

UNIVERSITY OF GHANA

**SOCIAL MARKETING: USING THE HEALTH BELIEF MODEL
FOR THE PREVENTION OF CHOLERA IN GHANA**

BY

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**THIS THESIS IS SUBMITTED TO UNIVERSITY OF GHANA
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DECLARATION

I hereby declare that this thesis is the result of my own research and has not been presented by anyone for any academic award in this or any other university. All references used in this work have been fully acknowledged. I bare sole responsibility for any shortcomings.

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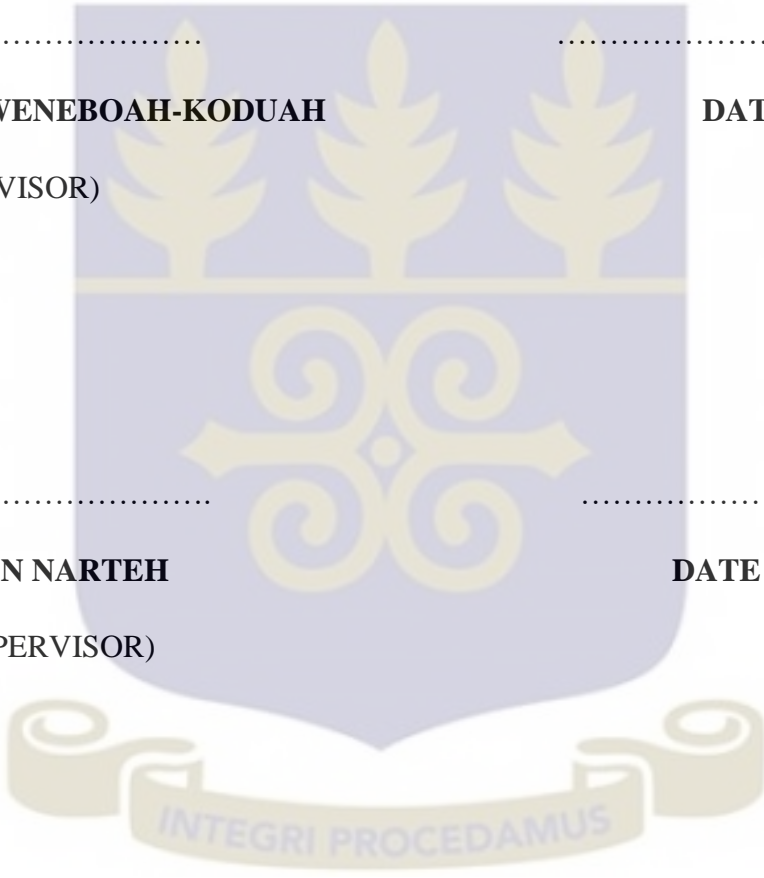
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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with procedures laid down by the University of Ghana.



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INTEGRI PROCEDAMUS

DEDICATION

I dedicate this thesis to my wife Caroline Konan and children Mawuena Akua Nkukporu and Mawutor Kwabena Nkukporu. I also dedicate this thesis to my twin brother Nkukporu Etse the wife Theresah Abla Ahiavor and their son Mawufemor Cofi Nkukporu for their support and encouragement throughout the study.



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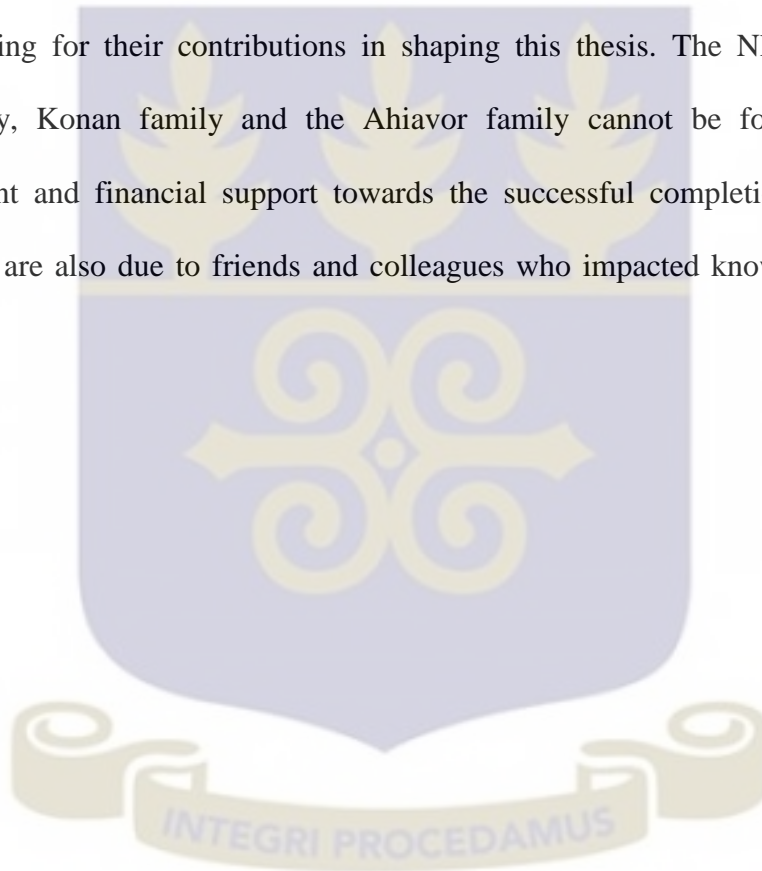


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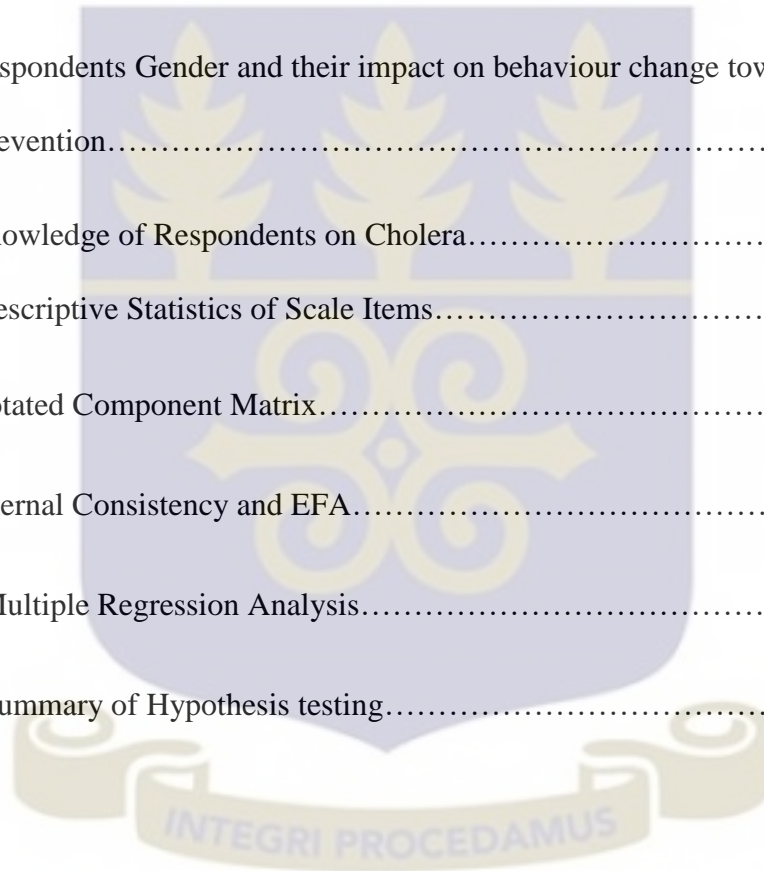
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ABSTRACT

The purpose of this study was to use the health belief model in social marketing to influence behaviour change towards cholera prevention from the context of a developing country, specifically Ghana. Research into cholera prevention has focused predominantly on the issues surrounding effective sanitation, improvement in potable drinking water and use of oral rehydration. Therefore, little attention in literature has been paid to understand the behavioural aspects of individuals in communities about cholera prevention in developing countries.

This study used the health belief model in social marketing as the model and conceptual framework and quantitative survey as the methodological stance in the study. 250 respondents were included in the study. Structured questionnaires were administered in Chorkor and Agbogloshie and the results were analysed using multiple regression.

The findings showed that, the health belief model (HBM) predicts 54.2% of variance in behaviour change on cholera prevention. However, among the constructs of the HBM, perceived barriers ($\beta=-0.708$, $P=0.000<0.05$) and self-efficacy ($\beta= 0.104$, $P=0.02<0.05$) were found to have a strong relationship with behaviour and significant predictors of behaviour change towards cholera prevention.

The result also showed that, on average (Mean = 2.5338, SD = 0.38691) individuals with no formal education disagree that they have change their behaviour. Social marketers should design interventions to target individuals with no formal education by educating them to change their behaviour. In addition, social marketers should incorporate interventions aimed at enhancing individual's self-efficacy. They should also raise awareness on perceived susceptibility, perceived severity, perceived benefits and cues of action. These will motivate individuals to engage in a healthier life style and change behaviour towards cholera prevention.

The study was limited to Greater Accra; specifically, Chorkor and Abgogloshie. This may not allow the researcher to generalise the findings to the Ghanaian population. Future research could select other geographical setting in the country.

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Cholera has been eliminated from the developed world through water and sanitation programs (Tappero & Tauxe, 2011). Meanwhile, cholera still remains a major public health threat in developing countries where proper sanitation and access to portable drinking water is limited to the citizenry (Gaffga, Tauxe & Mintz, 2007; Ali, Lopez, You, Kim, Sah, Maskery & Clemens, 2012). Cholera is an acute diarrheal illness caused by ingestion of food or water contaminated with bacterium vibro cholera serogroup 01 or 0139, which can lead to rapid dehydration and death if left untreated (Msyamboza, Kagoli, Chipeta & Masuku, 2014).

From the definition, it is evident that cholera is caused by contamination of food and water (Msyamboza et al., 2014). Other studies also looked at the causes of cholera from a poverty and social disruption perspective, which includes people living in unfit accommodation with limited access to toilets and improper drainage systems (Shultz, Omollo, Burke. & Breiman, 2009). Symptoms of cholera includes clinical features such as profuse watery diarrhea, vomiting, and leg cramps (Sack, Sack, Nair, & Saddique, 2004).

At least 3-5 million people, mostly in the developing world, are affected annually by cholera (Waldor, Hotez, & Clemens, 2010). In this regard, several studies have been conducted in the field of cholera (Gaffga et al., 2007; Shultz et al., 2009; Ali et al., 2012, de Magny, Thiaw, Kumar,... & Colwell, 2012; Msyamboza et al., 2014). In addition, cholera has received much attention with regards to its prevention (Osei & Duker, 2008,

Shultz et al., 2009; Ali et al., 2012; de Magny et al., 2012; Msyamboza et al., 2014). As a result, cholera has been noted as the most researchable communicable disease (Osei & Duker, 2008). Notwithstanding the numerous amount of research in the field of cholera, little attention in literature has been given to behaviour change as a tool for prevention of cholera (Shultz et al., 2009; Ali et al., 2012; de Magny et al., 2012). Moreover, Macfadyen, Stead and Hastings (1999) posit that social and health problems have behavioural causes and these demands behavioural change towards its prevention (Kotler & Lee, 2008). This is because strategies used to prevent diseases such as cholera in certain parts of the developing countries have failed (Charlse & Ryan, 2011). However, efforts by other countries are restricted because of conflict; poor governance and lack of resources; people living in foul conditions; and unfit accommodation (WHO, 2004; Gaffga et al., 2009).

World statistics on cholera depicts that in 2011, countries such as Afghanistan, Malaysia, Pakistan, and Thailand (all in Asia) recorded a total of 38,298 reported cases, out of which 428 died representing a case fatality rate (CFR) of 1.11%. Meanwhile, out of the total cases reported in Asia, 134 were confirmed as imported cases (WHO, 2012). In Europe 37 of the cases reported were all confirmed as imported cases and no deaths were recorded. Meanwhile, in South America, Haiti reported a total of 340,311 cases, out of which 2,869 deaths were recorded; leading to a case fatality rate (CFR) 0.84%. This was as a result of the tsunami (Ibid). In Sub-Saharan Africa, a total of 188,678 cases were reported, out of which 4,183 death was recorded representing a case fatality rate (CFR) of 2.22 % (Ibid). Although, cholera has been eliminated from developed countries, it remains a significant catalyst of illness and death in many African countries (Gaffga et al., 2009). The above statistics indicates that cholera is prevalent in Sub-Saharan Africa (SSA) (WHO, 2012).

In Ghana, the situation is not different from the rest of Sub-Saharan Africa (Osei & Duker, 2008). Thus in 2014, the country reported 20,955 cases and 166 deaths were recorded from 9 administrative regions in the country (WHO, 2014). However, Greater Accra Region accounted for 81% of these cases which depicts cholera prevalence in the capital city (WHO, 2014). Several studies with diverse views regarding the causes of cholera have been conducted: Osei and Duker (2008) argue that cholera is caused by urbanization and overcrowding which imposes pressure on acute health and sanitation facilities. According to Watson, Gayer and Cannolly (2007), the outbreak of cholera is caused by the contamination of drinking water facilities. Gaffga et al. (2007) contend that insufficient health care and astronomical levels of poverty are the major cause of cholera. Other studies concur that several factors account for the outbreak of cholera and indicated overcrowding, unsanitary conditions, inadequate health facilities, contaminated drinking water, and people with watery diarrhea sharing meals with others (Watson et al., 2007; Unger & Riley, 2007; WHO, 2014).

The above discussions are drawing attention to the causes of cholera outbreak but failed to address the human behaviour that engineered the causes of foul conditions that leads to the cholera outbreak. Meanwhile, it cost Ghana US\$ 290 million each year on poor sanitation and US\$54 million each year on health care (Alexandrova, Padiar, Asare-Kyei, Izquierdo & Gustavsson, 2012). This is as a result of improper health practices by people. Notwithstanding the numerous studies stated earlier in the subject area, few researchers (if any) have tried to understand how social marketing theory could be used to prevent cholera among Ghanaians. The prime aim of social marketing is geared towards behaviour change, modification of behaviour or rejection of bad behaviour for the benefit of a target audience (Hastings, 2007).

Social marketing plays a vital role in solving social problems (Helmig & Thaler, 2010). This cannot be done effectively without the use of theory (Andreasen, 2002). Theories such as the diffusion theory (Rogers, 1983); the stages of change also known as trans theoretical model (Prochaska, Diclemente & Norcross 1992); social cognitive theory (Bandura, 1977), theory of reasoned action (Ajzen & Fishbein, 1977); theory of planned behaviour (Ajzen, 1991); health belief model (Rosenstock, Strecher & Becker, 1988); and protection and motivation theory (Lefebvre, 2001) have been used in social marketing in recent times. Fishbein and Yzer (2003) argue that to identify whether a particular behaviour is determined fundamentally by attitudinal, normative, self-efficacy and environmental factors, demands the use of theory in social marketing health interventions.

Furthermore, in the Ghanaian context, social marketing interventions and theories have been applied in different health related areas and to address social issues. Manu and Sriram (1999) used the health belief model to address HIV/ AIDS preventive behaviour among the Ghanaian student population, Adih and Alexander (1999) employed the health belief model to predict condom use among sexually active men in one district in Ghana. In addition, Abotchie and Shokar (2009) studied cervical cancer screening among college students in Ghana using the health belief model and Tweneboah-Koduah (2014) employed the stages of change model to address HIV/AIDS testing intentions among Ghanaian university students. None of these used the health belief model for the prevention of cholera in the Ghanaian context.

The health belief model postulates that individuals will change their behaviour when they are influenced by perceived susceptibility, perceived seriousness, perceived benefits,

perceived barriers, cues of action from the social environment and self-efficacy (Bandura, 1977; Rosenstock et al., 1988).

1.1 Research Problem

In sub-Saharan, Africa the rate of prevalence of cholera is astronomically increasing due to high levels of poverty and limited access to adequate health care, safe drinking water and sanitation facilities (Gaffga et al., 2007). Ghana's situation is also critical because there is extreme overcrowding and foul living conditions in the urban communities contributing to the continuous outbreaks of cholera (Osei & Duker, 2008).

