

DETERMINANTS OF HEALTH-SEEKING BEHAVIOR IN GHANA

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Health can be described as both a product and a process of life, and is necessary for human wellbeing, overall quality of life and productivity. While health is generally desirable, many factors affect health and health outcomes of individuals and populations the world over. Virtually all individuals will be faced with one health problem or another during their lifetime, that requires some form of healthcare intervention.

People may seek healthcare for different reasons such as disease prevention, treatment of ongoing ailments or health-promotion purposes; however, all health consumers share a common interest when they seek healthcare – a desire to get better. In a pluralistic healthcare environment where different avenues exist for seeking and receiving health care, such as allopathic medicine, traditional/herbal medicine, faith healing and self-medication, healthcare seekers have the benefit of differential choice of care, which by itself, may be influenced by sociodemographic factors such as gender, age, socioeconomic status and place of residence. To the extent that the available avenues for seeking and receiving healthcare, and their sub forms do not offer the same opportunities for improving health or satisfying the healthcare needs of health consumers, significantly different health outcomes may be realized for comparable conditions for which different types and volume of healthcare have been sought and received. Understanding the factors that influence health-seeking behaviors among various populations may therefore, be an important

first step in designing intervention programs that nudge health consumers toward better health-seeking behaviors with the goal to improving health and health outcomes among these populations.

Pursuant to the preceding points, the present researcher sets out to study the factors that influence health-seeking behaviors among Ghanaian residents in Ghana. Ghana has a pluralistic healthcare system, where different avenues exist for seeking and receiving healthcare. Using a quantitative study design, and a synthesized survey instrument (that probes sociodemographic factors and health-seeking behaviors as related to the Health Belief Model) to be tested and validated as part of the study, the present researcher will sample Ghanaian residents in Ghana, and analyze the data obtained to determine the factors that variously and collectively influence health-seeking behaviors among Ghanaians, as a basis for future intervention programs.

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CHAPTER ONE – Introduction

Introduction

According to the World Health Organization (1948), “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”. Despite its broad scope and appeal when it was first introduced in 1948, this definition has since faced heavy and growing criticism, with many experts citing the absoluteness of the word “complete” as being inconsistent with “wellbeing” (Huber et al., 2011; Larson, 1999, p. 123 – 136). Current and improved understanding of disease processes and changes in population dynamics further accentuate the limitations of this definition (Sartorius, 2006). Many researchers and experts now represent health as a continuum, arguing the apparent absence of disease does not guarantee the presence of health (Neuman, 1990; O'Donnell, 1986). On this proposed continuum of health, death and optimum health represent the extremes, and individuals swing back and forth along this continuum at various points in life (O'Donnell, 1986).

To the extent that many researchers and experts now argue health is not absolute but represented on a continuum, this author believes health is both a process and a product of life and living. Therefore, virtually all individuals will be faced with at least one health problem or another in their lifetime that requires some form of health care or intervention. While many avenues exist for seeking health care or interventions to health problems such as allopathic (mainstream) healthcare, through alternative and traditional herbal medicine to faith-healing (Ryan 1998; Ahmed et al., 2000; Marsh et al., 1999; Marin et al., 1983), the wide variations in health outcomes based on type, timing, and quality of health intervention sought or received can be hard to ignore (Debas, Laxminarayan & Straus, 2006). Whatever their choice of intervention, individuals with health problems have one thing in common – they all desire to get better. Unfortunately, not all the avenues for health intervention offer the same level of opportunity to improve the health

seekers' conditions. Indeed, some of these avenues may worsen the health status of an individual or even lead to fatal outcomes, especially in situations where time-sensitive health conditions are concerned (Ruiz, 2010; Ernst, 2003). Understanding the factors that affect the health-seeking behaviors of individuals may therefore, help in the design of intervention programs that nudge individuals towards evidence-based healthcare services or methods of improving health.

Morbidity and Mortality in Ghana: Ghana is a small country on the west coast of Africa. Life expectancy in Ghana is 62.4 years at birth, with males averaging 61.0 years compared to 63.9 years for females (WHO, 2015). Ghana's morbidity and mortality profile is heavily burdened by infectious diseases such as malaria, lower respiratory tract infections and diarrheal diseases (CDC, 2016). In 2012 alone, malaria was responsible for 38 percent of all out-patient visits to health facilities (Fenny et al., 2015). The mortality profile also features these infectious diseases among the top ten causes of death, with lower respiratory tract infections and malaria among the top three causes of death together with stroke. Cardiovascular diseases are also an important cause of death, accounting for over 12,000 deaths in 2012 alone and placing fourth on the top ten causes of death (IHME, 2015).

Options for Healthcare in Ghana: Virtually all individuals will need some form of healthcare at one point or another in their lifetime. Whatever the health need(s) may be, the decision to seek healthcare is as important as the options available to those in need of the care, since different avenues for seeking and receiving care may produce different outcomes at different rates, costs and related factors. In Ghana, consumers of healthcare resort to one of seven main avenues as a first point of call for addressing their health issues; watchful waiting in anticipation of self-resolution, seeking medical care at a government health facility, seeking medical care at a private

health facility, traditional/herbal medical care, self-medication with herbal medications, self-medication with patent drugs and pharmaceutical products, and faith-healing.

Primary Healthcare in Ghana: The Ministry of Health has the mandate to oversee health care delivery in Ghana, which is done through the public health care system or the private health care facilities. The public health care facilities are all government owned and are operated under the Ghana Health Service (GHS), with a few quasi-government facilities such as the military, police and teaching hospitals which are semi-autonomous. The government facilities are organized into community-based facilities, sub-district, district, and regional facilities, with each succeeding level serving as referral point for the facilities beneath it. The private hospitals are either mission hospitals, company, group, or individual owned. Primary care services are available at all public and private health facilities in the country (MOH, 2015).

