby freely and voluntarily give my consent to be audio-recorded in this study.

Respondent:

Name: _____

Signature: _____

Date: _____

Researcher:

Name: _____

Signature: _____

Date: _____

Appendix D

Consent Form (Interview - Women aged 18 and above living in Phalombe)

I _____ agree/disagree to being interviewed by **TAPIWA GONDWE** for her study on Women's Knowledge, Perception and Practise of cholera prevention messages in Phalombe District, Malawi in 2014. She explained to me the purpose of the study and procedures that will be followed to collect data. She has also explained to me the risks and benefits and my rights as a participant of the study.

I feel that I am comfortable to take part in this study having all the questions I had answered to my satisfaction.

I am aware that the information that will be gathered from this study and from all participating people will be processed with confidentiality into a research report that may further be published. I am aware that this report and any publications from it will be shared with other academics and other Government departments in Malawi here.

I am aware that it is my right to withdraw my consent from the study without any prejudice. I hereby freely and voluntarily give my consent to participate in the study.

Respondent:

Name: _____

Signature: _____

Date: _____

Researcher:
Name: _____
Signature: _____
Date: _____
Signed _____

Appendix E

Data Collection Tool 1 - English

Participant ID: (Unique identifier) ---------- Name of village: ----------

---

Date: _ _ _, _ _, _ _ _ _

dd, mm, yyyy

Question 1: Demographic information

a. Age: _____ years

b. Marital status: _____

c. Years in the village : _____

Appendix F

Data Collection Tool 2 - English

Interview Guide for the Respondents

Question 1: Please tell me what you understand about cholera – What is cholera? (Probe on signs, causes,)

_____

_____

_____

Question 2: May you please tell me how you would prevent cholera?

_____

_____

_____

Question 3: What do you think encourages or motivates (you) people to practise the behaviours promoted in the cholera prevention messages? (Probe for more explanations).

_____

_____

_____

Question 4: Why do think some people (you) do not practise the messages that are promoted in the messages. What are the barriers?

_____

Question 5: Please tell me your experience in as far as cholera is concerned in your Village.

_____

_____

_____

Question 6: Please tell me of the messages about cholera that you have ever heard while here? (Probe, that the women give you as many messages as possible, by asking what else?).

_____

_____

_____

_____

_____

Probe to get more information on their knowledge level: e. g. What are the specific times recommended to wash our hands? (Do the same with other messages they will mention).

Question 7: Where did you hear the messages from and when? (Probe, for women to recall the sources of the messages, when they were said and why).

_____

_____

_____

Question 8: When you heard about the cholera prevention messages you have just mentioned to me, what did they really mean to you? (Probe to have thorough explanations).

_____

_____

Additional Comments:

Thank you

Appendix G : Human Research ethics committee(medical) clearance

M14/49 Ms Tapiwa Gondwe

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M140930

NAME: (Principal Investigator)	Ms Tapiwa Gondwe
DEPARTMENT:	School of Public Health Phalombe District - Malawi
PROJECT TITLE:	Women's Knowledge, Perception and Practice of Cholera Prevention Messages in Phalombe District, Malawi in 2014
DATE CONSIDERED:	03/10/2014
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Ms TM Hlungwani
APPROVED BY:	Professor Cleator-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	27/10/2014

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report.**

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix H: Malawi ethics clearance

Telephone: + 265 789 400
Facsimile: + 265 789 431

All Communications should be addressed to:

The Secretary for Health and Population

In reply please quote No.

.....

MINISTRY OF HEALTH AND POPULATION
P.O. BOX 30377
LILONGWE 3
MALAWI

17th November, 2014

Tapiwa Gondwe
LUANAR
Lilongwe.

Dear Sir,

RE: PROTOCOL # 1346: 'WOMEN'S KNOWLEDGE, PERCEPTION AND PRACTICE OF CHOLERA PREVENTION MESSAGES IN PHALOMBE DISTRICT, MALAWI IN 2014'

Thank you for the above titled proposal that you submitted to the National Health Sciences Research Committee (NHSRC) for review. Please be advised that the NHSRC has **reviewed** and **approved** your application to conduct the above titled study.

- **APPROVAL NUMBER : 1346**
- The above details should be used on all correspondences, consent forms and documents as appropriate.
- **APPROVAL DATE : 17/11/2014**
- **EXPIRATION DATE**
  This approval expires on **16/11/2015**. After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the NHSRC Secretariat should be submitted one month before the expiration date for continuing review.
- **SERIOUS ADVERSE EVENT REPORTING:** All serious problems having to do with subject safety must be reported to the NHSRC within 10 working days using standard forms obtainable from the NHSRC Secretariat.
- **MODIFICATIONS**: Prior NHSRC approval using forms obtainable from the NHSRC Secretariat is required before implementing any changes in the protocol (including changes in the consent documents). You may not use any other consent documents besides those approved by the NHSRC.
- **TERMINATION OF STUDY**: On termination of a study, a report has to be submitted to the NHSRC using standard forms obtainable from the NHSRC Secretariat.
- **QUESTIONS**: Please contact the NHSRC on phone number *+265 888 344 443* or by email on mohdoccentre@gmail.com.
- **OTHER**: Please be reminded to send in copies of your final research results for our records (Health Research Database).