Notwithstanding the literature on cholera epidemic in the region, not many of these papers are concerned with using social marketing interventions for prevention of cholera (Osei & Duker, 2008; Shultz et al., 2009; Tappero & Taux, 2011; Jutla, Akanda, Griffiths, Colwell, & Islam, 2011). Msyamboza et al. (2014) suggest that the use of social and cultural approaches and the introduction of vaccine in addition to improvement in sanitation and safe drinking water could lead to cholera prevention in Malawi.

As observed from research discussions, little attention has been given to behaviour change as a means of cholera prevention (Gaffga et al., 2007; Osei & Duker, 2008; Jutla et al., 2011; Tappero & Taux, 2011; Msyamboza et al., 2014). This is because most individuals who live in unsanitary conditions associate cholera disease and diarrhea as normal illnesses (Cumberland, 2009). The major challenge was that most studies tended to overlook the human behaviour that engineered the foul conditions that leads to the outbreak. Meanwhile, behaviour change is individually centred (Brown, 2008). Macfadyen et al. (1999) contends that social and health problems have behavioural causes. This study

therefore seeks to employ social marketing using the health belief model to influence behaviour change towards prevention of cholera in Ghana-Greater Accra.

1.2 Research Objectives

The aim of this research is to employ social marketing with the aid of the health belief model for the prevention of cholera in Ghana. In other to achieve this, the study set the following research questions:

1. To examine the impact of perceived susceptibility and severity of Ghanaians towards cholera prevention;
2. To determine the effect of perceived benefits and barriers on behaviour change towards cholera prevention; and
3. To ascertain the impact of cues to action and self-efficacy on behaviour change towards cholera prevention.

1.3 Research Question

In other to provide answers to the research objectives, the following research questions were asked:

1. What is the impact of perceived susceptibility and severity on behaviour change towards cholera prevention?
2. What is the effect of perceived benefits and barriers on behaviour change towards cholera prevention?
3. What is the role of cues to action and self-efficacy on behaviour change towards cholera prevention?

1.4 Scope of the Study

The study was conducted within the Greater Accra central districts with the ultimate reason been that among the 10 administrative regions in the country, cholera is most prevalent in the capital city, Accra. The justification was that the Greater Accra Region had 81% of cases from the 2014 outbreak of cholera among nine administrative regions in the country (WHO, 2014).

1.5 Significance of the Study

This research is timely and appropriate because the season of cholera is here with us again; and the country has started experiencing rainfalls which leads to perineal flooding and the contamination of drinking water by the Korle Lagoon. This situation coupled with unsanitary conditions accounted for cholera outbreak in the country. This studies seeks to comprehend why people behave the way they do and advocates the use social marketing interventions to change their behaviour positively. This is because once a behaviour change is effected, individuals will understand how susceptible they are to being infected by cholera; and how severe or serious it is when infected by cholera. Individuals will also weigh perceived benefits with risks to determine the decision whether or not to take regarding the outcome, what barriers hinders a change; the cues to action from both the internal and external environments; and self-efficacy of the individual to take action. Moreover, massive awareness have been created about the prevention of cholera but the behaviour that causes the filth, induces open defecation and water pollution have not been addressed. In an attempt to address this health canker, it is therefore significant to use social marketing intervention programmes to understand the behaviour that causes the unhygienic practices and find appropriate solutions to them which will lead to the prevention of cholera in Ghana.

1.6 Chapter Organization

This study is divided into six chapters. Chapter One consists of the general introduction to the study, the problem statement, aims and objectives of the study and the significance of the study. Chapter Two consists of the contextual background information, while the Chapter Three includes literature review and the conceptual framework. The methodology as well as sources of data employed will be in Chapter Four. In addition, Chapter Five will be devoted to results and discussion of the findings. Finally, Chapter Six will provide the summary, conclusions and recommendations from the study. These are briefly discussed below:

Chapter One – Introduction and Background

This is the first chapter of the study and consists of the background of the study, statement of the problem, research objectives and research questions deduced from the objectives, scope of the study, the significance of the study and the chapter organization of the study.

Chapter Two – Literature Review and Conceptual Framework

This chapter tackles review of extant literature that are relevant to this study. Some of the areas captured as part of literature include; Social marketing and its definitions, Benchmarks for determining a genuine social marketing programs, Social marketing and public health initiative, both traditional and social marketing mix. Others are, some possible health related fields where social marketing have been used. This chapter also review behavioural change theories and their unique applications in social marketing. Finally, conceptual framework and hypothesis were drawn from the literature.

Chapter Three – Context of the Study

This chapter deals with the historical overview of Ghana, the historical background of cholera in Ghana, health facilities in Greater Accra. Other areas of concern in this chapter includes; the overview of some communities prone to cholera and efforts made so far by key stakeholders to curb the cholera cancer in the country.

Chapter Four – Research Methodology

This chapter focuses on the research approach employed in this study, the research design and sources of data appropriate for this research. Other areas include, the sampling design which entails, the study population, sampling size and sampling technique. In addition, the data collection instrument and the mode of data analysis were discussed in this chapter.

Chapter Five – Data Analysis and Discussion of Findings

This chapter contains the analysis of data which includes the demographic profile of respondents, reliability of the various scale items and descriptive statistics. In addition, this chapter deals with the multiple regression perform on the dependent and independent variables in this study. This chapter also contains discussions of major findings in this research.

Chapter Six – Summary, Conclusion and Recommendations

This chapter presents summary of major findings, conclusions based on the findings. It also deals with recommendations, contributions of the study, limitations of the study and future research direction.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Since the introduction of social marketing in the early 1970s, the application of marketing principles and practices to enhance social good has witnessed tremendous growth (Gordon, 2012). Social marketing applications have spread to cover a wide range of social issues such as smoking (MacAskill, Stead, Mackintosh & Hasting 2002); physical activity (Huhman, Potter, Wong, Banspach, Duke & Heitzler, 2005); problem gambling (Powell & Tapp, 2009); and HIV/AIDS testing intentions (Tweneboah-kodua, 2014).

There are numerous definitions of social marketing given in the literature reviewed. A definition from the 1970's claimed that social marketing – like generic marketing – is not a theory in itself but rather, it is a framework composed from many other groups of knowledge such as psychology, sociology, and anthropology and communications theory to understand how to influence people's behaviour (Kotler & Zaltman, 1971). Other studies explain social marketing as an approach to developing health, environment, and social change campaigns that aim to influence target audiences to voluntarily accept, reject, modify, or abandon a behaviour for the benefit of individuals, groups, or society (Andreasen, 1995; Kotler & Lee, 2008). Furthermore, French and Blair-Stevens (2010) defines social marketing as the systematic application of marketing alongside other concepts and techniques to achieve specific behavioural goals for a social good.

From the above definitions it can be argued that social marketing focuses primarily on influencing behaviour (Andreasen, 2002). Kotler and Lee (2008) emphasized that social marketers must understand what their target audience perceived as barriers in order to be

effective in the field of social marketing and to influence behaviour change. The National Social Marketing Centre (2006) advocated that every successful definition of social marketing should review three major elements, namely:

- It should achieve a particular “social good” rather than commercial benefit with specific behavioural goals clearly identified and targeted;
- It should be a systematic process that addresses short, medium and long-term issues; and
- It should utilize a range of marketing techniques and approaches (marketing mix).

In addition, one of the most essential definition by Andreasen (1995) describes social marketing as the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behaviour of target audiences in order to improve their personal welfare and that of society. Four key features were deduced from the definition of Andreasen (1995). The first focused on voluntary behaviour change, which means that social marketing is not about coercion or enforcement (Andreasen, 2002). For instance, individuals who are engaged in the unhygienic practices that fuelled the outbreak of cholera must be prepared to willingly give up the untidy habit. The second emphasizes that social marketers should induce change by applying the principle of exchange which implies that there must be a clear benefit for the individual if change is to occur (Kotler & Lee, 2008). According to Luca and Suggs (2013), the exchange theory in social marketing context is based on the premise that individuals will give up to an old bad behaviour after conducting the cost benefit analysis. Thus when the benefits outweigh the cost, then they are likely to change behaviour.

Relating this to the current research means that social marketers should provide motivation that will influence the individual to drop the unhygienic practices that will lead to cholera prevention (Gordon, McDermott, Stead & Angus, 2006). Thus, the benefits should outweigh the perceived consequences of changing to a new behaviour (Kotler & Lee, 2008). Third point demonstrates that marketing techniques such as consumer oriented market research, segmentation and targeting, and the marketing mix should be employed (MacFadyen et al., 1999). This argument is very essential in designing any social marketing intervention, which means that different individuals and communities are bedevilled with a diverse health related menace. As a result, interventions should be directed at areas where they are best needed (Andreasen, 2002).

Finally, the end goal of social marketing is to improve individual welfare and society, not to benefit the organisation doing the social marketing. This distinguishes social marketing from other forms of marketing (MacFadyen et al., 1999). In a previous study, Andreasen (2002) argued that the uniqueness of social marketing is its importance on voluntary behaviour change. In addition, Kotler, Roberto and Lee (2002) contend that social marketing has nothing touchable to offer, but rather encourages the target audience to voluntarily accept, reject, modify, or abandon negative behaviour. It is on this premise that both practitioners and scholars suggested that the fundamental objective of social marketing is not the promotion of ideas as recommended by Kotler and Zaltman (1971), but rather influencing behaviour (Andreasen, 2002).

However, others confuse social marketing with cause promotion, non-profit marketing and public sector marketing (MacFadyen et al., 1999). According to Kotler and Lee (2008), cause promotion concentrate their attention on social issues, such as, teenage pregnancy,

domestic violence, child abuse, global warming and make efforts to raise their awareness. They further argued that non-profit sector marketing is often employed to support the utilisation of the organisations services, advocacy efforts, volunteer recruitment and fundraising. In addition Kotler and Lee (2008) explain public sector marketing as activities used to support the utilisation of governmental agency products and services such as community clinics. That is why Niblett (2005) asserts that social marketing is not to embark on advertising or communication. It is against this backdrop that even though massive awareness have been created about cholera yet it still remains one of the major health treats in the country. In order to find a solution to the confusion, Andreasen (2002) recommends six 'benchmarks' for determining a genuine social marketing programme.

2.1 Benchmarks for Determining a Genuine Social Marketing Programme

According to Andreasen (2002), the first benchmark towards behaviour change is to design and evaluate interventions. This is because many preventive health care services offered by government require voluntary behaviour change in individuals (Zainuddin, Previte & Russell-Bannett, 2011). The second is to conduct research about your audience to ascertain the needs of the target group. This is relevant because having an in-depth knowledge about your target audience through research will help social marketers to unearth the required behaviour and find appropriate solutions to them. The third benchmark is to segment the audience to ascertain where each belongs. The rationale behind segmentation is that different communities or individuals might have different health issues and it is through segmentation that these variations will be revealed.

Because social marketing communication campaigns for health promotion and disease prevention involve analysis of audience demographic and psychographic factors for

effective message targeting, it will also help in effective resource allocation (Andreasen, 2002). Furthermore, the creation of an attractive motivational exchange with the target group as an intervention strategy is the fourth benchmark. This argument is of great importance because an individual needs to be motivated to indulge in behaviour change (Gordon et al., 2006). The fifth benchmark is to manipulate the traditional marketing mix (McCarthy, 1960) and the sixth benchmark is competition that prohibits change in behaviour.

It has therefore become imperative to review the various theories used in social marketing intervention programs. However, several definitions of social marketing spelt out social marketing as a systematic application (French & Blair-Stevens, 2006), or an approach or process (Andreasen, 1995; Kotler & Lee, 2008) which implies that social marketing activities cannot be carried out in a haphazard manner. As a result, there is the need to go through the processes when designing an intervention towards cholera prevention. Pirani and Reizes (2005) argue in the same direction to support the benchmarks as discussed earlier and reiterated that in designing interventions towards health related issues like cholera prevention, it should follow a well-structured procedure which encompasses formative research, audience's segmentation and the development of marketing mix.

2.2 Social Marketing and Public Health Initiative

It has been argued from extant literature that social marketing has severally been employed to offer solutions in the public health area (Grier & Bryant, 2005; Helmig & Thaler, 2010; Wymer, 2011). It is against this backdrop that studies conducted by Kotler and Zaltman (1971) posit that social marketing is not a theory in itself but rather, it is a framework or structure that draws from many other groups of knowledge such as

psychology, sociology, anthropology and communications theory to understand how to influence people's behaviour. Wymer (2011) contends that social marketing should not strictly stick to concepts in commercial marketing which is mostly applicable for selling consumer goods rather than affecting social change, and should inculcate concepts from the public health when developing a social marketing framework.

Health protection strategies, however, are quite different from the traditional social marketing thinking (Grier & Bryant, 2005). Health protection places an emphasis on the environment in which a community lives in order to reduce or eliminate harmful and unhealthy elements in the environment (Helmig & Thaler, 2010). This discussion is relevant to this study as the research draws primarily on social marketing using the health belief model for the prevention of cholera in Ghana.

2.3 Traditional Marketing Mix

The traditional marketing mix concept was coined by Neil Borden in 1953 and McCarthy (1960) then proposed the four "Ps" which has been used extensively in marketing literature ever since. The elements consist of product, price, place and promotion; and these are the traditional elements of the marketing mix. Meanwhile, Zineldin and Philipson (2007) argue that the marketing mix needs to be combined effectively in executing marketing activities.

The first P is the Product, which is a tangible object or intangible service that is produced or manufactured, and offered to consumers in the market. The second P is the Price, which represent the amount a consumer pays for the product or service, normally an economic cost. Moreover, the Place represents the location where a product or service can be

purchased, and can often be referred to as the distribution channel, which include physical stores as well as virtual outlets online. At the end manufactures need to communicate to their target audience through Promotion, which represents the communications that marketers use in the marketplaces including advertising, public relations, personal selling and sales promotion.

2.4 Social Marketing Mix

Extant social marketing literature reflects the reliance on the marketing mix model (Kotler & Lee, 2008). The discussions above on the traditional marketing mix had a twist when relating it to social marketing. Therefore, in social marketing, the product represents the behavioural offer made to target audience, which often involves intangibles such as adoption of an idea or behaviour. In the context of cholera prevention, the behaviour that needs to be changed was open defecation, and indiscriminate waste disposal representing the social marketing product. The exception is that tangible product offerings such as condoms to encourage safe sex can also be present in terms of prevention towards sexually transmitted infections. The price in social marketing relates to the costs that the target audience has to pay and the barriers they have to overcome to adopt the desired behaviour. These cost vary in many ways which includes; psychological (e.g. loss of de-stressing effect from smoking), cultural, social (e.g. peer pressure to drink), temporal, practical (e.g. cancelling the school run to reduce car use), physical and financial (e.g. cost of joining a gym to get fit). These costs can be social; for instance, peer pressure that encourages indiscriminate waste disposal. These costs can be social; for instance, peer pressure that encourages indiscriminate waste disposal.

Place in social marketing are the channels by which behaviour change is promoted and the places in which change is encouraged and supported. In the social marketing context promotion is the means by which behaviour change is communicated to the target audience through, for example, advertising, interpersonal mediums, media relations and direct mail. According to Zineldin and Philipson (2007), the marketing mix has achieved numerous successes in the marketing discipline through its application. They further argue that, the marketing mix is recognised as core tools of marketing that need to be combined carefully and used to produce the most viable mix. In spite of the achievements, the marketing mix has been criticised for being too simplistic and naïve for application for sophisticated marketing issues such as, service provision, business to business networking or social marketing (Gordon, 2012). However, the limitation of the marketing mix explained earlier is particularly essential to social marketing, because behaviour change involves making long term commitments and maintenance (Evans & Hastings, 2008). It is against this backdrop that some authorities used marketing mix together with segmentation and market research for successful achievements of behavioural change (Kotler, Roberto, & Lee 2002).

2.5 Areas where Social Marketing have Been Used

Different authorities have used social marketing to influence behaviour change in several health related issues as follows:

- Preventing skin cancer (Peattie, Peattie & Clark, 2001);
- Illicit drug use in Australia (Jones & Rossiter, 2002);
- Preventing domestic violence (Nabi, Southwell & Hornik, 2002); and
- Assessing HIV/AIDS Testing Intentions Among University Students in Ghana (Tweneboah-Koduah, 2014).