Traditional and Herbal Medicine in Ghana: Traditional and herbal medicine served the health needs of the people of Ghana long before the introduction of modern health services in the country and remain an integral part of the Ghanaian culture to date. There are many traditional and herbal medicine practitioners across the country who diagnose and treat all manners of disease ranging from childhood illnesses through bone fractures and chronic diseases, such as diabetes and hypertension, to spiritual diseases or diseases believed to be due to curses or evil forces (Tsey, 1997; Tabi, Powell & Hodnicki, 2006). Practitioners of traditional and herbal medicine often use a combination of herbal preparations of selected plant parts (such as leaves and roots) and some animal parts/products in addition to stringent traditions, health behavior patterns and rules, in their diagnosis and treatment of diseases (Wachtel-Galor & Benzie, 2011).

To the extent that traditional/herbal medicine serves the health needs of a significant and growing part of the Ghanaian population (Tsey, 1997; Tabi, Powell & Hodnicki, 2006) and forms

part of the country's rich heritage, successive governments have sought to regularize the practice of traditional/herbal medicine and align it with mainstream modern health services for the purposes of regulation and oversight. The establishment of the Centre for Scientific Research into Plant Medicine in 1975, subsequent setting up of the Traditional and Alternative Medicine Directorate, followed by the Food and Drugs Authority in 1992, were carefully orchestrated with complementary roles to ensure oversight, monitoring, and evaluation of the delivery of traditional and alternative health care in the country (CSRIPM, 1975). To give further legal backing to the practice of traditional/herbal medicine, the government of Ghana enacted the TMPC (Traditional Medicine Practitioners' Council) Act, Act 575 for the establishment of the Traditional Medicine Council which is tasked with the sole responsibility of registering all traditional medical practitioners in the country (MOH, 2015). Despite all these attempts at regularizing and regulating the practice of herbal/traditional medicine at the national level, concerns about the safety of many of these traditional/herbal medicine preparations and practices are hard to ignore (Drew & Myers, 1997). While there is little scientific evidence to support the effectiveness of many of these herbal products and practices (Bent, 2008), concerns about safety and adverse reactions and the lack of capacity of the regulatory bodies to protect the public against unregistered/unsafe products and practitioners continue to proliferate.

Self-Medication: Self-medication has become increasingly important for both positive and negative reasons. While it may be convenient in managing minor illnesses, the potential risks of misdiagnosis and inappropriate use of medications are huge (Hughes, McElnay & Fleming, 2001).

To ensure compliance with prescribed standards for the use of medications (both prescription and over-the-counter drugs), the Ghana Pharmacy Council was established as a statutory regulatory body by an Act of Parliament, The Pharmacy Act, 1994 (Act 489), and tasked

with the responsibility of regulating the distribution and practice of pharmacy in the country (MOH, 2015). However, limited capacity and efficacy in its monitoring and evaluation role, make it possible for individuals to buy virtually any kind of medication ranging from antibiotics through prescription pain medications to antipsychotics in Ghana without a prescription. Indeed, self-medication in Ghana may involve the use of mainstream drugs as well as traditional/herbal preparations. The misdiagnosis and attendant inappropriate use of prescription and non-prescription drugs in addition to herbal preparations, endangers the lives of the individuals concerned and poses the problem of drug resistance in the case of antibiotics, antimalarial drugs, and other such medications for the general population (Awad et al., 2017).

Faith-Healing: Faith-healing in Ghana has gained prominence over the past couple of decades. Most Ghanaians practice one religion or another, and religious beliefs and practices have become an important part of the Ghanaian society (Senah, 2004). Faith healing in Ghana is operated at many levels; from the individual level through small groups to prayer camps, shrines, mosques, churches, and in recent times through the mass media (television and radio evangelism). Many faith-healers are believed to have spiritual prowess and powers to cure all manner of diseases ranging from conditions thought to be due to curses and evil forces such as mental disorders through diabetes and hypertension to infertility. It is not uncommon to see advertisements for faith-healing and faith-healers on billboards across various parts of the country and hear them on radio and television stations. While some faith-healers enjoy significant followings from segments of the population and are a preferred first point of call for any ill-health, there is generally no scientific evidence to support their claims (Miller et al., 1998), only the testimonies of those they have “healed” in the past.

Statement of the Problem

Accurate diagnosis and appropriate, timely intervention can mean all the difference between life and death for many individuals with various health problems. To the extent that delays in seeking and receiving appropriate medical care for various health conditions tend to lead to development of complications that may end up in fatalities, disabilities in the long term or increased cost of care, the first point of call following ill-health is very important (Kraft et al., 2009). In Ghana, the top causes of morbidity and mortality, all require time-sensitive interventions to curb the development of complications and attendant fatalities.

Referral health facilities in Ghana tend to have higher mortality rates because not only do these facilities receive most of the complicated health cases, many of these cases did not seek or receive appropriate care at the primary care level. As a clinician in a tertiary facility, the author of this current dissertation experienced many complicated cases of patients who wasted a significant amount of time inappropriately treating themselves for the wrong condition or in the wrong manner (self-medication), seeking traditional/herbal remedies to medical problems that actually required surgical intervention, such as breast cancer or hernias, or resorting to faith-healing for conditions that were organic or functional in nature, when their condition(s) would have instead responded favorably to appropriate medical intervention at a primary care facility. The result is that these patients, after failing to obtain the desired results from these non-orthodox approaches to healthcare, develop complications and then present late to the mainstream health facilities, at which point their conditions have become much more difficult to manage. When such patients eventually expire because they presented late after wasting time seeking care elsewhere for a condition that could easily be managed at a primary care facility if they had gone there first and

early on, the impression is created that mainstream healthcare is not effective and other people needing healthcare will then seek out alternative avenues for receiving same.

Previous researchers have found important links between health-seeking behavior and sociodemographic factors, cultural beliefs and practices, educational level, and political and economic environments and systems (Baranowski, Perry & Parcel, 2002; Palank, 1991). Several other researchers have found mainstream medical care costs and lack of access to healthcare facilities are important determinants of health-seeking behavior (O'Donnell, 2007; Shaikh & Hatcher 2005; Akeju et al., 2016; Audu et al., 2014).