Kind regards from the NHSRC Secretariat.

SECRETARY FOR HEALTH
2014 -11- 17

.....
For: CHAIRPERSON, NATIONAL HEALTH SCIENCES RESEARCH COMMITTEE
Promoting Ethical Conduct of Research

Executive Committee: *Dr C. Mwansambo (Chairperson), Prof. E. Molyneux (Vice-Chairperson)*
Registered with the USA Office for Human Research Protections (OHRP) as an International IRB
IRB Number IRB00003905 FWA00005976

Copy: D.E.H.O, (Consult on the modalities and Site logistics)

MINISTRY OF HEALTH
DISTRICT HEALTH OFFICER
NOV 2014
P.O. BOX 79, PHALOMBE

REFERENCES

1. Msyamboza KP, Kagoli M, M'Bang'ombe M, Chipeta S, Masuku HD. Cholera outbreaks in Malawi in 1998-2012: social and cultural challenges in prevention and control. Journal of infection in developing countries. 2014;8(6):720-6.

2. Masangwi SJ, Morsea TD, Fergusona NS, Zawdiea G, Grimasona AM, Namangale JJ. Behavioural and environmental determinants of childhood diarrhoea in Chikwawa, Malawi. Desalination. 2009;248:684 – 91.

3. Einarsdottir J, Passa A, Gunnlaugsson G. Health education and cholera in rural Guinea-bissau. International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases. 2001;5(3):133-8.

4. Phiri KM, Kagoli M, M'bang'ombe M, Chipeta S, Masuku HD. Cholera outbreaks in Malawi in 1998-2012: social and cultural challenges in prevention and control

J Infect Dev Ctries 2014; 8(6):720-6.

5. UNICEF. Humanitarian situation report. Malawi: UNICEF MALAWI, 2013 5th February, 2013.

6. Few R, Ahern M, Matties F, Kovats S. Health and Flood risk: A strategic assessment of adaptation processes and policies. Tyndal centre for climate change, 2005.

7. CDC. Cholera in Haiti2010 20th April, 2014.

8. UNICEF. Responding to cholera crisis: UNICEF WES Malawi. UNICEF, 2004.

9. Herbest JH, Beeker C, Mathew A, Mc Nally T, Passin WF, Kay LS, et al. The effectiveness of individual, group and community level HIV behavioral risk reduction interventions for adult men who have sex with men. A systematic review. American journal of preventive medicine. 2007;32(4s):s38-s67.

10. Harrison JA, Mullen PD, Green LW. A meta-analysis of studies of the health belief model with adults. Health education research. 1992;7(1):107-16.

11. Janz NK, Becker MH. The health belief model: A decade later. Health Education & Behavior. 1984;11(1):1-47.

12. Rosenstock IM. The health belief model: Explaining health behavior through expectancies. 1990.

13. Strecher VJ, Champion VL, Rosenstock IM. The health belief model and health behavior. 1997.

14. Fisher JD, Fisher WA. Theoretical approaches to individual-level change in HIV risk behavior. Handbook of HIV prevention: Springer; 2000. p. 3-55.

15. Nieuwenhuijsen ER, Zemper E, Miner KR, Epstein M. Health behavior change models and theories: Contributions to rehabilitation. Disability and Rehabilitation. 2006;28(5):245-56.

16. Akter T, Ali AM. Factors influencing knowledge and practice of hygiene in Water, Sanitation and Hygiene (WASH) programme areas of Bangladesh Rural Advancement Committee. Rural and remote health. 2014;14(3):2628.

17. Akter T, Ali AR, Dey NC. Transition overtime in household latrine use in rural Bangladesh: a longitudinal cohort study. BMC public health. 2014;14:721.

18. Curtis V, Cairncross S, Yonli R. Review: Domestic hygiene and diarrhoea–pinpointing the problem. Tropical medicine & international health. 2000;5(1):22-32.

19. Cairncross S, Hunt C, Boisson S, Bostoen K, Curtis V, Fung IC, et al. Water, sanitation and hygiene for the prevention of diarrhoea. International journal of Epidemiology. 2010;39(suppl 1):i193-i205.

20. Nizame FA, Unicomb L, Sanghvi T, Roy S, Nuruzzaman M, Ghosh PK, et al. Handwashing before food preparation and child feeding: a missed opportunity for hygiene promotion. The American journal of tropical medicine and hygiene. 2013;89(6):1179-85.

21. Hubley J. Barriers to health education in developing countries. Health education research. 1986;1(4):233-45.

22. Fewtrell L, Colford JM, Jr. Water, sanitation and hygiene in developing countries: interventions and diarrhoea--a review. Water science and technology : a journal of the International Association on Water Pollution Research. 2005;52(8):133-42.

23. Stanton BF, Clemens JD. An educational intervention for altering water-sanitation behaviors to reduce childhood diarrhea in urban Bangladesh II. A randomized trial to assess the impact of the intervention on hygienic behaviors and rates of diarrhea. American journal of epidemiology. 1987;125(2):292-301.