This is an indication that social marketing strategies have been successful in the past and can equally be used in the prevention of cholera (Gordon et al., 2006; D'Souza, Zyngier, Robinson, Schlotterlien, & Sullivan-Mort, 2011). Moreover, in designing and evaluating health interventions for the prevention of cholera, theories and models in social marketing are important (Luca & Suggs, 2013). In addition, Thackeray and Neiger (2002) posit that well executed health campaigns used theories. Furthermore, Lombardo and Leger (2007) argue that studies conducted on HIV/ AIDS in certain regions failed due to the absence of the use of theory in social marketing. It is against this backdrop that this current study employed the Health Belief Model as the social marketing theory for the prevention of cholera in Ghana.

2.6 Social Marketing Theories

Extant literature in the field of social marketing found that the following theories had been applied: stages of change also known as transtheoretical model (Prochaska et al., 1992); theory of reasoned action (Ajzen & Fishbein, 1977); theory of planned behaviour (Ajzen, 1991); health belief model (Rosenstock et al., 1988); social cognitive theory (Bandura, 2000); diffusion theory (Rogers, 1983); and protection and motivation theory (Lefebvre, 2001). Luca and Suggs (2013) argue that the fundamental theory in social marketing is the economic exchange theory. This theory postulates that human relationships are formed by the use of a subjective cost-benefit analysis and the comparison of alternatives. However, they further argue that in social marketing, cost-benefit analysis alone cannot create behaviour change (Ibid).

In terms of theories on influencing health related issues, several authorities in their unique studies have used varied social marketing theories and models in achieving positive results

for diverse health problems (Jones & Rossiter, 2002; Abotchie & Shokar, 2009; Hoque, 2010; D'souza et al., 2011; Tweneboah-Kodua, 2014; Yue, Weilin, & Bin, 2015). It is on this premise that this research employed the health belief model in social marketing for the prevention of cholera in Ghana (Rosenstock et al., 1988; Bandura, 2000). Other equally important models in social marketing were discussed briefly before the substantive health belief model was used in this current study.

2.6.1 Social Cognitive Theory

This theory postulates that an individual's behaviour is the result of the interaction among cognition, behaviour, environment, and physiology (Bandura, 1977). According to Bandura, (1977) there are two main factors that determine the chance that someone will adopt a health protective behaviour. First, the person must believe that the positive outcomes (benefits) of performing the behaviour outweigh the negative outcomes (Andreasen, 2000). Second, the individual must have a sense of personal agency or self-efficacy with respect to performing the behaviour (Bandura, 2000). That is, the individual must believe that he or she can perform the suggested behaviour, even in the face of various circumstances or barriers that make it difficult to perform that behaviour. In a similar study, Maibach and Cotton (1995) argue that behaviour is reciprocally determined by the individuals' internal personal characteristics coupled with the physical environmental settings in which the individual resides. For instance, Lerner (1982) asserts that people evoke diverse reactions from their social environment by the physical characteristics, such as age, sex, race and physical attractiveness, quite apart from what they say. Bandura (1986) added that, what people think, believe and feel have consequences on how they behave. However, the social cognitive theory has been criticised for its inability to encompass personal attitude as a factor to determine its impact

on behaviour change (Rosenstock et al., 1988). In spite of the limitations, this theory has the ability to stress on self-efficacy and other sources to determine behaviour change (Lerner, 1982; Maibach & Cotton, 1995; Bandura, 2000).

2.6.2 Theory of Reasoned Action

In an attempt to establish a relationship among beliefs, attitudes, intentions and behaviours, Ajzen and Fisbein (1977) introduced the theory of reasoned action. According to the model, behavioural intention is determined by three constructs, namely: attitude towards the behaviour; the subjective norm; and the personal agency (Ajzen & Fisbein, 1977).

The theory of reasoned action has been used successfully to predict and explain a wide range of health behaviours and intentions. This theory was limited to behaviours that are under full volitional control (Andreasen, 2002). Wymer (2011) posed the question: what about if those behaviours are not under volitional control? To solve this necessitated the introduction of addition variable which is known as perceived behavioural control to the theory of reasoned action to create a different theory known as the theory of planned behaviour (Ajzen, 1991).

2.6.3 Theory of Planned Behaviour

According to Ajzen (1991), there was the need for an additional construct, which is perceived behavioural control, to be included to the theory of reasoned action to address the difficiency and take care of conditions where individuals do not have an absolute volitional control over their behaviour. Ajzen (1991) further explained that, the key determinant of human behaviour is the individual's intention to execute or fail to execute a

particular behaviour. However, Vermeir and Verbeke (2008) assert that, the magnitude of the intentions primarily determines whether or not the performance of the particular behaviour.

2.6.4 Stages of Change Model

Prochaska et al., (1992) proposed behaviour change as a process that unfolds over time through a series of six stages. These stages are briefly explained below:

Pre-contemplation

At this stage the individual is totally unaware of the desirability of the behaviour and this makes it very difficult to effect a change at this level. For instance, if the individual is unaware that an unhealthy practice such as indiscriminate waste disposal and drinking of contaminated water is a catalyst to a cholera outbreak, nothing will stop him or her from the unhygienic practice; and behaviour change will be restricted.

Contemplation

This stage reveals a lot of thought in the minds of the target audience as the individual is aware of the threatening disease, such as cholera; but will only make a change if the benefits outweigh the risk involved in the behaviour change. At this stage, social marketers educate the target audience about the consequences and the merit associated with the particular behaviour.

Preparation

This is the stage where the individual expresses his or her readiness to effect a change in the very near future usually measured as the next month. Social marketers in designing

interventions should marshal available resources to influence the behaviour change. The campaign message on cholera prevention should keep on ringing in ears of the target audience because the danger at this stage is that certain social or environmental factors may influence the decision.

Action

This is where actual action is taken to change a behaviour by the individual. It is said to be successful and effective if the behaviour is changed between 1 day and 6 months. For instance if the target audience stops indiscriminate waste disposal between 1 and 6 months, then they are seen to have taken action.

Maintenance stage

At this stage the target audience is able to sustain the behaviour change for a long time without revisiting the old behaviour. Many households tidy their environments during the national sanitation day but a lot of them revert to the old practices since the decision to clean their environment was not through their own volition but rather they were bound by law to do so. This makes maintenance a very critical issue.

Termination stage

At this stage nothing can trigger the individual to revisit the old behaviour because the individual has ceased indefinitely the bad behaviour and has control over any external, social or environmental influences.

The extant literature suggests that the stages of change model has been applied across multiple health issues (Prochaska & Velicer, 1997; Tweneboah-kodua, 2014). These

studies have certain limitations. For instance, Tweneboah- Kodua (2014) employed the stages of change model in the Ghanaian context to assess HIV/AIDS testing intentions among university students and concluded that 80.9% of university students were at the pre-contemplation, contemplation and preparation stages. This implies that social marketing intervention programs encouraging university students to find out their HIV/AIDS status has not been effective. The reason being, that most university students in Ghana have not yet taken action to test for HIV/AIDS.

2.6.5 Health Belief Model

This model was established in the 1950s by social psychologists as a result of failure of people in participating in free tuberculosis screening (Janz & Becker, 1984). It postulates that an individual's willingness to indulge in a healthy behaviour is influenced by perceived susceptibility, perceived severity, perceived benefits, perceived barriers of the disease and cues from the social environment to take action (Rosenstock et al., 1988) and self- efficacy (Bandura, 2000). The constructs of the model and their application to this study are discussed as follows:

2.7 Components of the Health Belief Model

The HBM contains several constructs that predict why people will take action to control, to screen or to prevent diseases such as cholera. The theoretical constructs are perceived susceptibility; perceived severity; perceived benefits; perceived barriers; cues to action; and self-efficacy (Champion & Skinner, 2008).

2.7.1 Perceived Susceptibility

This is represented in the frame work as (H1). It is characterised as individual's perception since susceptibility of a particular issue varies from one individual to another. Reasonably, when individuals perceive they are at risk of a particular disease such as cholera, they will take healthy measures to prevent it. However, if they do not perceive to be at risk to the disease, they will resort to unhygienic practices (Chen, Fox, Cantrell, Stockdale, Kagawa-Singer, 2007). In other words, Champion and Skinner (2008) contend that, perceived susceptibility is important before the intention to changing dangerous behaviour can occur. However, this is not always the situation (Lewis, Maslow & Ireland, 1997). For example, it is observed from extant literature that cholera is caused by unhealthy practices such as indiscriminate waste disposal; open defecation; contaminated drinking water; perineal flooding; choked gutters which serve as breeding grounds for housefly which later infect food; living in unfit accommodation that lacks toilet facilities; and poor drainage systems. If an individual is surrounded by any of these indicators but does not feel at risk of contracting cholera, there will be no reason in their mind to make a behavioural change. Cumberland (2009) argues that certain communities or individuals perceive the outbreak of diseases such as cholera to be normal. If, on the other hand, the individual feel that they are at high risk and vulnerable to contract cholera then they will engage in healthy practices that will lead to the prevention of the disease.

Chen et al. (2007) contend that people were motivated to be vaccinated for influenza due to perceived susceptibility. However, susceptibility to a particular disease is subjective due to individual differences (Janz & Becker, 1984). For instance, even though people perceive high risk of skin cancer, they continue tanning their skin (Lamanna, 2004). In addition, people perceive themselves at high risk of HIV/AIDS yet they do not practice

safe sex. The goal of the health belief model is to change the perception of susceptibility in order to make a behaviour change (Rosenstock et al., 1988). This review informed the hypothesis:

H1: Higher perceived susceptibility to cholera increases the likelihood of cholera preventive behaviour.

2.7.2 Perceived Severity

This construct was represented in the framework as (H2). It is also characterised as an individual perception. In the HBM, perceived severity addresses how serious the diseases that a person is susceptible to, can be. According to Mc Cormick-Brown (1999), an individual may perceive a disease such as cholera based on medical information or knowledge and the belief of the individual about how damaging the disease will have on his or her life. In the case of cholera prevention, if the individual perceives cholera to be a major health cancer that can lead to death within minutes when not treated, they would indulge in hygienic practices to prevent it. On the other hand, if the individual perceives cholera infection to be like a mere headache that demands pain killers then there will not be the need to change the unhealthy practices. The situation varies from one community to another and on an individual basis. For instance, older adults perceive food-borne diseases to be severe yet they do not use safe food-handling practices all the time (Hanson & Benedict, 2002).

The HBM seeks to increase awareness of how serious the outcomes of behaviours can be if employed in health preventive intervention programmes like cholera. The combination of the two discussed constructs constitutes the perceived threat of the diseases and these are affected either negatively or positively by modifying factors. However, this study

adapted the approach of Yazdanpanah et al. (2015) and used the constructs without key attention to the modifying factors hence the formulation of the hypothesis below:

H2: Higher perceived severity of being infected with cholera increases the likelihood of taking cholera preventive behaviour.

After becoming aware of the potential for developing a disease if behaviour does not change, it is important to weigh up the benefits and the barriers to taking action and determine if it is worth changing behaviour.

2.7.3 Perceived Benefits

The perceived benefit is labelled H3 in the conceptual framework. In the HBM the goal is greater quality of life for an individual both mentally and physically (Janz & Becker, 1984). If the individual feels that the benefits are greater there is the likelihood of them taking preventive action (Frank, Swedmark & Grubbs 2004). Several studies have demonstrated that perceived benefits influence individuals initial efforts to perform health related preventive behaviour such as cholera (Yazdanpanah et al., 2015). Hence the hypothesis;

H3: The greater the perceived benefits of taking preventive action, the greater the likelihood of indulging in cholera preventive behaviour.

2.7.4 Perceived Barriers

From the conceptual frame work, perceived barrier was labelled H4. Perceived barriers were reported as important in various studies that focused on behaviour (Janz & Becker, 1984). If an individual identifies and understand the barriers associated with a particular

behaviour, it will compel the individual to take action (Farooqui, Hassali, Knight., & Aljadhey 2013). However, Julianawati, Cawley, Domegan, Brenner and Rowan (2013) argue that the following perceived barriers could influence behaviour change. These include: embarrassment; fear of pain; knowledge and awareness; attitude; accessibility; lack of support; time; and cost. For instance, in terms of accessibility, the non-availability of health facilities and inadequate toilet facility, potable drinking water, and non-availability of a waste dump site will prohibit individuals from practicing healthy life styles (Oon, Shuib, Ali, Hussain, Shaaban & Yusoff, 2011).

In addition, in Botswana, women failed to attend cervical cancer screening due to the absence of female health workers (Ibekwe, Hoque, Ntuli-Ngcobo & Hoque, 2011). In this situation the perceived barrier becomes the embarrassment they will go through when the male health workers attended to them. The critical issue at this point is that the higher the barrier the lesser it will be to perform a particular behaviour and the lesser the barrier the greater it will be to take a particular preventive behaviour; hence the hypothesis.

H4: The greater the perceived barriers arising from taking preventive actions the less likelihood there is that action will be taken towards cholera preventive behaviour.

2.7.5 Cues to Action

Cues to action is represented in the conceptual frame work as H5. According to Champion and Skinner (2008), cues to action refer to action triggers such as mass media campaigns; advice from friends; reminder postcards from health sectors; and newspaper or magazine articles on cholera could lead to a behaviour change when it is well executed. For instance, if a medical practitioner educates on cholera preventive measures there is the likelihood of the recipients of this education performing cholera preventive behaviours.

H5: *The greater the cues to action of taking preventive actions, the greater the likelihood of indulging in cholera preventive behaviour.*

2.7.6 Self- Efficacy

The individual's ability and capacity to indulge in a particular behaviour to manage prospective situations is what is term as self-efficacy (Bandura, 1977). Kotler and Lee (2011) posit that, for a person to perform a desired behaviour, it is based on two factors. First, the person must believe that the benefits of performing the behaviour outweighed the cost; and second, the person must hold a strong belief that he or she can perform the behaviour. Furthermore, Kazdin (2000) argues that there are four ways to develop a strong self-efficacy. These comprise of:

- **Mastery of experience:** A person who has achieved success with few challenges will have a high sense of self-efficacy, but will be susceptible when faced with challenges. On the other hand, the person will have a very high sense of self-efficacy if they have achieved success but in the process of doing so have needed to overcome many challenges (Kazdin, 2000).
- **Social modelling:** People take inspirations from others who have been successful and think they can also succeed (Kazdin, 2000)
- **Social persuasion:** Friends and social groups can inspire others to believe they are capable of achieving the behaviour and this will enhance their sense of self-efficacy (Kazdin, 2000).
- **Strong physical and emotional state:** That is a person's 'inferiority complex' that can affect a person's sense of self-efficacy. In other words, if the person does not believe that he or she is physically or mentally capable of performing a task, then such an individual is less likely to attempt to perform the behaviour (Kazdin, 2000)

In case of cholera prevention, the individual should be in a position to stop unhealthy practices without any undue influence but rather the free will of the individual is needed for behaviour change to occur (Andreasen, 2002). Some scholars have demonstrated the significance of self-efficacy in predicting health behaviour and it has been used frequently with other models to promote behaviour change (Palmeira, Teixeira, Branco,... & Sandinah, 2007). For instance, Palmeira et al. (2007) studied the role of self-efficacy in a weight management programme using various health behavioural models and suggested that self-efficacy was the most accurate in predicting the accomplishment of weight change. In addition, self-efficacy has played an important role in predicting nutrition behaviour among college students (Garcia & Mann, 2003; Von Ah, Ebert, Ngamvitroj, Park & Kang, 2004).

H6: Higher levels of self-efficacy leads to greater cholera preventive behaviour. Based on the literature reviewed on the components of the health belief model a conceptual framework was developed.

2.8 Conceptual Framework of the Study

The conceptual framework seeks to explain behavioural factors that influence an individual's willingness to engage in health-enhancing behaviours (Glanz, Rimer & Lewis, 2002; Abotchie & Shokar, 2009). The framework of the health belief model has been used across the health field (Hounton, Carabin, & Henderson, 2005; Champion & Skinner, 2008; Abotchie & Shokar, 2009; Carpenter, 2010; D'souza et al., 2011; Yazdanpanah, Forouzani & Hojjata, 2015). It is among the most widely applied theoretical foundations for the study of health behaviour change and they emphasized that in health prevention programs such as cholera prevention, the health belief model is the appropriate theoretical model that is needed to be used. Notably, the health belief model operates under three

main headings, namely: individual's perception; modifying factors; and likelihood of taking action (Champion & Skinner, 2008). Meanwhile other studies have argued that the health belief model are composed of two main items, which include threat perception and behavioural evaluation (Yazdanpana, Forouzani & Hojjata, 2015).