Other researchers have questioned the effectiveness of and rationale behind self-medication (Hughes, McElnay & Fleming, 2001), faith-healing (Miller et al., 1998), and use of traditional/herbal medicine (Angell & Kassirer 1998) as options in the management of various health conditions. Indeed, attempts to integrate traditional/herbal medicine into mainstream healthcare have been met with stiff resistance from mainstream medical practitioners who argue there is little to no scientific support for the use of traditional/herbal preparations and methods in the diagnosis and management of medical conditions (Boateng et al., 2016) as is the case for many other “unscientific” methods of medical care (Debas, Laxminarayan & Straus, 2006).

Despite the wealth of available literature looking at factors affecting health-seeking behaviors and the relative effectiveness of the different avenues for seeking and receiving healthcare, no single study has looked at all these avenues together in a comparative analysis that includes important variables such as health insurance status and religious affiliation/beliefs that may potentially predict health-seeking behaviors in a defined population. The importance of individual perceptions about the severity of ill-health, susceptibility to adverse effects of misdiagnosis and inappropriate treatments, perceived benefits of engaging in suggested health-

seeking behaviors as well as barriers to seeking healthcare through one medium or another together with subjective norms, and attitude towards a particular health-seeking behavior through modifying factors such as age, sex, and socioeconomic status cannot be overlooked.

The needless loss of human lives due to late presentations (when complications have already developed) at mainstream health facilities (particularly referral hospitals) in Ghana is of as much concern to the present researcher as it is to other medical practitioners and policy makers in Ghana. Understanding the factors that influence decisions of healthcare consumers in the country to choose other avenues rather than primary care facilities as their first point of call following ill-health is an important first step towards developing policies and intervention programs that will make mainstream primary healthcare facilities the preferred first point of call for individuals needing healthcare.

Need for the Study

Many medical conditions can be sufficiently treated if not cured if they are diagnosed early, and appropriate treatment/intervention given (Shapiro & Taylor, 2002; Gæde et al., 2008). The leading causes of morbidity and mortality in Ghana, as mentioned earlier, include diseases such as malaria, lower respiratory tract infections, stroke, cardiovascular diseases, and diarrheal diseases (CDC 2016). When diagnosed early, all the infectious diseases on the list can be cured, while the chronic diseases such as cardiovascular diseases can be sufficiently managed to prevent and/or delay the development of complications. Individuals suffering from these top causes of morbidity in Ghana who resort to self-medication, faith-healing, or traditional/herbal medicines not only risk being misdiagnosed, but are more likely to develop complications due to inappropriate, inadequate, or ineffective treatment.

Since a large proportion of Ghana's morbidity and mortality burden comes from mainly infectious diseases and some manageable chronic conditions (such as cardiovascular diseases), it is possible to significantly reduce cause-specific morbidity and mortality rates by reducing barriers to primary healthcare facilities and making them the preferred first point of call following ill-health. This study is, thus, partly intended as a form of action research, where it serves a local need by diagnosing the problems associated with health-seeking behaviors as a basis for promoting primary healthcare facilities as the preferred first point of call for health needs.

Purpose of the Study

The success of public health intervention programs partly rests on prevailing circumstances such as culture, beliefs, and attitudes of the local population (Thomas, Fine & Ibrahim, 2004). To improve chances of success for intervention programs, local content research is necessary to aid in understanding the health problem(s) of interest and to serve as a basis for developing the intervention programs. While much research has been done on the determinants of health-seeking behavior, most researchers have limited their work to specific health outcomes such as maternal and child health and on specific health-seeking behaviors such as self-medication or traditional/herbal medicine. This current research work is intended to serve the following purposes;

- 1) Create a comprehensive survey instrument to evaluate the factors that influence health-seeking behaviors among Ghanaians using selected constructs of the Health Belief Model (HBM).
- 2) Use the survey instrument to study determinants and predictors of health-seeking behaviors among Ghanaians as a basis for developing future intervention programs.

Research Questions

This research seeks to find answers to the following questions;

- 1) What is the first point of call for seeking healthcare among Ghanaians?
- 2) What factors influence the choice of first point of call for health needs among Ghanaians?
- 3) Are there any relationships between selected constructs of the HBM including modifying factors and first point of call for healthcare?
- 4) Are there differences in choice of first point of call for healthcare among Ghanaians due to gender, age, marital status, educational level, income level, health insurance status, religious affiliation, place of residence, ethnic group and perceived illness severity?
- 5) What factors predict health-seeking behaviors among Ghanaians?

Significance to Health Education

Health education has been defined in a variety of ways by different experts (Tones & Tilford, 2001; Gold and Miner, 2002). Many other researchers have linked health education to health promotion in their definition of the former (Chen, 2001; Caraher, 1998). While many of these definitions share similarities in many respects, perhaps the most succinct definition of health education is that by the World Health Organization (WHO, 2015);

Health education is any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes.

Whatever the definition of health education may be, the present author views health education as the most potent tool of public health. Indeed, it is this researcher's belief that health education is the "heartbeat" of preventive medicine. Both consumers and providers of healthcare share the same goal – to make the former (health consumers) better in the most efficient, effective, and timely manner. Similarly, whatever their first point of call may be for healthcare needs (self-medication, traditional/herbal medicine, faith-healing or mainstream primary health facility), sick

Ghanaians want the same thing – to get better. Unfortunately, not all the avenues for seeking healthcare in Ghana have the same outcomes. Mainstream primary healthcare is supported by sound theoretical basis and overwhelming empirical evidence for both effectiveness and efficiency. Nevertheless, many Ghanaians still resort to other avenues such as self-medication, faith-healing, and herbal/traditional medicine for healthcare needs. Although, to be fair, some Ghanaians have reported obtaining desired outcomes from self-medication, faith-healing, and traditional/herbal preparations. Many other Ghanaians have visited mainstream healthcare facilities because of complications from self-medication and/or herbal preparations or simply just due to delay in seeking medical care at a primary health facility, at a time when their conditions have become not only difficult to manage, but also costlier to manage as well.