24. Rancourt N. Gender analysis of the 2012 : cholera outbreak and an assessment of OXFAM's response. OXFAM Research Report, 2013.

25. Rancourt N. Gender and Vulnerability to Cholera in Sierra Leone: Gender analysis of the 2012 cholera outbreak and an assessment of Oxfam's response. 2013.

26. Nizame FA, Unicomb L, Sanghvi T, Roy S, Nuruzzaman M, Ghosh PK, et al. Handwashing before food preparation and child feeding: a missed opportunity for hygiene promotion. The American journal of tropical medicine and hygiene. 2013;89(6):1179-85.

27. Nakkeeran N. Knowledge, truth, and social reality: an introductory note on qualitative research. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine. 2010;35(3):379.

28. Ali M, Lopez AL, You Y, Kim YE, Sah B, Maskery B, et al. The global burden of cholera. Bulletin of the World Health Organization. 2012;90(3):209-18.

29. UNICEF. Cholera toolkit. Available at http://wwwuniceforg/cholera/Cholera-Toolkit-2013pdf. 2013.

30. Farmer P, Almazor CP, Bahnsen ET, Barry D, Bazile J, Bloom BR, et al. Meeting cholera's challenge to Haiti and the world: a joint statement on cholera prevention and care. PLoS neglected tropical diseases. 2011;5(5):e1145.

31. Organization WH. Guidelines for cholera control. 1993.

32. Tappero JW, Tauxe RV. Lessons learned during public health response to cholera epidemic in Haiti and the Dominican Republic. Emerging infectious diseases. 2011;17(11):2087-93.

33. Curtis VA, Cairncross S. Effect of washing hands with soap on diarrhoea risk in a community: a systematic review. Tropical med international health. 2003;3:275- 81.

34. Carr R, Strauss M. Excreta-related infections and the role of sanitation in the control of transmission. L Fewtrell et coll(dir), Water Quality: Guidelines, Standards and Health. 2001:89-113.

35. Mintz ED, Reiff FM, Tauxe RV. Safe water treatment and storage in the home: a practical new strategy to prevent waterborne disease. Jama. 1995;273(12):948-53.

36. Azurin J, Alvero M. Field evaluation of environmental sanitation measures against cholera. Bulletin of the World Health Organization. 1974;51(1):19.

37. Blum D, Feachem RG. Measuring the impact of water supply and sanitation investments on diarrhoeal diseases: problems of methodology. International journal of epidemiology. 1983;12(3):357-65.

38. Khan MU, Shahidullah M. Role of water and sanitation in the incidence of cholera in refugee camps. Transactions of the Royal Society of Tropical Medicine and Hygiene. 1982;76(3):373-7.

39. Le TT, Luu NH, Rheinlander T, Dalsgaard A, Konradsen F. Sanitation behavior among schoolchildren in a multi-ethnic area of Northern rural Vietnam. BMC public health. 2012;12:140.

40. Organization WH. World health statistics 2010: World Health Organization; 2010.

41. Shahid NS, Greenough III WB, Samadi AR, Huq MI, Rahman N. Hand washing with soap reduces diarrhoea and spread of bacterial pathogens in a Bangladesh village. Journal of diarrhoeal diseases research. 1996:85-9.

42. NSO. Population and housing census. Malawi: National Statistics Office, 2008.

43. Potts D. Rural mobility as a response to land shortages: The case of Malawi. population, space and place. 2006;12:291- 311.

44. Joubert GERKJMAKSS. Epidemiology : a research manual for South Africa. Cape Town; New York: Oxford University Press Southern Africa; 2007.

45. Tongco MDC. Purposive sampling as a tool for informant selection. 2007.

46. Neuman W. Social research methods: Qualitative and quantitative approaches . US: Pearson Education. Inc; 2006.

47. De Vos A, Strydom H, Fouche C, Delport C. Research at grassroots: For the social sciences and human service profession. Pretoria: Van Schaik Publishers. 2002.

48. Miles MB, Huberman AM. Qualitative data analysis: a sourcebook of new methods; Qualitative data analysis: a sourcebook of new methods. 1984.

49. Miles MB, Huberman AM. Qualitative data analysis: An expanded sourcebook: Sage; 1994.

50. Rabbi SE, Dey NC. Exploring the gap between hand washing knowledge and practices in Bangladesh: a cross-sectional comparative study. BMC public health. 2013;13(1):89.

51. Hounton S, Carabin H, Henderson N. Towards an understanding of barriers to condom use in rural Benin using the Health Belief Model: A cross sectional survey. BMC Public Health. 2005;5(1):8.

52. Huq A, Sack RB, Nizam A, Longini IM, Nair GB, Ali A, et al. Critical factors influencing the occurrence of Vibrio cholerae in the environment of Bangladesh. Applied and environmental microbiology. 2005;71(8):4645-54.

53. Ali M, Emch M, Donnay J-P, Yunus M, Sack R. Identifying environmental risk factors for endemic cholera: a raster GIS approach. Health & place. 2002;8(3):201-10.