They further divided them into four psychosocial beliefs, which include perceived susceptibility, perceived severity, perceived benefits and perceived barriers (Buglar, White, & Robinson, 2010). Moreover, Vassallo, Saba, Arvola and Shepherd (2009) explained threat perception to represent perceived susceptibility to the disease and perceived severity of the disease. Whereas, behavioural evaluation represents perceived benefits and perceived barriers to endorsing a particular behaviour change. In addition, cognitive variable such as cues to action and health motivation was added (Vassallo et al., 2009; Akey, Rintamaki, & Kane, 2013). Bandura (1977) introduced an additional construct known as self-efficacy to the existing constructs of the health belief model. This is to advance the predictive effectiveness of the health belief model (Buglar et al., 2010).

While this model falls short of some limitations, it appears to have many impartations (Wilson & Lavelle, 1992; Hanson & Benedit, 2002; Hounton et al., 2005; Abotchie & Shokar, 2009; Hoque, 2010; Ng, Kankanhahi, & Xu, 2009; Carpenter, 2010; D'souza et al., 2011). For instance, Wilson and Lavelle (1992) in their study used the health belief model and found out that, cues to action and barriers are principal determinants of intended condom use among males and perceived social support, which is a mediating variable as a major determinants among females in Zimbabwe. The model proved successful in adults' food-handling behaviour in Nevada with an objective to measure the

association among health belief model variables and safe food-handling behaviours among older adults (Hanson & Benedict, 2002).

They further used the spearman rank correlation coefficient to ascertain the associations among the variables and suggested that cues to action were positively related to perceived threat of food-borne illness and safe food-handling behaviours. Perceived severity of food-borne illness was positively related to one dimension of safe food-handling behaviours especially sanitation; and concluded that the health belief model is a powerful theory for food-handling behaviour (Hanson & Benedict, 2002). D'souza et al. (2011) used the health belief model to evaluate marketing promotion in a public vaccination programme. Furthermore, to study the perception and intention of eating organic food (Yazdanpana et al., 2015) employed the HBM and found that perceived benefits, general health orientation, self-efficacy and perceived barriers are the determinants of consumers' intentions. The implication of this study alluded to the fact that the constructs of the health belief model could be used directly to influence behaviour change without any mediating factors.

Hoque (2010) used the health belief model to investigate cervical cancer screening among university students in South Africa, and argues that mere awareness and knowledge of a particular disease does not influence a behaviour change; but found that students who had had a Pap test had significantly higher average scores on benefit and motivation compared to students who had not had a Pap test. Hoque (2010) also found that perceived susceptibility to cervical cancer was very low and suggested that behavioural change is likely to occur when the individual is motivated, and there are other external mediating factors influencing the behaviour. Furthermore, getting closer geographically, Hounton et

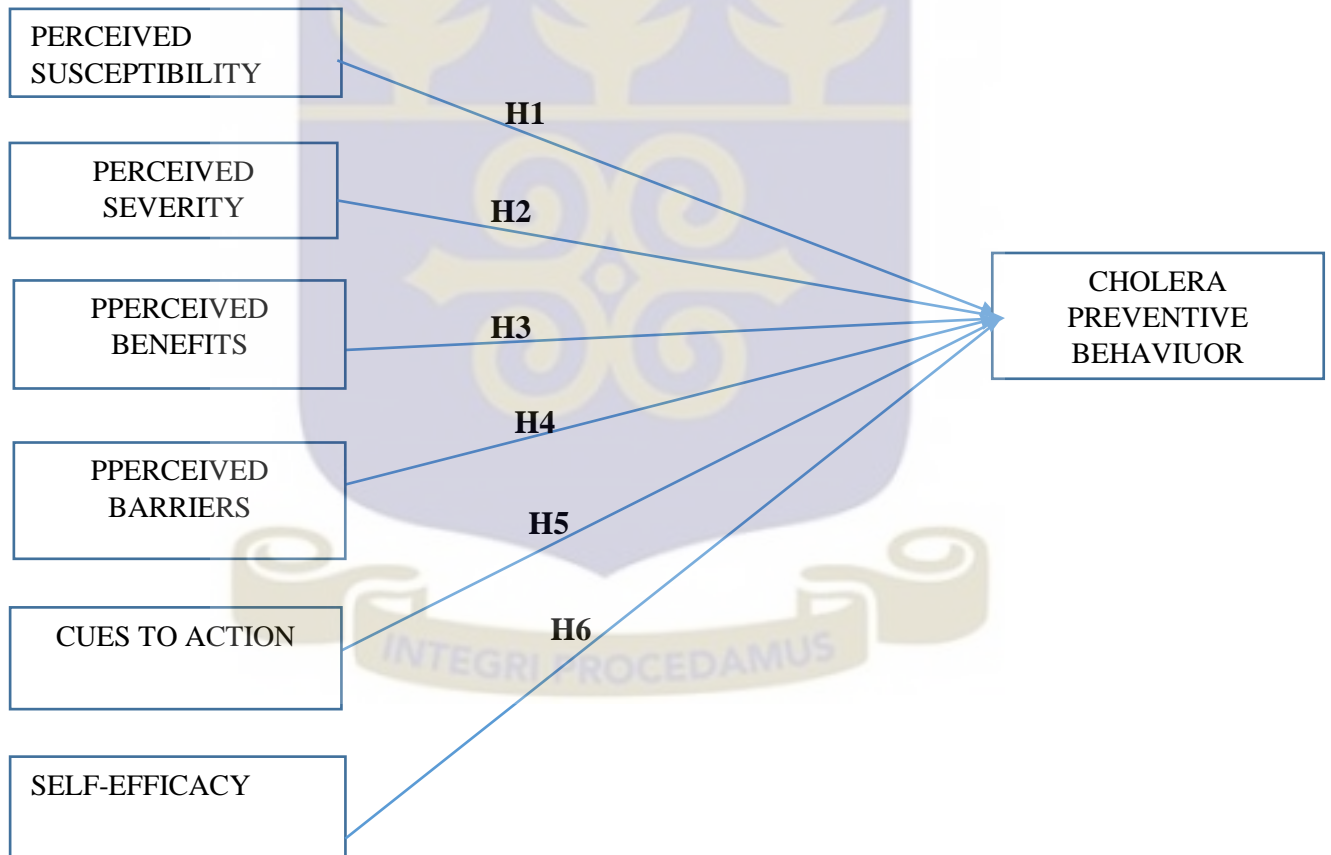
al. (2005) used the health belief model to gain an understanding of barriers to condom use in rural Benin; and found that, although a massive awareness campaign had been undertaken, the HIV/AIDS death increased astronomically and condom usage continued to decline. Their study unveiled limitations in perceived risk, perceived severity and adequate knowledge about HIV/AIDS as insufficient preventive strategies to induce condom use and suggested greater attention should be geared towards perceived barriers.

Studies conducted in Ghana that used the health belief model includes Manu and Sriram (1999) used the model for HIV/AIDS preventive behaviour in the Ghanaian student population and recommended the need to investigate gender issues and emphasized self-efficacy as a major determinant for AIDS preventive behaviour. Furthermore, Abotchie & Shokar (2009) employed the health belief model for cervical cancer screening among college students in Ghana and suggested that perceived barriers to screening have the most essential influence on screening behaviour. In order to predict condom use among sexually active men in one district in Ghana Adih and Alexander (1999) saw the need to employ the health belief model. However, the health belief model has not been applied for the prevention of cholera in the Ghanaian context.

There is a slight distinction in the arguments of Champion and Skinner (2008) and Yazdanpanah et al. (2015) regarding the operationalization of the health belief model. Thus, while the study of Champion and Skinner (2008) suggests that, for behaviour change to occur, the individual's perceived threats, perceived benefits and perceived barriers are influenced by mediating factors such as environmental factors, socio-demographic factors and the individuals knowledge about the disease; Yazdanpanah et al. (2015) were of the view that, once the individual perceived a threat from the disease and weigh the benefits to be greater than the risk and is able to ascertain the perceived barriers

to the disease then it would result in the likelihood of taking action towards the desired behaviour change without considering any mediating factors. Although extant literature exist to support both arguments, this current research adapted the explanations made by Yazdanpanah et al. (2015) to operationalize the constructs of the health belief model and its relationship with behaviour change towards cholera prevention in Ghana. The formulation of the theoretical framework and hypotheses was motivated by Yazdanpanah et al. (2015). This has been illustrated in a simplified diagram below.

Figure 2.1: Conceptual Framework of the Study



Source: Adapted from Yazdanpanah et al. (2015). Fig.2.1

2.9 Research Hypotheses

The hypotheses are based on the review of literature on cholera and other health related areas. The constructs of the health belief model took inspiration from the research of Yazdanpanah et al. (2015) who operationalized the constructs of the HBM without any mediating variables. In addition, Hoque (2010) suggested that all the constructs should be positively related to behaviour change except for perceived barriers, which should have an inverse association.

H1: *Higher perceived susceptibility to cholera increases the likelihood of cholera preventive behaviour.*

H2: *Higher perceived severity of being infected with cholera increases the likelihood of taking cholera preventive behaviour.*

H3: *The greater the perceived benefits of taking preventive action, the greater the likelihood of indulging in cholera preventive behaviour.*

H4: *The greater the perceived barriers arising from taking preventive actions the less likelihood there is that action will be taken towards cholera preventive behaviour.*

H5: *The greater the cues to action of taking preventive actions, the greater the likelihood of indulging in cholera preventive behaviour.*

H6: *Higher levels of self-efficacy leads to greater change towards cholera prevention.*

In summary, the health belief model is a simultaneous process used to encourage healthy behaviour among individuals who put themselves at risk of developing negative health outcomes (Carpenter, 2010). It is the most commonly used models in health-related research that explains and predicts health behaviour (Carpenter, 2010). In the health belief model, perceived susceptibility to, and perceived severity of, the disease jointly form the perceived threat, which is moderated by individuals' environmental, socio-demographic

status, knowledge about the diseases and any cues to action (Janz & Becker, 1984). The perceived threat combines with the perceived benefits of, and barriers to, the health-promoting behaviour to affect the likelihood of performing the respective health-promoting behaviour. Meanwhile, self-efficacy was found to be associated with the likelihood of health-promoting behaviours for many chronic health conditions such as diabetes (Gillibran & Stevenson, 2006).



CHAPTER THREE

CONTEXT OF THE STUDY

3.0 Introduction

In Ghana, cholera has become a major health problem to the extent that recent research shows an outbreak of cholera in nine administrative regions out of the ten regions in the country (WHO, 2014). The Greater Accra Region carries the highest rate (81%) of cholera in the country (WHO, 2014), therefore it was deemed appropriate to concentrate the research on the capital city of the country.

Habit once cultivated, is difficult to move away from, that is why it is more difficult to change behaviour than changing the physical environmental settings (Nath, Lim & Bignall, 1998). That is why in the literature several authorities argue that, for social marketing to be effective, the individual must be motivated to value the behaviour and voluntarily make a move to change (Andreasen, 2000; Kotler & Lee, 2008). The Minister of Local Government and Rural Development in his recent interview granted towards the sanitation day made it clear that the foul sanitation conditions in the country is attributed to attitudinal issues of the citizenry (Joynews, 2014).

In spite of the numerous effort made to curb this menace by the government, it is important to state that cholera still remains an issue of great concern (WHO, 2014). In view of this, the study focuses on ascertaining an understanding of the study area in a particular context.

This chapter will spell out the historical overview of Ghana and the prevalence of cholera in the Greater Accra Central District. Furthermore, this chapter comprises of the efforts

made by the Government of Ghana (GoG) in collaboration with the Health Ministry, Ministry of Local Government and Rural Development, Ghana Health Services, Ministry of Communication, and Ministry of Water Resource, Works and Housing (MWRWH) to help curb the sanitation problems that have bedevilled the country.

3.1 Historical Overview of Ghana

Ghana, formerly known as the Gold Coast, is located on the western coast of Africa, along the Gulf of Guinea and borders Burkina Faso to the North, the Atlantic Ocean or the Gulf of Guinea to the South, Togo to the East and Cote d'Ivoire to the West. There are 10 administrative regions in Ghana with Accra being the capital city. The current population of Ghana is estimated to be 26.3 million with Ashanti and Greater Accra Regions being the most populated with 19.4% and 16.3% of the population respectively; a population growth rate of 3.4% and 4.4% respectively has been recorded. Greater Accra is the smallest of the 10 administrative regions in terms of area, occupying a total land surface of 3,245 square kilometres or 1.4 percent of the total land area of Ghana. In term of population, however, it is the second most populated region, after the Ashanti Region, with a population of 4,010,054 recorded in 2010, accounting for 15.4 percent of Ghana's total population. It is the most densely populated region with a density of approximately 1,236 persons per square kilometre (GSS, 2010).

The densely populated nature of the region is as a result of rural urban migration. This imposes major pressure on the already acute lack of sanitation and health facilities, which results in extensive sanitation and health challenges.

3.2 Historical Background of Cholera in Ghana

Cholera has been documented in Ghana since 1970 (Osei & Duker, 2008). In 2011, the World Health Organization (WHO) ranked Ghana as the fifth most cholera endemic country in the world after recording more than 10,000 cases (WHO, 2012). In 2014, the Ministry of Health reported 16,613 cumulative cases of cholera and 130 deaths from 9 of the 10 regions of Ghana (WHO, 2014).

This is evidently supported by the fact that out of the total cumulative attack rate per 100,000 in the entire country, the Greater Accra accounted for 374.5 indicating the highest rate of cholera in the country (WHO, 2014). However, the Ghana Health Services in their report attributed the outbreak of cholera in the Greater Accra Region to insanitary conditions coupled with perennial flooding, choked gutters, and large refuse heaps in the region (Ghanaweb, 2014). On the other hand, the Ghana Health Service Report (2008) suggests that food from untidy environment and drinking of contaminated vended sachet water leads to cholera outbreaks in Greater Accra.

3.3 Health Facilities in Greater Accra

As of 2007, there were 466 health facilities, which constitute teaching hospitals, health centres and clinics, polyclinics, maternity homes (MOH, 2010). Out of the total number of health facilities in the region, the private health facilities accounted for 366. The implication is that access to health facilities in the private health sector is very expensive as compared to the government owned health facilities and this prohibits access to quality health care for medication when infected with cholera.

3.4 Overview of Some Communities Prone to Cholera

3.4.1 Chorkor Community

Chorkor is a community in the Greater Accra Region surrounded by suburbs such as Dansoman, Mamprobi, and the Atlantic Ocean. The main occupation of the inhabitants is fishing and fish mongering. Chorkor is densely populated and lacks basic social amenities like toilets, bath-houses, and drains. The unplanned nature of the community accounts for the unavailability of proper sewage systems and drains to the extent that waste-water from homes run through other homes; and this poses a major sanitation problem which subject inhabitants to communicable diseases and other unhygienic health related diseases such as cholera. The Chorkor community also lacks designated sites for refuse containers; and as a result, most households are compelled to dump refuse indiscriminately. Open defecation is a normal practice in this community due to the unavailability or scarce toilet facilities in some parts of the community (Ghana web, 2014).

Below is a picture of open defecation:



Fig 3.1: Open Defecation

(www.ghanaweb.com)

3.4.2 Agbogbloshie Market

Agbogbloshie market is one of the largest market in Accra for all sorts of commodities such as food stuffs, scrap metals, e-waste etc. The market covers approximately four acres and is situated on the banks of the Korle Lagoon, northwest of Accra's Central Business District. Agbogboloshie extends from latitudes $5^{\circ}33'00''\text{N}$ and longitude $0^{\circ}12'00''\text{W}$, and serves as the central hub for most food products from all part of the country.

Indiscriminate waste disposal is a normal practice in this community since they lack demarcated site for refuse dump. This is as shown below in the picture.