This study seeks to understand the factors that inform the health-seeking behaviors of Ghanaians, with the hope that future programs aimed at promoting primary healthcare facilities as the preferred point of call among Ghanaians needing healthcare, can refer to evidence generated from this study. Such evidence can then be used to improve knowledge about the benefits of seeking healthcare needs from primary health facilities first, while eliminating barriers to primary healthcare among Ghanaians.

Research Method

This study will be conducted using a cross-sectional research design such that data will be collected at a single point in time from the target population using a self-administered survey (Creswell, 2003). Despite their limitation in establishing causal inference, cross-sectional studies have the advantage of presenting researchers the opportunity to have good control over the measurement process, leading to better understanding of the relationships within representative samples (Mann, 2003). The current researcher believes the foregoing advantage of cross-sectional

designs will allow a meaningful analysis and understanding of the factors that influence health-seeking behaviors in Ghana, and most importantly, what relationships exist between these factors and how they independently and collectively predict health-seeking behaviors among Ghanaians.

Instrument

To determine the factors that influence health-seeking behaviors in Ghana, a comprehensive survey instrument has been synthesized from existing literature, survey instruments from studies that have overlapping themes with this current study, with integration of carefully crafted new questions that incorporate the variables and theoretical constructs of interest for the purposes of answering the research questions under study. A pilot-test of this instrument will be conducted and the instrument revised as needed to improve validity and reliability prior to the main study.

Sample and Participant Selection

The population for the current study will be Ghanaians currently living in Ghana. Convenience sampling will be utilized to recruit study participants from each of the four main ethnic groupings in the country, namely Ga/Adangme, Akan, Ewe and Northern tribes from the Greater Accra, Ashanti, Volta and Northern regions, where these ethnic groupings are the dominant ethnic groupings respectively. Sample size analysis will be conducted to determine the minimum sample size required to determine significant differences between groups, and to allow meaningful estimation of which independent variables predict health-seeking behaviors in Ghana.

To the extent that this researcher anticipates and hopes to include participants with no formal education in the study sample (educational level is an independent variable of interest in the study), trained research assistants (RAs) will be recruited to administer the survey questions among such participants. To be eligible to participate in the study, individuals must be at least 18

years of age or older at the time of data collection. A survey instrument culled from existing, previously validated scales for studying health-seeking behaviors as well as from extant literature, and newly created questions will serve as the research instrument, and completion of the survey is estimated to take 30 minutes.

Theoretical Framework

The Health Belief Model (HBM), was first developed in the 1950s to explain and predict health-related behaviors (Hochbaum, 1958). To date, this theory remains widely used in health behavior research (Glanz et al., 2008). The HBM currently has six constructs: Perceived Severity, Perceived Susceptibility, Perceived Benefits, Perceived Barriers, Cues to Action, and Self-Efficacy. The HBM postulates that individual beliefs about the seriousness of a health problem (Perceived Severity), their beliefs about likelihood of being affected by the health problem (Perceived Susceptibility), beliefs about benefit of engaging in suggested health-promoting behavior (Perceived Benefits), their assessment of possible obstacles to adopting the health-promoting behaviors (Perceived Barriers), immediate pushing factors which may be internal such as pain, or external such as incapacitation of a family member from the health problem (Cues to action), together with their belief in their own capacity to carry out the suggested health behavior (Self-Efficacy), act together to determine whether or not that individual will engage in the suggested health behavior or not.

In the context of this current research, I am interested in whether perceived severity, perceived benefits, perceived barriers, and cues to action, influence choice of first point of call among Ghanaian health-seekers.

Assumptions

Several assumptions were made in the design and processes going into the current research.

- 1) First, the researcher assumed that the proposed method for selecting and including participants in the study will yield a sample representative of the Ghanaian population.
- 2) The researcher assumed the survey questions were appropriately worded to measure the constructs of interest and would be understood by responders such that responses are based on an honest representation of their current situation and perceptions.
- 3) Finally, the researcher assumed that the use of trained research assistants (RAs) in administering the survey to participants without formal education will not lead to misrepresentation of information and inaccurate capturing of the data.

Limitations

Many of the limitations of the present study relate to the use of self-report methodology. While self-report methodology has been touted for strengths such as relative ease and quickness of data collection as well as capacity to measure intangible information such as behavior and motivation, significant limitations have been reported for the method that particularly affect the internal validity of studies using the method (McDonald, 2008).

Specifically, the limitations for the present study are;

- 1) Occurrence of incomplete responses and inaccuracies in data collection due to wording and sequence of survey questions.
- 2) Threat of social desirability bias where participants respond in a way that shows only their positive sides.
- 3) Occurrence of recall bias, where participants fail to accurately capture past events necessary for the internal validity of the study.

- 4) Use of trained RAs to administer surveys to participants without formal education who speak a local language the primary researcher cannot understand might lead to further inaccuracies in collected data and impact internal validity of the study.

Delimitations

Delimitations refer to those limits imposed on the study by the researcher prior to the beginning of the study citation needed. The researcher set the following delimitations for this research;

- 1) Participants will be selected from only Ghanaians currently living in Ghana.
- 2) All study information will be collected through self-report using the survey instrument.
- 3) The researcher will focus on selected constructs of the HBM in trying to answer the research questions.