Fig 3.2: Indiscriminate waste disposal

(www.myjoyonline.com 2015)

3.5 Efforts of Key Stakeholders to Curb the Cholera Menace

3.5.1 Government

The Government of Ghana (GoG), in collaboration with the Ministry of Local Government and Rural Development, have declared the first Saturday of every month as sanitation day with the prime objective of cleaning surroundings in order to devoid them of foul conditions. This is the first step towards the prevention of cholera. (Ghana web, 2014). The GoG, through the communication Ministry, devises awareness campaigns and education programmes to sensitize the public on adhering to good sanitation practices to avoid infection from cholera.

3.5.2 Ministry of Communication

The Information Services Department at the Ministry of Communication is educating the public using mobile vans. Other forms of information such as documentaries and jingles on cholera are being aired by the media (WHO, 2014).

3.5.3 Ministry of Water Resource, Works and Housing (MWRWH)

This Ministry is working hand in hand with the District Assemblies and Local Government Authorities to identify community/ household water sources in-order to map out places to supply the water and check pipelines especially those located on drains. The ministry is providing water tankers to supply clean water to the affected communities in Accra. These efforts are made towards prevention of cholera in Accra (WHO, 2014).

3.5.4 Ministry of Health (MoH)

The Ministry of Health is responsible for stewardship of the entire health sector and ensuring equity and efficiency in the sector activities. It exercises this function by

providing overall policy directions; institutional development; coordinating the activities of agencies, partners and stakeholders involved in health; and ensuring performance and accountability within the sector. In addition, the MoH coordinates planning; resource mobilisation; budget execution; human resource development; and the overall monitoring and evaluation of the health sector performance (MOH, 2007).

3.5.5 Ministry of Local Government and Rural Development (MLGRD)

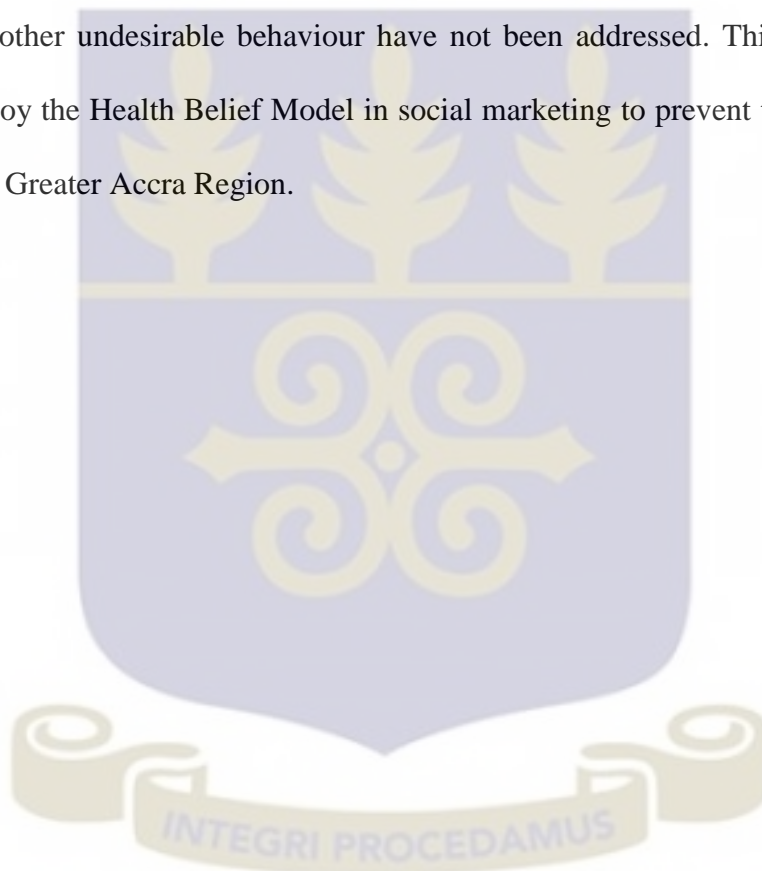
Cholera prevention in Ghana is the strict responsibility of the Local Government Sector rather than the Health Sector. This is because cholera is caused by lack of portable drinking water, unfit toilet facilities and unhygienic environmental conditions; and the Local Government Sector is in charge for the provision of portable drinking water, standard toilet facilities and sees to it that the environment is kept clean (GNA, 2014). As an initiative towards the prevention of cholera, the Local Government Sector announced the provision of free dustbins to various households, and has mandatorily declared the first Saturday of every month as a National Sanitation Day (Ghanweb, 2014). The Ministry of Local Government and Rural Development (MLGRD) has also intensified public education on sanitation and the enforcement of bye-laws on sanitation: their officers are also empowered to enforce bye-laws on sachet water production, sanitation, and food hygiene (WHO, 2014).

3.5.6 Ghana Health Services

Essentially, the role of the Ghana Health Service with regards to cholera, is to secure the lives of victims during an outbreak (GNA, 2014). The Disease Surveillance Unit works under the Ghana Health Service to carry out surveillance on communicable diseases. Based on the data they collect; they notify the appropriate health institutions in order for them to put preventive mechanisms into place to curb the menace. Disease surveillance is

the process of being watchful and vigilant for health problems and their determinants with the intention to take measures that will control and prevent disease, and thus improve or maintain the health of the population.

The attack rate of cholera in the capital city is astronomically increasing despite the tremendous efforts made by the various stakeholders towards its prevention. The simple reason is that the human behaviour that causes the open defecation, indiscriminate waste disposal and other undesirable behaviour have not been addressed. This study therefore seeks to employ the Health Belief Model in social marketing to prevent the further tide of cholera in the Greater Accra Region.



CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.0 Introduction

This section provides details of the methodology used for the study covering the research approach; research design; sources of data; and sampling design, which includes the study population, sampling size and sampling technique. Details of data collection instruments and data analysis are also included.

4.1 Research Approach

There are two main approaches to research, namely, qualitative and quantitative (Johnson & Onwuegbuzie, 2004; Vanderstoep & Johnston, 2009). Quantitative research is 'explaining phenomena by collecting numerical data that are analysed using mathematically based methods' (Aliaga & Gunderson, 2000; Creswell, 2013). It is also about quantifying relationships between variables using such statistical measures such as regression, correlation coefficient, and mean difference (Creswell, 2013). Whereas, qualitative research relies on words and aims at exploring and making meanings of a situation (Rotchford & Johnson, 2002).

The choice of the research approach should be based on the purpose or the objective of the study rather than commitment to a particular paradigm (Coll & Chapman, 2000). For the purpose and the objective of this study, the quantitative approach was employed to determine the impact and the relationship of the health belief model constructs on behaviour change towards cholera prevention (Creswell, 2009). The justification was that most researchers who used the Health Belief Model to address intended behaviours have employed the quantitative approach (Von Ah et al., 2004; Deshpande, Basil, Basil, 2009;

Yazdanpanah et al., 2015). De Coster and Lichtenstein (2007) also argue that the quantitative method provides replicable evidence to support theoretical predictions.

4.2 Research Design

The study used a cross-sectional survey in Accra to depict a snap shot of the cholera prevalence situation (Neuman & Robson, 2004). This was to determine the impact that perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy has on behaviour change towards cholera prevention; and asks individual questions at one point in time (Saunders, Saunders, Lewis & Thornhill, 2011). The purpose of a cross-sectional study is either to describe the incidents of phenomena; or to explain how factors are related (Saunders et al., 2011). In addition, a cross-sectional survey provides quick, inexpensive, efficient, and accurate means of collecting information about a population (Zikmund, Babin, Carr & Griffin, 2010). It is the simplest and least costly alternative (Neuman & Robson, 2004).

Some studies conducted using the health belief model as a framework employed a cross-sectional survey but in a different context (Yazdanpanah et al., 2015). Furthermore, Lo, Chair and Lee (2015) used the cross-sectional survey to assess health-promoting behaviours of people with, or at a high risk of, Metabolic Syndrome in a community setting. Yue et al. (2015) used a cross-sectional survey in a study of Chinese hypertensive patients using the health belief model as a theoretical framework.

This study believes in the concepts of objective reality (Jirojwong, Johnson & Welch, 2011); thus the positivist paradigm which are of the view that there is only one truth irrespective of people's perception (Sale, Lohfeld, & Brazil, 2002) was adopted.

Quantitative research is most appropriate when testing objective theories to ascertain the relationship among variables and collecting numerical data in order to explain, predict or control phenomena of interest (Creswell, 2009). Hopkins (2008) argues that quantitative study seeks to ascertain the relationship between one thing (independent variable) and the outcome variable (dependent variable). In this study, the independent variables are perceived susceptibility; perceived severity; perceived benefits; perceived barriers; cues to action; and self-efficacy (Rosenstock et al., 1988; Bandura, 1977). On the other hand, the dependent variable is the cholera preventive behaviour.

Descriptive statistics were performed to ascertain the mean, and standard deviations in order to describe the socio-demographic variables (Pallant, 2010). In order to establish the significant difference between the demographic variables, t- test and an analysis of variance (ANOVA) was conducted. According to Pallant (2010), t-test is appropriately used for two groups (eg. Male and female) and the ANOVA for more than two groups to compare the mean score on some continuous variable. This study operationalised gender to represent male and female, therefore, it was imperative to use t-test for the analysis. However, ANOVA was used for the other demographic variables such as age, educational qualification, religion and marital status. A data reduction strategy using exploratory factor analysis (EFA) was carried out to determine the variables that were perceived to be relevant in predicting behaviour change towards cholera prevention. Finally, multiple regression was used to study the extent of the relationship between the Health Belief Model constructs and cholera preventive behaviour (Pallant, 2010).

4.3 Sources of Data

Data for this study comprised of primary sources of data. The reason was to get an objective response from the individuals who reside in the selected communities for the purpose of the study. This study employed personal interview method to collect the primary data with structured questionnaires. These questionnaires were administered face-to-face in households to respondents in Accra; specifically, on individuals who reside in Chorkor and Agbogloshie. This method was chosen with the notion to elicit favourable responses and also translate the English language to the native language of the respondent for clarity and understanding.

4.4 Sampling Design

This section includes the study population, sampling size and sampling technique.

4.4.1 Study Population

The study population is the world of units from which the sample size is to be selected for the research (Bell & Bryman, 2007). The target population for this study comprised of communities with a high prevalence rate (81%) of cholera in Accra (WHO, 2014). The greater Accra had an estimated population of about 3,888,512 (GSS, 2014).

4.4.2 Sample Size

The finite part of a statistical population whose properties are used to make estimates about the population as a whole is known as a sample (Webster, 1985). Neuman (2006) argues that quantitative studies is known to be scientifically asking a large number of individuals the same question which is used to generalized the decision of the whole population. This study used a sample of 280 respondents who reside in the selected

communities of Chorkor, Agbogloshie and its environs. The choice of the sample size was motivated by Kent (2007) and Burns and Bush (2010). For instance, Kent (2007) argues that a sample size of 100 respondents and above are acceptable in quantitative studies. During the administration of the questionnaires, 250 of the respondents representing 89.29% were willing and participated in the survey.

4.4.3 Sampling Technique

A non-probability purposive sampling technique was used to select communities which are highly prone to cholera in Accra based on the purpose of the study (Mahmound, Tweneboah-Koduah & Danku, 2011).

4.5 Data Collection Instrument

Primary data were collected for the study with the aid of a structured questionnaire. The survey questionnaire has three sections. The first section is related to demographic data of the respondents which consisted of 3 multiple choice questions; and the second part looked at the respondents as far as their knowledge in the field of cholera is concern and entailed 3 multiple choice questions. However, each question had one correct response. The health belief model construct questions were included in the third section of the questionnaire, and were taken from the Health Belief Model theory which consisted of 33 items formed from 6 constructs of the HBM. Additionally, questions were asked on the dependent (cholera preventive behaviour) variable to ascertain whether behaviour change has taken place.

Before designing the questionnaires, there was a thorough review of other study questionnaires and a review of the relevant literature (; Ng et al., 2009; Vassallo et al.,

2009; Akey et al., 2013). Care was taken in designing the questionnaire to reduce measurement error (Howell, Shea, & Higgins, 2005). The questionnaire's internal reliability was investigated using the Cronbach's coefficient alpha (Pallant, 2010).

The third section of the questionnaire was designed based on five-point Likert-type response choices: from strongly agree (scores 1 points) to strongly disagree (5points). This was to reduce the statistical problem of extreme skewness (Champion, 1987). Response time for the questionnaire was about 5–10 minutes. All questionnaires were checked to make sure that responses were completed.

4.6 Ethical Consideration

It is important to consider ethical issues when conducting research. Rogelberg (2002) refers to ethics as norms of conduct that distinguish between acceptable and unacceptable behaviour. Furthermore, Rogelberg (2002) reiterates that researchers should evaluate critically their competence and knowledge about ethical guidelines. However, due consideration and key attention should be given to the research design before conducting the research in order to make the results ethically acceptable. He argued that there is a positive relationship between ethics and the scientific quality of a study, which means that low quality research designs are less likely to be ethically acceptable. Thus, one major ethical requirement is the need to have a good research design based on theory and previous work, use appropriate methods to test hypotheses, and sample from applicable populations because a poorly designed research will lead to inaccurate conclusions, which may hurt the populations to which it is applied (Rogelberg, 2002). This study was designed based on a model and review of extant existing literature. The sample size was drawn from an appropriate population. Some ethical considerations are as follows:

Right to informed consent: the purpose and the objective of the study were explained to the potential respondents for them to understand and in their own volition accept to participate in the study (Rogelberg, 2002). The respondents herein were duly informed of the objectives of the study and their consent was taken before any procedures were carried out. Nobody was coerced into participating in the survey.

Permission: the researcher obtained a written introductory letter from the Department of Marketing and Customer Management. This helped the research to obtain data from appropriate offices and respondents.

Confidentiality and anonymity: Data collected from respondents involved in this research were treated confidentially and assurances were given that all responses or information given was for academic purpose and not for any other purpose. No respondent was asked to quote his/her name and all responses were as anonymous as possible.

4.7 Data Analysis

In quantitative research, statistical analysis and interpretation is an essential part of answering the hypotheses or research questions (Creswell, 2013)). Out of the total questionnaires (280), 250 were retrieved. These were coded into SPSS (version 20). This was done in order to perform analysis on the data. Prior to this, the data set was screened and cleaned. The purpose of doing this was to detect irregularities that are fundamental and could be avoided in the questionnaires during the time of data entry. In order to ascertain the mean of the variables a t-test and standard deviation was run.

The survey data collected from this study were analysed using statistical software of Microsoft Excel and IBM (SPSS version 20.0) for windows. Data were coded and

screened for outliers or any other variations in the data set. Descriptive statistics was used to analyse the demographic profile of respondents.

Cronbach's alpha was conducted to check the internal consistency and reliability of the data. The Cronbach's coefficient alpha values ranges from 0 to 1. According to Nunnally and Bernstein (1994) reliabilities within the ranges of 0.6, 0.7, 0.8 and 0.9 are acceptable and good. Principal component analysis was conducted to reduce the data by excluding any redundancy occurring among the variables, and to obtain a factor loading for each item in the corresponding factors. Relationships as hypothesized by the research model was analysed through multiple regression analyses. According to Wooldridge (2009 pp, 66), multiple regression is useful for generalizing functional relationships between variables and it follows these assumptions:

1. Linearity: The relationships between response and each of the predictor variables are linear in the parameters of the specific functional form chosen.
2. Zero mean: Each conditional distribution of the error term has a mean of zero.
3. Homoscedasticity: The variance of the conditional distribution of error term is constant for all such distributions where the variance is not constant; we have a situation of homoscedasticity.
4. Independence: The values of the error terms are serially independent; thus the values of the error terms are independent of each other and their covariance is, accordingly, zero.
5. Multi-collinearity: The predictor variables are linearly independent of each other. They are non-multi-collinear.
6. Normality assumption: The error term is normally distributed with mean 0 and a constant variance

4.7.1 Model Specification

Variables in this study include both dependent and independent variables. The independent variables include perceived susceptibility (PSUP), perceived severity (PSEVER), perceived benefits (PEBENEF), perceived barriers (PBARR), cues to action (CUE) and self-efficacy (SELFCAY). The dependent variable is behaviour change towards cholera prevention (CBCH). Hence the model specification;

$$CBCH_i = \alpha_0 + \alpha_1 PSUP_i + \alpha_2 PSEVER_i + \alpha_3 PEBENEF_i + \alpha_4 PBARR_i + \alpha_5 CUE_i + \alpha_6 SELFCAY_i + \varepsilon_i$$



CHAPTER FIVE

DATA ANALYSIS AND DISCUSSION OF FINDINGS

5.0 Introduction

This chapter spells out the analysis of data including demographic profile of respondents, reliability of the various scale items and the descriptive statistics. Finally, the results of the multiple regression performed to examine the various hypotheses proposed in the study, are discussed.

5.1 Demographic Profile of Respondents

In literature, many demographic variables exist. However, this research limited the variables and profiled respondents according to gender, age groups, education, religion, and marital status. Table 5.1 below shows that, there were 100 men representing 40% and 149 women, which accounted for 59.8% who participated in the research work. In terms of age group, 18-24 years had a frequency of 56 representing 22.4%; 25-30 years had the highest with a frequency of 86 representing 34.4%; followed by 31-40 years with a frequency of 85 representing 34%. Others were 41-50 with a frequency of 21 accounting for 8.4%; and those above the age of 50 had a frequency of 2 representing 0.8% of the sampled respondents.

The statistics on gender and age was an illustration of respondents' participation in the study. This is because the convenient sampling technique was employed with no strict measure as to who should answer the questionnaire but rather anybody who was available and was willing to participate in the study was contacted. This is because the researcher could not obtain a sample frame on the population.

Another variable that was used to profile sampled respondents was their educational qualification. The selected communities for study reveal that 138 respondents representing 55.2%, which is the majority of the sampled population, had no formal education. 77 had primary education representing 30.8%. The remaining, which includes JHS, SHS/A' Level and Tertiary, had 26%, 0.4%, and 8% respectively.

Table 5.1: Demographic Profile of Respondents

PROFILE	MEASUREMENT	FREQUENCY	PERCENTAGE
Gender	Male	100	40.2
	Female	149	59.8
	Total	249	100
Age	18-24	56	22.4
	25-30	86	34.4
	31-40	85	34.0
	41-50	21	8.4
	Above 50	2	0.8
	Total	250	100
Education	No formal education	138	55.2
	Primary education	77	30.8
	Junior School(JHS)	High 26	10.4
	Senior School(SHS)/ Level	High A' 1	0.4
	Tertiary	8	3.2
	Total	250	100
Religion	Christianity	108	43.2
	Islamic	39	15.6
	Traditional	92	36.8
	Others	11	4.4
	Total	250	100
Marital Status	Single	56	22.4
	Married	155	62
	Divorce	39	15.6
	Total	250	100

Source: Field work, 2015

In terms of religion, Christianity dominated the sampled respondents with a frequency of 108 representing 43.2%; followed by traditional religion with 92 respondents accounting for 36.8%. However, Islamic religion had a frequency of 39 representing 15.6% and others who belong to other forms of religion which was not captured in the questionnaire were 11 representing 4.4%.

Marital status was also an important variable that was used to profile the sample respondents. As at the time of the research, the majority were married with a frequency of 155 representing 62.0%; followed by single with 56 accounting for 22.4%; and divorce had a frequency of 39 representing 15.6% of the sampled respondents. Issues such as co-habitation was not captured under this category. This is illustrated in the Table 5.1 above.

5.2 Anova and t-test for Demographic Respondents

Pallant (2010) argues that, in order to compare the variance between different groups with the variability within each group, it is appropriate to employ the analysis of variance (ANOVA). The analysis of variance is used to compare the mean difference between three or more variables. On the other hand, the independent sample t-test is performed to compare the mean difference of two different groups (Pallant, 2010).

This study employed one - way analysis of variance to determine the statistical significant difference between the demographic profile (Age, Education and marital status) of respondents and their influence on behaviour change towards cholera prevention. Furthermore, an independent sample t-test was used to determine the mean difference between gender (Male or Female) of respondents. It must be noted that, in this study, the mean score is compared to an assume mean of less than or equal to 2 to mean that the

respondents disagree with the statement. Also, when the score is 3 the respondents are neutral.

However, when the mean score is 4, then the respondents agree to the statement and when the mean score is 5, the respondents strongly agree to the statement. This is illustrated in the following tables:

Table 5.2: Age of Respondents and their influence on cholera preventive behaviour

Factor	Age	Mean	SD	F- ratio	Sig
Cholera preventive behavior				11.801	0.000
	18-24	3.1399	0.67777		
	25-30	2.6008	0.56896		
	31-40	2.5725	0.45166		
	41-50	2.6984	0.14548		
	Above 50	2.1667	0.23570		
	TOTAL	2.7167	0.58067		

Source: Field Work, 2015

From the table, 5.2, the Anova result shows that, there is a statistical difference ($F=11.801$, $P < 0.05$) between the age groups of respondents and behaviour change towards cholera prevention. On average, the respondents (Mean=2.7167, SD=0.58067) disagree that have change their behaviour. The Anova results further shows that, on average, respondents within 18-24 age group (Mean=3.1399, SD=0.67777) were neutral. In other words, they were not sure whether they have change their behaviour towards cholera prevention.

However, on average, respondents within, 25-30 (Mean=2.6008, SD=0.56896); 31-40 (Mean=2.5725, SD=0.45166); 41-50 (Mean=2.6984, SD=0.14548), disagree that they have changed their behaviour but they are making efforts towards neutral. Most importantly, those above 50 years strongly disagree that they have change behaviour

towards cholera prevention. This is because, respondents above 50 years regard their unfit environmental settings to be normal since they have lived there all their life. As a result, it will be very difficult for them to accept a new behaviour.

Table 5.3: Respondents Level of Education and their impact on behaviour change towards cholera prevention

Factor	Education	Mean	SD	F- ratio	Sig
Cholera preventive behavior				51.148	0.000
	No formal education	2.5338	0.38691		
	Primary education	2.6104	0.39700		
	JHS education	3.6346	0.68964		
	SHS/A'Level education	3.0000	0.0000		
	Tertiary education	3.8750	0.44320		
	TOTAL	2.7167	0.58067		

Source: Field Work, 2015

The Anova results from table 5.3 above shows a statistical significance difference ($F=51.148$, $P < 0.05$) between educational background of respondents on behaviour change towards cholera prevention. This signifies that education has an influence on behaviour change. On average, the respondents (Mean = 2.7167, SD = 0.58067) disagree to the statement that they have change their behaviour. Meanwhile respondents with no formal education (Mean = 2.5338, SD = 0.38691) and primary education (Mean = 2.6104, SD = 0.39700) disagree more than respondents with other educational levels. On the other hand, on average, respondents with SHS/A'Level education (Mean=3.000, SD=0.0000) were neutral. Meanwhile, on average, respondents who have tertiary education (Mean=3.8750,

SD=0.44320) agree that they have changed their behaviour. This could be attributed to the fact that, respondents with higher level of education comprehend the social marketing campaign messages on cholera than those with little or no formal education. This because, the official language used for most social marketing intervention campaign messages are in English language. As a result, it will be difficult for respondents with primary and no formal education to understand.

Table 5.4: Respondents marital status and their impact on behaviour change towards cholera prevention

Factor	Marital status	Mean	SD	F- ratio	Sig
Cholera preventive behavior	Single	2.8720	0.54587	10.173	0.000
	Married	2.7495	0.61907		
	Divorce	2.3632	0.23839		
	Total	2.7167	0.58067		

Source: Field work, 2015

The Anova result from the table 5.4 shows a statistical significance difference ($F=10.173$, $P<0.05$) between marital status and behaviour change towards cholera prevention. On average, respondents (Mean = 2.7167, SD = 0.58067) disagree that they have change their behaviour. The divorce respondents (Mean = 2.3632, SD = 0.23839) disagree more than those who were married (Mean = 2.7495, SD = 0.61907). This is because divorce partners psychologically feel that, they are no more under any sanitary obligation since they perceive that there is no one to impress (health wise) and as such are no longer health conscious.

Table 5.5: Respondents Gender and their impact on behaviour change towards cholera prevention

Factor	Gender	Mean	SD	F- ratio	Sig
Cholera preventive behaviour				26.386	0.000
	Male	2.4767	0.29208		
	Female	2.8803	0.66584		

Source: Field work, 2015

From the table 5.5, it is observed that gender ($F = 26.386$, $P < 0.05$) plays a significant role in predicting behaviour change towards cholera prevention and there is a statistical significant between gender and behaviour change towards cholera prevention. The result shows that, Male (Mean = 2.4767, SD = 0.29208) disagree more than female (Mean = 2.8803, SD = 0.66584). The reason could be attributed to the fact that, male are more likely to be careless when it comes to health matters.

Table 5.6: Knowledge of Respondents on Cholera

Items(Questions)	Measurement	Frequency	Percent
Are you aware about cholera?	Yes	245	98.0
	No	5	2.0
	Total	250	100
What causes cholera?	Dirty environment	81	32.4
	Eating contaminated food	11	4.4
	All the above	158	63.2
	Total	250	100
How can you prevent yourself from contracting cholera?	Stop unhygienic practices	184	73.6
	Drinking potable water	57	22.8
	Have no idea	9	3.6
	Total	250	100
Can clean environment prevent cholera?	Yes	237	94.8
	No	13	5.2
	Total	250	100
Can desilting of choked gutters prevent cholera?	Yes	240	96.0
	No	10	4.0
	Total	250	100

Source: Field work, 2015

Table 5.6 depicts sampled respondent's knowledge about cholera: 98% were aware of cholera and 5% said they are not aware of cholera, which is an indication that almost all the respondents understood the nature of the questionnaire hence participated. Furthermore, in terms of what causes cholera, 32.4% attributed the dirty environment to the causes of cholera; 4.4% associated it with eating contaminated food; and 63.2%, which constitute the majority, attributed the causes of cholera to dirty environment and eating

contaminated food and other unhygienic factors. In addition, to test the knowledge of the sampled respondents regarding cholera, 96% responded that desilting of the choked gutters can indeed lead to prevention of cholera and 4% had 'No' as an answer.

Descriptive Statistics

Descriptive statistics are the numerical and graphical techniques used to organise, present and analyse data (Fisher & Marshall, 2009). This was for describing what occurred in the sample; and it helps to identify sample characteristics that may influence a particular conclusion (Thompson, 2009). Pallant (2010) argues that descriptive statistics comprises the following:

- Measures of central tendencies takes into consideration the numerical value with the greatest frequency (Mode), the middle score of a rank ordered distribution (Median) and the average score (Mean); and
- Measures of variances.

Table 5.7 below spells out the means and standard deviations of the dependent and independent variables to denote the magnitude to which the sampled respondents disagree or agree with the items in the questionnaire. The questions asked in this research were scaled from 1 to denote strongly disagree to 5 which represents strongly agree and 3 to denote neutral position. The mean results of the variables indicate how each statement performed from the 250 respondents.

Table 5.7: Descriptive Statistics of Scale Items

	N	Mean	Std. Dev	Var
I can easily get cholera	250	4.84	.689	.475
I can get cholera if I do not wash my hand with soap	250	4.52	.897	.805
I can get cholera if I buy food from unhygienic places	250	4.73	.497	.247
If I eat cold food which are contaminated	250	4.86	.440	.193
If I drink contaminated water	250	4.91	.329	.108
I think cholera is a mere water borne disease	250	1.49	.865	.749
Cholera is deadly	250	4.81	.449	.201
I saw a cholera patient on TV and I was afraid	250	4.37	.493	.243
I can die within a few minutes from a cholera infection	250	4.84	.431	.186
I will be extremely weak if I get cholera	250	4.94	.387	.149
It is expensive to treat cholera	250	1.09	.284	.081
I will save money if I prevent myself from contracting cholera	250	4.91	.316	.100
I will save time	250	4.66	.522	.272
I will be healthy and active	250	4.65	.477	.228
Prevention is better than cure	250	4.92	.266	.071
Expensive to dispose waste in my community	250	4.83	.693	.480
I have no toilet facility in my house	250	4.26	1.552	2.408
Refuse collection point are far from my house	250	4.66	.998	.995
I do not have access to good drinking water	250	4.90	.301	.090
Most food vendors in my community are located near choked gutters	250	4.64	1.002	1.004
Commercials on TV and Radio remind me about cholera	250	4.77	.477	.227
Health education campaign reminds me about cholera	250	4.04	.830	.689
A family member diagnosed with cholera reminds me about cholera	250	4.10	1.252	1.568
I am unable to dispose waste because I cannot do it	250	4.64	.770	.593
I cannot afford to pay for the public toilet	250	3.64	1.376	1.894
I cannot walk far distances to dispose waste	250	3.85	1.588	2.523
I cannot afford to pay for good drinking water	250	1.67	1.204	1.450
I am able to buy food within my community	250	3.64	1.640	2.689
I am unable to buy food from my community	250	1.64	1.001	1.001
I always wash my hand with soap before eating	250	1.65	1.294	1.675
I wash my hand with soap sometimes before eating	250	4.65	.907	.823
I always wash my hand with soap after using the latrines	250	1.60	.683	.466

I always eat food when it is hot	250	1.73	1.078	1.163
I drink treated water always	250	4.85	.418	.175
I always wash my hand with soap before cooking	250	1.68	.949	.900
I buy food from the road side	250	4.79	.722	.521

Source: Field work, 2015

The highest mean was “I will be extremely weak if I get cholera” with a numerical value of 4.94. This is an indication that the majority of the respondents perceive cholera to be severe. However, “It is expensive to treat cholera” had the lowest mean of 1.09.

5.3 Exploratory Factor Analysis

The constructs of the health belief model were subjected to exploratory factor analysis (EFA). This was because new items were developed in the instrument. Therefore, EFA was used to measure construct validity (Worthington & Whittaker, 2006). This study employed exploratory factor analysis to examine all the pair wise relationships between the individual variables on scale, and seeks to extract the unobserved factors from the measured variables (Osborne & Fitzpatrick, 2012). Prior to the extraction of factors, the Bartlett test of Sphericity (Approx. Chi-square=6926.33, df. 630, sig. 0.000) and the (KMO) measure of sampling adequacy (Value of .450). This signifies that there was a significant correlation between the variables to permit the application of factor analysis. However, variables whose Eigen values were equal or greater than 1 were selected (Malhotra & Birks, 2007). To check the reliability, this study used Cronbach’s alpha, which ranges from 0 to 1. Cronbach’s alpha should be ≥ 0.7 , however, 0.6 and above is acceptable (Nunnally & Bernstein, 1994). All the scales indicated a good reliability. This can be seen in table 5.5

5.3.1 Varimax Rotation and Reliability of the Exploratory Factor Analysis (EFA)

The total number of variables that were subjected to varimax rotation as an extraction method was thirty-six (36). However, thirty-three (31) variables were loaded onto seven factors; which shows that five (5) variables failed to meet the underlying rotation criteria. Meanwhile, out of the thirty-one (31) loaded variables, factor one had 7 variables of which 3 variables related to perceived barriers and 4 variables related behaviour change. Factor two had three variables out of which 1 was related to self-efficacy and 2 related to perceived barriers. Factor three had 5 variables and 1, 3 and 1 related to perceived benefits, self-efficacy and cues to action respectively. Furthermore, factor four had 3 variables out of which 1 related to perceived susceptibility and 2 related to perceived severity. Factor five had 2 variables all relating to perceived benefits. In addition, factor six had 2 variables out of which 1 related to perceived susceptibility and another 1 related to perceived severity. Finally, factor seven had 9 variables out of which 2; 1; 2; 1; 3 respectively related to perceived susceptibility, perceived severity, perceived benefits, self-efficacy and behaviour change.

This depicts the need for modifications and re-specifications to be conducted on the premise of conceptual fitness appropriate to this study (Hair, Sarstedt & Ringle, 2012). In the end, the re-specification resulted in 7 components which includes perceived susceptibility; perceived severity; perceived benefits; perceived barriers; cues to action; self-efficacy; and behaviour change towards cholera prevention. This is illustrated in table 5.8 below.