Definition of Terms

1. Allopathic medicine: mainstream medical practice where pharmacological agents or physical interventions are used to treat medical conditions (Oxford Medical Dictionary, 2010).
2. Attitude Towards Behavior: Positive or negative value placed on engagement of suggested health behavior (Glanz, 2008).
3. Behavioral Beliefs: Subjective probability that a given health behavior will produce a given outcome (Glanz, 2008).
4. Determinants of Health: The range of personal, social, economic and environmental factors that influence health status (Healthy People, 2014).
5. Faith-Healing: Healing achieved by religious belief, prayer and practices rather than by medical treatment (Pattison Lapins & Doerr 1973)

6. Health Behavior: An activity undertaken for the purpose of preventing or detecting disease or for improving health and well-being (Glanz, 2008).
7. Health Belief Model: Conceptual framework for understanding and predicting health-behavior (Glanz, 2008).
8. Health Outcome: Changes in health due to specific healthcare investments or interventions (WHO 2017)
9. Health: "A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." (WHO, 1948)
10. Perceived Barriers: An individual's beliefs about what factors (real or imagined) prevent them from engaging in a suggested health behavior (Glanz, 2008).
11. Perceived Benefits: Beliefs of an individual regarding the usefulness of engaging in a suggested health behavior (Glanz, 2008).
12. Perceived Severity: An individual's belief about the seriousness of a medical condition as an influence of type of care to seek (Glanz, 2008).
13. Primary Healthcare facility: Medical facility where essential healthcare based on scientifically sound and socially acceptable methods and technology are used to provide healthcare needs for individuals and communities (WHO, 2008).
14. Secondary Healthcare facility: A hospital or advanced diagnostic center that serves as referral center to primary care facilities (WHO, 2011)
15. Self-Medication: selection and use of medicines by individuals (or a member of the individuals' family) to treat self-recognized or self-diagnosed conditions or symptoms (Ruiz, 2010).

16. Tertiary Healthcare facility: A hospital with advanced specialty clinics and centers focusing on various types of health problems (WHO, 2011).
17. Traditional Medicine: Combination of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to various cultures as applied in the prevention, diagnosis and treatment of physical and mental illness (WHO, 2007).

Summary

This chapter provides a synopsis of the present study designed to evaluate the factors that influence health-seeking behaviors among Ghanaians resident in Ghana. The chapter places special focus on stating the problem of interest, need for the study, research design and questions, participant selection, theoretical framework as well as limitations, delimitations, and definition of key terms relevant to the study.

CHAPTER 2 – Literature Review

Introduction

This chapter provides a background to the study, an overview of existing literature relevant to the synthesis and purposes of this study. More specifically, the author provides an appraisal of past studies examining (a) the determinants of health-seeking behavior (b) factors affecting primary care utilization (c) determinants of self-medication (d) determinants of traditional/herbal medicine (e) determinants of faith healing and (f) the Health Belief Model (HBM) as applied in previous studies focusing on health-seeking behavior as well as its application to the current study. To the extent that the study is targeted at understanding the determinants of health-seeking behavior of Ghanaians living in Ghana, special consideration is given to past studies among Ghanaians where available.

Purpose of Study

To focus the review of literature relevant to this study, a restatement of the study purpose(s) is necessary. This study was designed to serve two purposes: (a) create a comprehensive survey instrument to evaluate the factors that influence health-seeking behaviors among Ghanaians using selected constructs of the Health Belief Model (HBM) and (b) use the survey instrument created to study determinants and predictors of health-seeking behaviors among Ghanaians as a basis for subsequent development of an intervention program to improve health-seeking behaviors among Ghanaians.

Background of the Problem

Profile of Ghana

Geographical and Topographical Characteristics: Ghana is a small country located on the west coast of Africa. It lies between latitude 8° 00' N and longitude 2° 00' W. The first country in Sub-

Saharan Africa to gain independence from British colonial rule in 1957, Ghana occupies an area of 238,537 square kilometers and shares boundaries with Cote D'Ivoire to the West, Togo to the East, Burkina Faso to the North and the Atlantic Ocean to the South (Ghana Government, 2015).

Ghana has a low topography with tropical and savannah regions split into ten administrative regions: Ashanti Region, Brong-Ahafo Region, Central Region, Eastern Region, Greater Accra Region, Northern Region, Upper East Region, Upper West Region, Volta Region and Western Region. The regions are furthermore divided into 216 districts, with the capital Accra located in the Accra Metropolitan Assembly of the Greater Accra Region (Ghana Statistical Service, 2015).

Demographic Characteristics: With a population growth rate pegged at 2.19% per annum, Ghana's total population is estimated to be 28.7 million people in 2017 from a baseline 24,658,823 people according the 2010 Ghana National Population and Housing Census (ADBG, 2017). Using the 2014 population estimates, Ghana's population density at the end of 2014 stood at 107 people per square kilometer, with the Greater Accra and Ashanti regions having the greater share of the population at 16.3% and 19.4% while the Upper East and Upper West regions have the lowest populations at 4.2 % and 2.8% respectively. With a total of 12,633,978 females (51.2% of population) and 12,024,845 males (48.8% of population), Ghana's Sex Ratio stood at 95 males to 100 females, Crude Birth Rate (CBR) at 31.4 births/1,000 population and Crude Death Rate (CDR) at 7.37 deaths/1,000 population (Ghana Statistical Service, 2012). Up to 73.50% of the total population live in urban areas, with annual urbanization rate of 3.4% (ADBG, 2017).

Ethnic Groups: Major ethnic groups in Ghana are Akan (47.5% of population), Mole-Dagbani (16.6% of population), Ewe (13.9% of population), Ga-Dangme (7.4% of

population), Gurma (5.7% of population), Guan (3.7% of population), Grusi (2.5% of population), Mande-Busanga (1.1% of population) and others at 1.6% of population (Ghana National Population and Housing Census, 2010). Meanwhile, the people of the northern half of the country, comprising the Upper West, Upper East and Northern Regions such as the Mole-Dagbani, Grusi, Mande-Busanga, Dagaaba, Waala and Frafra, share similarities in language and culture, with many inter-marriages among these ethnic groupings. Subsequently, some researchers have lumped them all into one - Northern tribes (Awedoba, 2006)

Languages: With English as the official national language spoken by about 36% of the population, major local languages are Asante (14.8%), Ewe (12.7%), Fante (9.9%), Boron (Brong) (4.6%), Dagomba (4.3%), Dangme (4.3%), Dagate (Dagaaba) (3.7%), Akyem (3.4%), Ga (3.4%), and Akuapem (2.9%).

Religion: Christianity is the most dominant religion in Ghana with 71.2% of the population identifying as Christian, followed by Islam at 17.6% and Traditional African Religion at 5.2%. An additional 5.2% of the population do not identify with any religion, while all other minority religions make up 0.8% of the population. (Ghana Statistical Service, 2012).

Literacy: Literacy rate, defined as population above 15 years of age who can read and write stands at 76.6% for the total population, males being 82% and females 71.4% (CIA, 2015).

Economic Factors: Ghana has a market-based economy with relatively few policy barriers to trade and investment in comparison with other countries in Sub-Saharan Africa. Major exports include cocoa (second largest producer in the world), Gold,

timber and oil in recent times since 2010. Major imports are rice, chicken, technology and technology-based products. Agriculture accounts for nearly one-quarter of Ghana's Gross Domestic Product (GDP) and employs more than half of the workforce, mainly small landholders. The services sector accounts for about half of GDP. As of 2015, Ghana's GDP stood at \$37.54 billion, with the GDP-per capita of \$1,369.7 placing the country as a lower middle-income country. Unemployment rate in Ghana was 5.8% of the population in 2016, and in 2014, Ghana spent 3.6% of its GDP on healthcare (World Bank, 2017).

Health and Health Outcomes

Introduction

As mentioned previously in chapter one, the WHO (1948) definition of health has faced growing criticism in recent times for its “absolute” posture on health (Huber et al., 2011; Larson, 1999, p. 123 – 136). However, many experts and researchers agree that better health is customarily desirable, and plays a pivotal role in human happiness and wellbeing (WHO, 2017; Garrett, 1990), despite the apparent lack of consensus on the definition of health. Indeed, the benefits of health transcend the individual to positively impact economic progress and development, as human productivity is greatly influenced by health status (WHO, 2017; Grosse & Harkavy, 1980; Bloom, 2007). Without good health, therefore, individual quality of life and economic productivity are severely threatened, with attendant consequences and ripple effects (Over, Ellis, Huber & Solon, 1992).

Virtually all individuals will be faced with one health problem or another in their lifetime that requires some form of health care or intervention. While many avenues exist for seeking health care or interventions to health problems such as allopathic (mainstream) healthcare, through

alternative and traditional/herbal medicine to faith-healing (Ryan 1998; Ahmed et al., 2000; Marsh et al., 1999; Marin et al., 1983), the wide variations in health outcomes based on type, timing and quality of health intervention sought or received can be hard to ignore (Debas, Laxminarayan & Straus, 2006).

Whatever their choice of intervention, individuals with health problems have one thing in common – they all desire to get better. Unfortunately, not all the avenues for health intervention offer the same level of opportunity to improve the health seekers' conditions. Indeed, some of these avenues may worsen the health status of an individual or even lead to fatal outcomes, especially in situations where time-sensitive health conditions are concerned (Ruiz, 2010; Ernst, 2003). Understanding the factors that affect the health-seeking behaviors of individuals may, therefore, help in the design of intervention programs that nudge individuals toward evidence-based healthcare services or methods for improving health.

Determinants of Health and Health Outcomes

Several factors variously and collectively influence the health of individuals and populations the world over (WHO, 2017). This range of personal, social, economic, environmental and related factors which affect health are collectively referred to as the determinants of health, and have been categorized into broad groups such as biology and genetics, individual behavior, health services and policy-making as well as social factors (Healthy People, 2014). Other researchers have further placed these factors into two broad categories; modifiable and nonmodifiable determinants of health, with factors such as individual behavior, health services and policy making as well as social factors generally considered modifiable, while biology and genetics fall under nonmodifiable (WHO, 2017; Healthy People, 2014).

More appropriately described as the social determinants of health, the conditions in which people are born, grow, live, work, and age, not only influence but are also influenced by individual behavior (WHO, 2008). Subsequently, these structural determinants and conditions of daily life significantly affect the differential distribution of disease and health outcomes as well as modulating factors such as individual and health behaviors, and have been a major focus of public health research and intervention programs targeted at reducing health inequities (Marmot, 2005; Braveman & Gottlieb 2014).

Biology and Genetics

Family history presents some of the strongest risk factors for many disease processes including diabetes, cancer, cardiovascular disease, and some psychiatric illnesses, and has its roots in human biology and genetics (Blazer & Hernandez, 2006). Generally considered nonmodifiable, the biological and genetic basis of disease disproportionately predisposes some populations to disease more than others. Biological and genetic determinants of health include sex, age, and ethnicity (Bortz, 2005; Phillips, 2005; Kimbro, Bzostek, Goldman & Rodriguez). Examples of conditions tied to these are higher incidence of breast cancer among females compared to males (Jemal et al., 2008), higher incidence of heart disease among older people (Idris, Deepa, Fernando & Mohan, 2008), and sickle cell disease among people of African American descent (Brousseau, Panepinto, Nimmer & Hoffmann 2010).

Individual Behavior

Individual behavior is one of the modifiable determinants of health that is the target of many public health education programs (Green, 1984). Modifiable human behaviors that influence health and health outcomes are smoking, alcohol indulgence, diet, and physical activity (Cawley & Ruhm 2011). Selivanova and Cramm (2014) studied the relationship between health behaviors

and health outcomes among older adults in Russia; they found that health behaviors such as physical activity and smoking behavior are important predictors of health status, such that men with a significant smoking history reported poorer overall health status than those without a significant smoking history, while women who reported regular fruit and vegetable intake also reported better health state than those who reported less fruit and vegetable intake.

Health services

Access to health services as well as the quality of health services available, influence health and health outcomes, with limited access to quality health services posing a significant threat to desirable health outcomes (Gulliford et al., 2002). Previous researchers have underscored the need for improved access to quality health services in the crusade for reducing health inequities, highlighting inter alia, the barriers to accessing quality health services such as lack of availability and high cost of these services (Devoe, Baez, Angier, Krois, Edlund, & Carney, 2007). Evaluation of past studies by Turner and Roy (2013) as well as Dayaratna (2013) illustrate the importance of access to quality health services; these researchers found that Medicaid patients had relatively limited access to quality health services and consequently, suffered worse health outcomes compared to those who had private health insurance and better access to quality health services. Additionally, Adedini (2014), studied the effect of limited access to health care services in Nigeria on childhood mortality; he reports that the mortality rate for children under-five was higher among mothers who had limited access to health services (due to cultural and resource constraints) compared to those who had better access to health services. In the current study, the effect of access to the different avenues for seeking and receiving health care will be evaluated to see how they affect health-seeking behaviors by examining differences in cost of care, distance to care facility and related factors.