Table 5.8: Rotated Component Matrix

	1	2	3	4	5	6	7
I have no toilet facility in my house	.674						
Refuse collection points are far from my house	.838						
Most food vendors in my community are located near choked gutters	.843						
I always wash my hand before eating	.890						
I always wash my hand with soap after using the latrines	.659						
I always eat food when it is hot	.795						
I always wash my hand with soap before cooking	.712						
It is expensive to dispose waste in my area		.823					
I do not have access to good drinking water		.777					
I can afford to pay for good drinking water		.802					
I will be healthy and active if I indulge in cholera preventive behaviour			.635				
Health education campaign in my community about cholera reminds me of cholera			.534				
I can afford to pay for public toilet in my community			.670				
I can walk far distances to dump waste			.527				
I am able to buy food within my community			.772				
I can easily get cholera if I buy food from unhygienic places				.665			
I can die within a few minutes with contracting cholera infection				.615			
I will be extremely weak if I get cholera				.860			
It is expensive to treat cholera					.784		
I will save time for other productive activities if I prevent cholera					.831		
I can easily get cholera if I do not wash my hand before eating						.785	
I saw cholera patients on TV and I was afraid						.648	
I can easily get cholera if I eat cold foods which are contaminated							.552
I can easily get cholera if I drink contaminated water							.682
I think cholera is a mere water borne disease							.643
I will save money if I prevent myself from contracting cholera							.837
Prevention is better than cure							.709
I am unable to dispose of waste because I cannot do it							.638
I wash my hand with soap sometimes before eating							.759
I drink treated water always							.700
I buy food from road side							.641

Source: Field work, 2015

Table 5.9: Internal Consistency and EFA

Factor Components	Loadings	No. of items	Cronbach Alpha
Factor 1- Perceived susceptibility		4	.683
I can get cholera if I do not wash my hand with soap before eating	.785		
I can easily get cholera if I buy food from unhygienic places	.665		
I can easily get cholera if I eat cold foods which are contaminated	.552		
I can easily get cholera if I drink contaminated water	.681		
Factor 2-Perceived severity		4	.730
I think cholera is a mere water borne disease	.643		
I saw cholera patients on TV and I was afraid	.648		
I can die within a few minutes of contracting cholera infection	.615		
I will be extremely weak if I get cholera	.860		
Factor 3-Perceived benefits		5	.672
It is expensive to treat cholera	.784		
I will save money if I prevent myself from contracting cholera	.837		
I will save time for other productive activities if I prevent cholera	.831		
I will be healthy and active if I indulge in cholera preventive behaviour	.635		
Prevention is far better than cure	.709		
Factor 4-Perceived barriers		5	.679
It is expensive to dispose waste in my area	.823		
I have no toilet facility in my house	.674		
Refuse collection points are far from my house	.838		
I don't have access to good drinking water	.777		
Most food vendors in my community are located near choked gutters	.843		
Factor 5- Cues to action		1	.654
Health education campaign in my community about cholera reminds me of cholera	.534		
Factor 6- Self-efficacy		5	.748
I am unable to dispose of waste because I cannot do it	.638		
I can afford to pay for the public toilet in my community	.670		
I can walk far distances to dump waste	.527		
I can afford to pay for good drinking water	.802		
I will buy food within my community	.772		
Factor 7- Cholera Preventive Behaviour		7	.716
I always wash my hand with soap before eating	.890		
I wash my hand with soap sometimes before eating	.759		
I always wash my hand with soap after using the latrine	.659		
I always eat food when it is hot	.795		
I drink treated water always	.700		
I always wash my hand with soap before cooking	.712		
I buy food from the road side	.641		

Source: Field work, 2015

5.3.2 Reliability of the Exploratory Factor Analysis (EFA) and Re-specification of Factors

Pallant (2010) posits that there exist different aspects of reliability and one of them concerns the scales internal reliability. In this regard, it is important to ascertain scales that are reliable in order to minimise measurement error (Streiner, 2013). However, to determine the internal reliability of the constructs used in this current study, the Cronbach's alpha coefficient was employed (DeVellis, 2012). It must be noted that, the appropriate limit for Cronbach's alpha varies from one study to the other (Pallant, 2010; DeVellis, 2012). Pallant (2010) argues that Cronbach's alpha coefficient of scale should be above 0.7. Meanwhile, Nunnally and Bernstein (1994) argue that a minimum value of 0.6 is acceptable.

From the table 5.9 above, the seven constructs used in this study meet the Cronbach's alpha coefficient as recommended by Nunnally and Bernstein (1994) and DeVellis (2012). Furthermore, 0.5 was used as the yardstick to test the value of the variables that loaded onto the factors (Parasuraman, Zeithaml & Berry, 1994). In this regard, the factors were re-specified to ascertain their conceptual fitness based on the criteria stated earlier (Parasuraman et al., 1994; DeVellis, 2012).

5.4 Multiple Regression Analysis

This study used regression analysis to determine the significance and importance of each independent variable in the model. Allua and Thompson (2009) argue that reporting the adjusted R square is recommended, especially when the number of the independent variables is high. The regression analysis was in three parts:

- The first section deals with the general purpose of the study, thus how significant is the constructs of the Health Belief Model in influencing behaviour change toward the prevention of cholera;
- The second section seeks to address the research objectives by finding answers to the research questions; and
- The third section, seeks to address the hypotheses in the study.

Table 5.10: Multiple Regression Analysis

	S.E	B	T	Sig
Model 1 (constant)	.644		10.460	.000
Perceived Susceptibility	.073	-.046	-.995	.000
Perceived Severity	.085	-.082	-1.693	.321
Perceived Benefit	.115	-.038	-.835	.092
Perceived Barriers	.036	-.708	-15.008	.000
Cues to Action	.029	-.064	-1.339	.000
Self-Efficacy	.039	.104	2.217	.028
R	.744		S.E of estimate	.33218
R-Square	.553		F-statistics	50.135
Adj. R-Square	.542		Prob. (F-stats.)	.000

Source: Field Work, 2015

From Table 5.10, the adjusted R square of (54.2%) signifies that the variables in the model predict 54.2% of variance in behaviour change on cholera prevention. This also shows the high predictive relevance and suitability of the Health Belief Model. The table explains the statistical significance of the model. According to Hair et al. (2012), a sig < .05 signifies statistical significance of a model. The statistics depicted that perceived susceptibility (0.00 < .05), perceived barriers (0.00 < .05), cues to action (0.00 < .05), and self-efficacy (0.028 < .05) were statistically significant; whereas perceived severity (0.321 > .05) and perceived benefits (0.092 > .05) were not statistically significant. However, in terms of predictive ability, excluding perceived barriers ($\beta = -0.708$, $t = -15.008$, $P = .000 < 0.05$) and self-efficacy ($\beta = 0.104$, $t = 2.217$, $P = 0.028 < 0.05$) the other variables show a negative and weak relationship with cholera prevention behaviour: thus, perceived susceptibility

($\beta = -0.046$, $t = -0.995$, $P = 0.000 < 0.05$), perceived severity ($\beta = -0.082$, $t = -1.693$, $P = 0.321 > 0.05$), perceived benefit ($\beta = -0.038$, $t = -0.835$, $P = 0.092 > 0.05$), and cues to action ($\beta = -0.064$, $t = -1.339$, $P = 0.000 < 0.05$). This implies that perceived barriers were statistically significant and a strong predictor of behaviour change. In addition, self-efficacy appeared as the only strong positive and statistically significant factor of cholera preventive behaviour ($\beta = 0.104$, $t = 2.217$, $P = 0.02 < 0.05$). The implication is that among the six constructs of the health belief model, perceived barrier and self-efficacy were strong factors to influence cholera preventive behaviour.

5.5 Discussion of Findings

Thorough evaluation of the individual constructs of the health belief model exhibited varied predictive values to determine their strength in influencing behaviour change towards cholera prevention. Orji, Vassileva and Mandryk (2012) argue that it may be difficult to implement all the variables of the health belief model in a particular intervention. In this regard, it is appropriate to select which of the variables or combination of variables from the health belief model will provide the most effective result especially in designing theory-driven interventions for disease prevention such as cholera (Orji et al., 2012).

From the analysis, it was found that certain variables (perceived susceptibility, perceived severity, perceived benefits and cues to action) exhibited low predictive capacity in influencing cholera preventive behaviour. Meanwhile other variables (perceived barrier and self-efficacy) assumed high and strong predictive variables to behaviour change towards cholera prevention in this context. The implications are that an individual's perceived threat (perceived susceptibility and perceived severity) to a particular disease is not strong enough to induce behaviour change towards cholera prevention. On the other

hand, individuals were restricted by the perceived barriers so they see the benefits that will accrue to them to be insufficient to induce behaviour change.

In addition, both internal and external triggers such as community health education programmes, health documentaries on TV and radio (cues to action) are inadequate in predicting behaviour change in terms of cholera. Orji et al. (2012) support the findings of this current study. This could also be attributed to the fact that, social marketers usually use English language as the official language in designing social marketing communications. However, the results on educational level of respondents revealed that, respondents with primary and no formal education disagree that they have change their behaviour because they find it very difficult to understand the campaign message especially when English language is used. Meanwhile, their counter parts with higher education (Tertiary) have change their behaviour because they understand the English language used by social marketers in their campaign messages. Furthermore, the result in this research is consistent with a similar study that revealed that self- efficacy and perceived barrier are powerful predictive variables to health promotion behaviour among people with, or at high risk of, metabolic syndrome (MS) in Hong Kong (Lo et al., 2015).

However, in a similar study to address the willingness of Iranain young adults to eat organic food, it was found that perceived benefit, perceived barrier, self-efficacy and general health orientation to pesticides and organic food are major predictors of consuming organic food (Yazdanpanah et al., 2015). These results are partially consistent with the current study. The inclusion of other variables such as perceived benefit and general health orientation could be alluded to by the fact that the health belief model was applied in organic food consumption, not in the disease related field.

From the analysis of this study, it was found that perceived susceptibility, perceived severity, perceived benefits and cues to action had a weak relationship with behaviour change towards cholera prevention. To substantiate this claim, results from some of the demographic factors depicts that; there was statistically significant difference between age and cholera preventive behaviour. Meanwhile respondents within the age group (25-30; 31-40 and 41-50) disagree that they have changed their behaviour.

However, respondents who were above 50 years disagree more than the other age groups that they have changed their behaviour. Interestingly, the age group (18-24) who are more active and expected to change behaviour were neutral. Thus they are not sure whether they have change behaviour or not. In other words, they are not sure whether the activities they indulged in could lead to behaviour change or not.

The implication is that, people who have lived in a particular environment with certain environmental conditions for a longer period become accustomed to the conditions in that environment. To some extent, they regard for instance, the foul conditions as a normal way of life. As a result it will be very difficult for them to accept a new behaviour or it will take a longer time coupled with environmental changes that could induce them to change behaviour.

In addition, educational background of respondents were statistically significant difference between behaviour changes towards cholera prevention in the context in which this study was conducted. The result therefore show that people with higher education were likely to agree that they have change their behaviour towards cholera prevention. On the flip side, people with primary or no formal education disagree to behaviour change. This could be

attributed to fact social marketers did not use the right language and medium in disseminating the intervention campaign message to the target audience. This is because, the community in which this study was conducted were predominantly people with primary and no formal education. As a result, the use of English language might be difficult for them to comprehend.

These and others issues could account for reasons why people in the community where this research was conducted did not see perceived susceptibility, perceived severity, perceived benefits and cues to action as factors that could influence them to change their behaviour towards cholera prevention. The implications are that these variables in this context were weak to influence behaviour change (Yue et al., 2015).

The outcomes of the research hypotheses and objectives are explained below:

5.6. The Outcome of Hypothesis Testing

The results from the current study rejects the hypotheses H2 and H3 and conclude that they have an inverse relationship with behaviour change towards cholera prevention and were also not statistically significant. The study also fails to reject the null H1, H4, H5 and H6 at a confidence level of 95%. Even though H1 and H4 had an inverse relationship, they were statistically significant. This is summarised in the table below;

Table 5.11: Summary of Hypothesis testing

HYPOTHESIS	RESULTS	DECISION	LITERATURE EVIDENCE
H1: The higher perceived susceptibility to cholera increases the likelihood of cholera prevention	P < 0.05	Fail to reject	Chen et al. (2007); Champion and Skinner (2008)
H2: The higher perceived severity of been infected with cholera increases the likelihood of taking action towards cholera prevention	P > 0.05	Rejected	Cumberland (2009); Hanson and Benedict (2002)
H3: The greater perceived benefits associated with taking preventive action, the greater the likelihood of indulging in cholera prevention behaviour.	P > 0.05	Rejected	Cumberland (2009); Orji et al. (2012).
H4: The greater the perceived barrier to a particular disease will lead to less likelihood of indulging in behaviour change towards cholera prevention	P < 0.05	Fail to reject	Ibekwe et al. (2011); Oon et al. (2011)
H5: The greater the cues to action of taking preventive action, the greater the likelihood of changing behaviour towards cholera prevention	P < 0.05	Fail to reject	Champion and Skinner (2008)
H6: Higher levels of self-efficacy will lead to greater behaviour change towards cholera prevention.	P < 0.05	Fail to reject	Kazdin (2000); Palmeira et al. (2007); Kotler and Lee (2011)

5.6.1 Objective 1: Examines the impact of perceived susceptibility and severity on behaviour change towards cholera prevention

From the analysis it was found that perceived threat (perceived susceptibility and severity) has very weak or no effect in behaviour change towards cholera prevention. This result is inconsistent with Cumberland (2009) who contends that individuals in certain communities perceived outbreak of diseases such as cholera to be normal.

5.6.2 Objective 2: To determine the effect of perceived benefits and perceived barriers on behaviour change towards cholera prevention

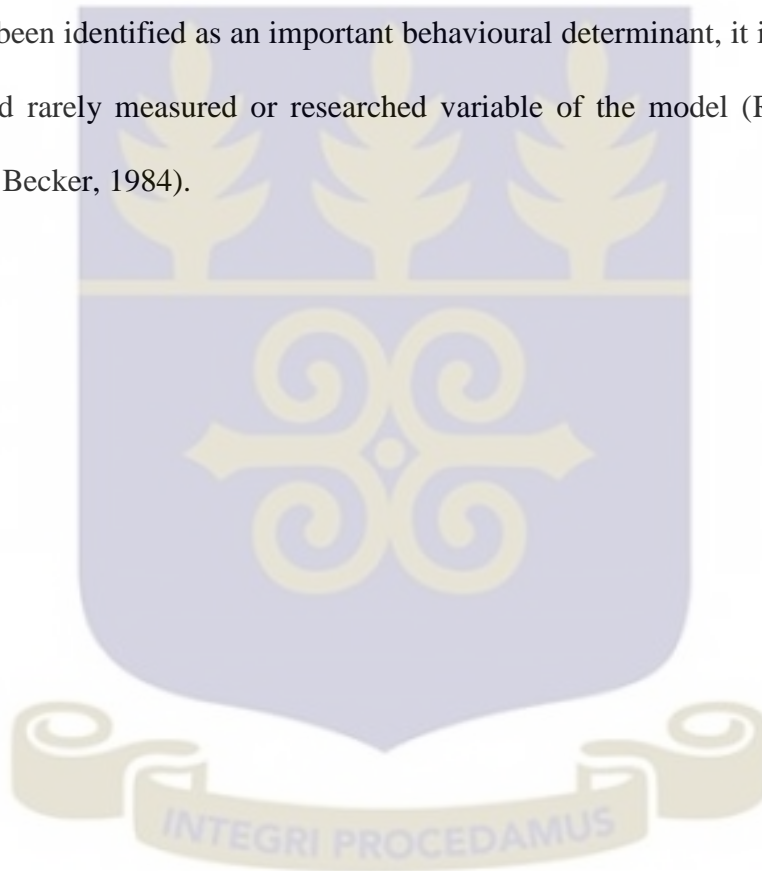
The perceived barrier had a negative relationship with behaviour change, which means that if the barriers in the communities are high, it will limit the individual's intention to effect a behaviour change. On the other hand, when the barriers are reduced, it will motivate individuals to engage in healthy behavioural practices, which will lead to behaviour change towards cholera prevention. Some of the barriers identified in this research regarding cholera prevention include: inadequate toilet facilities in the community coupled with densely population; inadequate access to potable drinking water; limited demarcated site for waste disposal; and poor drainage systems among others. These conditions compelled individuals to indulge in open defecation, indiscriminate waste and other unhealthy practices. This makes the perceived barrier as a strong predictor of behaviour change towards cholera prevention. Lo et al. (2014), in a similar study suggest that perceived barrier is a strong predictor of behaviour change. However, perceived benefit did not play a significant role in behaviour change in this context. This is because it had a weak relationship with behaviour change towards cholera prevention. The implication is that the barriers outweigh the benefits and, as such, individuals in this situation did not value the perceived benefit as an indicator that can influence their decision to effect a behaviour change.