Health Policy

The top public health concerns of the 20th century were all addressed through appropriate health policy interventions, highlighting the importance of effective health policies in dealing with existing and emerging public health problems (Glasgow, Vogt & Boles 1999). Health policy has been shown to influence individual behaviors that affect health as well as the structure and delivery of healthcare services to individuals and communities. As an example, McDaniel, Nuhu, Ruiz, and Alorbi (2017) studied the social determinants of cancer incidence and mortality around the world and found that countries with cancer control policies, programs and action plans had both lower incidence and attendant mortality from lung, breast, cervical, and colorectal cancers compared to countries without these policies.

Another good illustration of the effect of health policy and health outcomes is the policy to ban smoking in public places. In a random-effects meta-analysis of 45 studies regarding 33 smoke-free laws, Tan and Glantz (2012) reported significant correlations between comprehensive smoke-free laws and lower rates of cardiovascular, cerebrovascular and respiratory events and fatalities. Many other researchers (International Agency for Research on Cancer, 2009; Goodman, Haw, Kabir and Clancy, 2009; US Department of Health and Human Services, 2006) report that the desirable effects of these smoke-free policies, such as reduced hospital admissions for myocardial infarctions, began to manifest shortly after these laws took effect.

Social Factors

As mentioned previously, the social determinants of health have been shown to influence health and health outcomes (WHO, 2008). Such conditions as low literacy levels, unsafe neighborhoods, unstable housing, poverty and unemployment, inadequate social support systems, and amenities as well as related factors, have been documented to adversely affect health behavior,

individual and population health, and health outcomes (CDC, 2017; Braveman & Gottlieb 2014; Pickett & Pearl 2001). As observed by Hernandez and Blazer (2006), a bidirectional relationship exists between social factors and health such that infirmity in an individual can potentiate changes in social factors, while social factors by themselves, may directly lead to positive or negative influences on health-seeking behaviors and health outcomes. As an example, the authors forward that an individual with a recent diagnosis of HIV may lose their social support base due to the stigma associated with the disease, while the same social networks may influence health-seeking behaviors by making suggestions to those affected by disease regarding options for health care. The importance of social factors as determinants of health is further illustrated by Fleitlich and Goodman (2001); in their study of the social factors associated with childhood mental disorders, the authors found that poverty, unstable family conditions and domestic violence were associated with a higher prevalence of mental disorders among children in the study sample.

Avenues for Seeking Healthcare

Almost all individuals will require some form of healthcare intervention at some point during their lifetime. People seek healthcare for a wide variety of reasons; to receive treatment for acute or ongoing chronic medical conditions, for disease prevention and health promotion purposes, or simply to satisfy some social or personal need such as family planning or employment purposes (Saver et al., 2013; Kroeger 1983). As mentioned previously in chapter one, while individuals may have different reasons for seeking and receiving healthcare, all healthcare consumers are motivated by a desire for improvement in their medical condition and/or state. Like health outcomes, choice of healthcare is also influenced by a wide array of factors ranging from proximal, personal factors such as knowledge and attitudes toward different avenues of healthcare,

to more distal factors such as environment (accessibility) as well as existing health policies (Al-Doghaither, Abdelrhman, Saeed, & Magzoub 2003; Uchendu, Ilesanmi & Olumide, 2013).

Medical care is pluralistic in many parts of the world, and many avenues exist for satisfying one's medical needs (Leslie, 1980). Avenues for seeking and receiving medical care include self-medication with herbal/traditional medicines, self-medication with pharmaceutical drugs, faith-healing, traditional/herbal medical care from practitioners, modern (orthodox) medicine, and watchful waiting with expectation of self-resolution (Eichhorn, Greten & Efferth 2011; Shaghghi, Asadi, & Allahverdipour 2014; Plante & Sherman 2001; Bodeker & Kronenberg 2002).

Modern Medicine Versus Complementary Alternative Medicine

Some experts and health researchers lump all other avenues outside of orthodox medicine under the umbrella term “complementary and alternative medicine (CAM)”, and it is estimated that two-thirds of the world's population seek healthcare from these sources (Pal, 2002). The foregoing observation notwithstanding, many researchers and medical experts have questioned the veracity of CAM practices, often citing the lack of solid, scientifically proven evidence in support of these practices (Fontanarosa & Lundberg 1998; Beyerstein, 2001). Other researchers and practitioners of CAM have defended and promoted CAM, arguing that evidence building must focus on the needs and concerns of individual patients and their right to choice of care (Coulter & Willis 2004). Despite these opposing views giving rise to a consorted volume of literature comparing the pros and cons of orthodox medicine and CAM, most of which favor orthodox medicine over CAM, there have been calls for reconciliation between orthodox medicine and CAM, to allow for an integrated approach to healthcare, where the two are seen as complementary rather than competitive (Coates & Jobst 1998). In support of the growing calls for an integrated approach to medical care, where modern medical care operates side-by-side with CAM, Herman,

Poindexter, Witt and Eisenberg (2012) conducted a systematic review of evaluations of complementary and integrative medicine (CIM) to determine the justification for the growing calls for integrative medicine; they found that 29 percent of the evaluations reviewed, depicted overall health improvement with cost savings for the CIM therapy compared to mainstream care alone.

The Health-Seeking Process and Stages in Health-Seeking

Health-seeking has been described as an evolving process rather than an event, with many influencing factors at play, such that many models have been proposed to explain the decision, type and volume of care sought at various stages of ill-health (Muela, Ribera, Toomer & Grietens, 2012; Fabrega, 1973; Suchman, 1965). While criticizing these past models such as the use of a single system of healthcare in Suchman's (1965) model, Igun (1981) harnesses and refines the components of these past models into a unitary model that presents the stages of healthcare as logical possibilities, such that not all illnesses go through these stages in sequential order. As cited by Okwara (1999), these stages vary in duration and scope, and may require closer analysis to separate one from the other.