5.6.3 Objective 3: To ascertain the role of cues to action and self-efficacy on behaviour change towards cholera prevention

From the analysis, self-efficacy had a positive relationship with behaviour change towards cholera prevention. The implication is that individuals have a high sense of personal control over a desired change of behaviour (Bandura, 2000). The results from this study are in agreement with a weight management programme, which found that self-efficacy

was the most accurate in predicting the accomplishment of behaviour change (Palmeira et al., 2007).

However, cues to action was identified as a weak predictor of behaviour change towards cholera prevention. According to Rosenstock et al. (1988), cues to action can be events (mass media publication on health issues), people (health education from medical practitioner), or things that trigger people to change their behaviour. The low predictive capability of cues to action in this study is in agreement with the fact that, even though cue to action has been identified as an important behavioural determinant, it is the most under-developed and rarely measured or researched variable of the model (Rosenstock et al., 1988; Janz & Becker, 1984).



CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents a summary of the major findings, conclusions and recommendations based on the findings of the study. Furthermore, the chapter looks at the direction for future research and limitations of this research.

6.1 Summary of Findings

Rosenstock et al. (1988) established that it is more difficult to change people's beliefs than to change the environment. Therefore, changing the environmental factors could be very beneficial to increase the beliefs and incentives. The study revealed that individuals were constrained by the physical environmental barriers that prohibited their ability to effect behaviour change. For instance, in the entire 36 questionnaires, 5 items were under the perceived barrier but 4 items (It is expensive to dispose waste in my community; I have no toilet facility in my house; Refuse collection site are far from my house; and Most food vendors in my community are located near choked gutters) exhibited a strong relationship with behaviour change towards cholera prevention.

Therefore, decreasing these barriers could impact significantly on the environmental settings; hence, it would lead to positive change in behaviour towards cholera prevention. The result also revealed that self-efficacy is a major predictor of behaviour change towards cholera prevention. In addition, perceived susceptibility was significant but had a weak predictive ability. This means that the individuals identified themselves to be susceptible to cholera but the environmental settings were not motivating enough to influence behaviour change. Even though perceived severity had low predictive ability towards

cholera prevention, its variable (I will be extremely weak if I get cholera) was rated the highest mean of 4.94, followed by 'prevention is better than cure' with an average of 4.92. This means that individuals perceive cholera to be severe yet the barriers in the environment were so much that it impedes their efforts to adopt a healthy behaviour which could lead to cholera prevention.

The results also revealed that mass media communication and health education programmes (cues to action) have gone down well in the community; yet these triggers had weak predictive ability towards behaviour change. The reason could still be alluded to that fact the people did not understand the intervention messages. Also, inadequate sanitary facilities in the communities could be a hindrance to behaviour change in spite of the awareness creation. Ideally, when perceived benefits outweigh the perceived barriers, the individual would be motivated to develop a positive attitude towards behaviour change (Kotler & Lee, 2008). However, the results from this study revealed otherwise. This means that the barriers rather outweighed the benefits hence rendering the predictive ability of perceived benefit to be weak. This study therefore confirms the need to incorporate interventions aimed at improving self-efficacy and reducing perceived barriers as an essential part of a lifestyle intervention programme for individuals or communities with, or at high risk of, cholera (Lo et al., 2015).

6.2 Conclusions

The study sought to investigate the use of the health belief model in social marketing for the prevention of cholera in Ghana. Findings from this study answers the research questions set out in Chapter One.

Research Question 1: *What is the impact of perceive susceptibility and perceived severity on behaviour change towards cholera prevention?*

The result revealed that perceived susceptibility was significant yet it had a low predictive capacity in influencing behaviour change towards cholera prevention. The implication was that being vulnerable to a particular disease such as cholera does not always lead to a behaviour change (Lewis, Malow & Ireland, 1997). Lamanna (2004), in a different context, confirmed that even though people are at high risk of skin cancer, they do not put a stop to tanning their skin. On the other hand, perceived severity scored the highest mean yet it exhibits low predictive capacity to behaviour change towards cholera prevention.

This implies that individuals living in the communities where the study was conducted perceived cholera to be severe but there was no motivation in the environment to influence them to adapt a healthy life style. These two constructs together were unable to influence behaviour change towards cholera prevention.

Research question 2: *What is the effect of perceived benefit and perceived barriers on behaviour change towards cholera prevention?*

The result revealed that perceived benefits did not have the ability to predict behaviour change towards cholera prevention. The reason was that the barriers outweigh the benefits. These prohibit behaviour change to be effected. On the other, the barriers exhibited the most significant in predicting behaviour change towards cholera prevention (Janz & Becker, 1984).

Research question 3: *What is the role of cues to action and self-efficacy on behaviour change towards cholera prevention?*

The result revealed that self-efficacy had strong predictive ability on behaviour change towards cholera prevention (Bandura, 2000). However, cues to action could not predict behaviour change towards cholera prevention even though massive awareness had been created with respect to the outbreak of cholera.

Social marketing, using the health belief model, has played an important role in influencing behaviour change towards cholera prevention in the Ghanaian context (Andreasen, 2002). However, social marketing could not have been effective in the absence of behavioural theories (Lombardo & Legar, 2007). Therefore, the health belief model was employed in this study (Rosenstock et al., 1988). This model consisted of six constructs which were used in this current study as predictive variables of behaviour change towards cholera prevention.

The outcomes of the study depicted that perceived barriers and self-efficacy were very strong predictors of behaviour change towards cholera prevention. These findings will help social marketers to design interventions that will enhance self-efficacy. In addition, social marketers should design interventions to influence policy makers and implementers to allocate resources towards improving the physical environmental settings. This is because it is easier to change the environmental settings by policy makers than behaviour. Once policy makers (upstream) are able to effect the environmental changes, social marketers can develop interventions to influence individuals to adapt healthy life styles. This will consequently lead to a reduction in the physical barriers, hence motivating behaviour change towards cholera prevention.

In conclusion, cholera prevention programmes should address the environmental barriers, enhance self-efficacy and increase cholera prevention cues to the Ghanaian public. This

study has achieved its objectives by identifying from among the health belief model constructs, those that have the higher predictive capacity to influence behaviour change towards cholera prevention.

6.3 Recommendations

Social marketing needs to address behaviour change issues from two dimensions. The first being the interpersonal factor (individual); and the second dimension, the environment in which the individual resides. Quite often social marketers focus intervention on changing individual behaviour. However, they tend to neglect the upstream platforms where decisions that affect health are made. As a result social marketers should design intervention to influence both the individual and upstream policy makers.

In light of these clarifications, it has therefore become imperative to make the following recommendations based on the findings of the current study.

First, in terms of the interpersonal factors, social marketers should design interventions targeted at age groups who disagree that they have change their behaviour and those who were neutral. At this point, the age group who were neutral need intensive information and education to clear their state of confusion because they do not know whether they have change their behaviour or not. This will help them to know the specific activities to embark on that could influence them to change their behaviour. However, for those age groups who disagree entirely to behaviour change, social marketers should design interventions to elicit further responses to why they behave the way they do. After, that, the intervention should stress more on the health benefits associated with accepting a new behaviour and this will influence them to reject or minimise the old insanitary behaviour.

Second, social marketers should design intervention aimed at influencing people with primary and no formal education to change their behaviour. However, in designing the campaign message, social marketers should consider using the local language of the community where the intervention is targeted. This will help them understand the health and the sanitation campaign messages rather than social marketers over reliance on English language as the official language for designing intervention messages.

Third, social marketing intervention should be design to raise awareness on perceived susceptibility, perceived severity, and perceived benefits and an appropriate medium should be used to communicate to areas where the intervention is needed since mass approaches are often ineffective.

Forth, social marketers should design interventions to enhance the self-efficacy of the individuals. To enhance a strong self-efficacy, social marketers should inculcate in their interventions the following; mastery of experience, social modelling, social persuasion and a strong physical and emotional state (Kazdin, 2000). This will help increase self-efficacy and influence behaviour change towards cholera prevention.

Fifth, social marketers in designing intervention to change behaviour towards cholera prevention, should take into consideration marketing techniques such as consumer oriented market research, segmentation, targeting and the marketing mix. This is because individuals and communities are bedevilled with diverse health related issues which demands different social marketing interventions in addressing them. This implies that social marketing interventions should be directed to areas where they are best needed. For instance, this study revealed that the physical barriers (toilet facility, portable drinking

water, demarcated refuse dump site, unfit accommodation) among others were inadequate in the communities where the research was conducted. These environmental barriers prohibited behaviour change towards cholera prevention.

In this regard, social marketers should design intervention to influence upstream policy makers to allocate resources to improve environmental health conditions of the people. This will help reduce the environmental barriers which, in a nutshell will have a positive effect on behaviour change.

6.4 Contributions

The findings of this study thus contribute to a growing body of literature involving health belief model in behavioural decision-making especially behaviour change towards cholera prevention in the Ghanaian context. It will also help upstream to allocate resources to areas that are most in need in terms of health infrastructure and sanitation facilities.

6.5 Limitation and Future Research

Due to the self-administration of some of the questionnaires, respondents down play some of the socially undesirable activities with the intention of saving their integrity and the community. This is because they regard their condition as normal (Cumberland, 2009). The study was conducted in Greater Accra, specifically Chorkor and Agbogloshie, which could not allow the researcher to generalise the results.

Furthermore, the inability of the researcher to delve deep to unearth the actual behaviour behind the foul conditions was a limiting factor for this study since the study was quantitative in nature.

Future research could be conducted in different geographical settings with the health belief model or another behavioural theory in social marketing. Furthermore, a qualitative approach could be employed in future research to understand why people behave the way they do.



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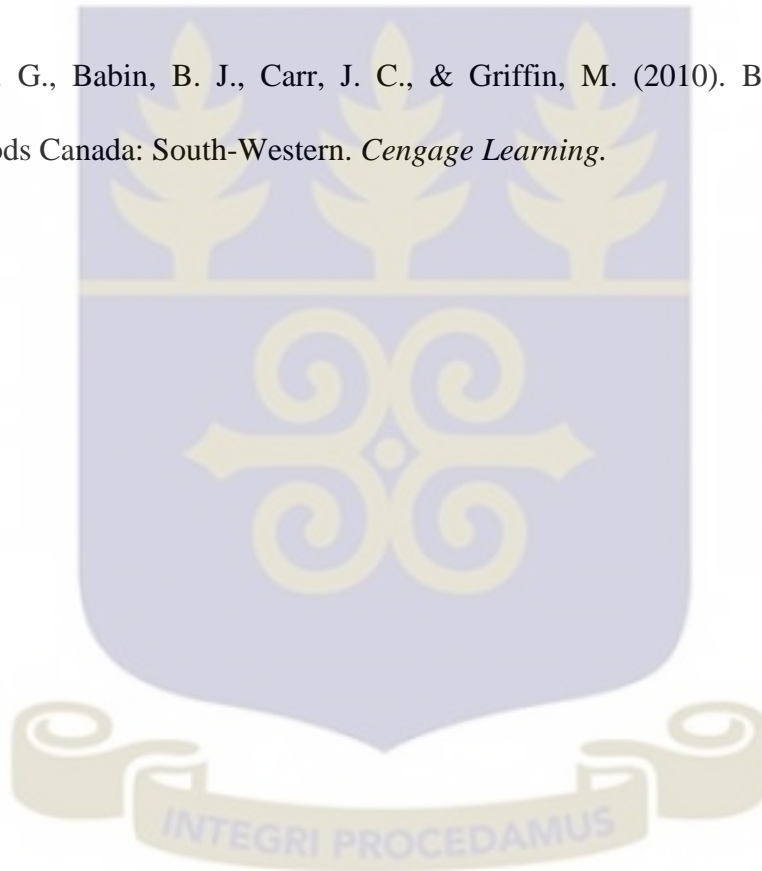
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APPENDICES

APPENDIX I: Questionnaire

**UNIVERSITY OF GHANA BUSINESS SCHOOL
DEPARTMENT OF MARKETING & CUSTOMER MANAGEMENT
MASTER OF PHILOSOPHY IN MARKETING**

QUESTIONNAIRE

The researcher is an MPhil marketing student of the University of Ghana Business School. This survey seeks to elicit responses on the topic “*Social Marketing Using the Health Belief Model for the Prevention of Cholera.*” Information provided for the purposes of this research will be treated confidentially and used for academic purposes only. Please take a few minutes to fill out this questionnaire by ticking (√) where appropriate. Thank you.

SECTION A: Background/ Demographic data of respondents 1. Gender:

- Male () Female ()
2. Age: 18- 24 years () 25-30 () 31-40 () 41-50 ()
) Above 50 years ()
3. Educational Qualification: No formal Education () Primary Education () JHS Education () SHS/ A ‘Level Education () Tertiary ()
4. Religion: Christianity () Islamic () Traditional () others specify.....
5. Marital status: Single () Married () Divorce ()
others specify.....

SECTION B: Knowledge about Cholera

6. Are you aware about cholera? YES () NO ()
7. What causes cholera?
Dirty environment () Eating contaminated food () Drinking contaminated water ()
Others specify.....
8. How can you prevent yourself from getting cholera?
Stop unhygienic sanitary practices and adopt hygienic practices () Drinking portable water and eating in tidy environments () Have no idea ()
9. Can clean environments prevent cholera? YES () NO ()
10. Can desilting of choked gutters prevent cholera? YES () NO ()

SECTION C: Measuring Instrument for Health Belief Model

On a scale of 1-5, please Tick [√] the response that reflect your level of agreement or otherwise in each of the under listed statements.

1= Strongly Disagree (SD) 2=Disagree (D) 3= Neutral (N) 4=Agree (A)
5=Strongly Agree (SA)

No.	STATEMENTS	SD	D	N	A	SA
	PERCEIVED SUSCEPTIBILITY					
1.	I can easily be infected with cholera.					
2.	I can get cholera if I do not wash my hand with soap before eating.					
3.	I can easily get cholera if I buy food from unhygienic places.					
4.	I can easily get cholera if I eat cold foods which are contaminated					
5.	I can easily get cholera if I drink contaminated water					
	PERCEIVED SEVERITY					
6.	I think cholera is a mere water borne disease.					
7.	I think cholera is deadly and can kill me.					
8.	I saw cholera patients on TV and I was afraid.					
9.	I can die within a few minutes with cholera infection					
10.	I will be extremely weak if I get cholera					
	PERCEIVED BENEFITS					
11.	It is expensive to treat cholera					
12.	I will save money if I prevent myself from contracting cholera.					
13.	I will save time for other productive activities if I prevent cholera.					
14.	I will be healthy and active if I indulge in cholera preventive behaviour.					
15.	Prevention is far better than cure.					
	PERCEIVED BARRIERS					
16.	It is expensive to dispose waste in my area.					
17.	I have no toilet facility in my house.					
18.	Refuse collection point are far from my house.					
19.	I don't have access to good drinking water.					
20.	Most food vendors in my community are located near choked gutters					
	CUE TO ACTION					
21.	Commercials on TV and Radio reminds me of cholera					
22.	Health education campaign in my community about cholera reminds me of cholera					
23.	A family member who was diagnosed of cholera reminds me of cholera					
	SELF EFFICACY					
24.	I am unable to dispose of waste because I cannot do it					
25.	I cannot afford to pay for public toilet in my community					
26.	I cannot walk far distances to dump waste					
27.	I cannot afford to pay for good drinking water					
28.	I am able to buy food within my community					
29.	I am unable to buy food from my community					
	CHOLERA PREVENTIVE BEHAVIOUR					
30.	I always wash my hand with soap before eating					
31.	I wash my hands with soap some times before eating					
32.	I always wash my hand with soap after using the latrines					
33.	I always eat food when it is hot					
34.	I drink treated water always					
35.	I always wash my hand with soap before cooking					
36.	I buy food from the road side					

Thank you