According to Igun's (1981) harmonized model of the stages of health-seeking behavior, the first stage of health-seeking behavior involves the development of symptoms, during which the individual becomes aware of ongoing changes in health state, preceding an emotional response characterized by fear and anxiety to what might be wrong with them. Following a self-evaluation of the symptoms at this stage, individuals progress to the second stage during which they may ignore the symptoms altogether, anticipating self-resolution, or resort to self-treatment based on their understanding of the disease process and what might work well in neutralizing the symptoms and restoring their health (Mwabu, 1984).

Succeeding this stage is a period during which close associates of the affected individual learn of their condition through self-report or direct observation, culminating in the assessment of the condition and the social recognition of the assumption of the sick role (Igun, 1981). Beyond expressions of concern and support at this point, these close associates offer their own diagnoses and suggest treatment options, leading to a selection of a treatment choice with the most probable efficacy according to the most influential associates (Igun, 1981).

In the final stages of this model, the selected treatment option is implemented and the response to treatment is closely monitored by all parties involved – the practitioner, the patient and close associates. If the condition responds to treatment, there is a shift into the final stage under this scenario, where recovery and rehabilitation bring closure to the case. If the patient fails to improve, there is a reassessment of symptoms and treatment options, and the cycle is repeated till there is some form of closure, either through resolution of symptoms or death of the person affected (Igun, 1981). A good illustration of the stages of health-seeking behavior is provided in Nyamongo's (2002) study on the healthcare switching behavior of malaria patients in a rural community in Kenya. The author found that patients were more likely to start with self-treatment at home to cut down on costs as they monitor the condition and hope for remission. Subsequent decisions to seek alternative treatments follow, when self-treatment fails to induce and/or sustain remission, with visits to private healthcare practitioners, government health centers, or tertiary hospital facilities when complications set in and pose a significant threat to life. The findings of this particular study further highlight individual knowledge and understanding of the likely causes of the prevailing disease, duration of sickness, expected cost of treatment as well as perceived severity of the disease as important determinants in their choice and pattern of health-seeking options.

Determinants of Health-Seeking Behavior

Health-seeking behavior refers to any action or combination of actions taken by an individual with a health problem (perceived or real), toward finding a solution (Olenja, 2003). A milieu of sociocultural, economic, and environmental factors guided by intrapersonal and interpersonal characteristics and behaviors, wider community norms and expectations together with available health provider services and associated characteristics, influence health-seeking behaviors (Ihaji, Eze & Ogwuche 2014; Oberoi, Chaudhary, Patnaik & Singh 2016).

Individual Factors

Differences in individual characteristics affect health-seeking behaviors differently. While individual differences are by themselves influenced by other factors such as biology and genetics, sociocultural environment, and economic factors (Maneze, DiGiacomo, Salamonson, Descallar & Davidson 2015), their implications for health-seeking behaviors cannot simply be glossed over.

Differences in gender roles significantly influence the trends of health-seeking behaviors between men and women. Currie and Wiesenberg (2003) studied the factors affecting health-seeking behaviors among women; they report that women are generally less likely to identify disease symptoms, and feel more restricted in access to healthcare facilities. The authors forward that, this observation is partly because of the relatively lower social value placed on women by culture, as well as their defined social roles, which make it cumbersome for them to visit healthcare facilities during the day when they are open. In their article, Galdas, Cheater and Marshall (2005) report a recurring theme enmeshing “traditional masculine behavior” for delays in seeking healthcare during ill-health among men. Subsequently, the authors suggest that while cultural gender roles may partly explain differences in health-seeking behaviors and outcomes between males and females, similarities and differences in masculine beliefs across men from varied ethnic

backgrounds and socioeconomic status may inform our understanding of disparities in health and health outcomes among men from different backgrounds. Gender differences in health-seeking behaviors is further highlighted in a study by Thompson, Anisimowicz, Miedema, Hogg, Wodchis and Aubrey-Bassler (2016); in a cross-sectional study involving over 7000 patients from 10 provinces in Canada, the authors find that significant gender differences exist in health-seeking behaviors between men and women such that more women reported visiting their primary care provider for both physical and mental health concerns compared to men.

Socioeconomic Status (SES) is an aggregate index of an individual's social and economic standing, reflecting their educational level, income, and occupation, and has been positively associated with better health (Baker, 2014). Progressive education improves knowledge, health literacy, beliefs, and practices, and has been associated with better health and health outcomes (Baker, Leon, Greenaway, Collins & Movit 2011). As an example, Desai and Alva (1998) used demographic and health surveys from 22 developing countries to study the relationship between maternal education and child health; they found that children whose mothers were educated had better immunization rates and health outcomes compared to children whose mothers were less educated. Interestingly, Lasker (1981) observed that education and income increased accessibility to all forms of healthcare; however, respondents with higher levels of education confessed to using both traditional and non-traditional forms of therapy.

Income has also been determined to be an important determinant of health insurance status, such that most insured individuals have relatively higher incomes compared to uninsured individuals (Bernard, Banthin & Encinosa 2009). Subsequently, other researchers have found that individuals with health insurance were more likely to use primary healthcare facilities compared to those without health insurance (Jowett, Deolalikar & Martinsson 2004). To the extent that

healthcare of any form comes at a cost, individual income may directly influence health-seeking behavior such that those who are better placed financially can both pay for health services directly, as well as indirectly through the purchase of health insurance coverage.

Urban and rural dwellers have also been found to exhibit important differences in health-seeking patterns, with secondary factors such as income and educational level, availability and access to healthcare facilities all appearing to influence the differential healthcare patterns between rural and urban dwellers (Onyeonoro et al., 2016; van der Hoeven, Kruger & Greeff 2012). Plausible differences in socioeconomic variables between rural and urban dwellers may inform the availability, quality, access to and affordability of health care services between rural and urban communities. As an example, van der Hoeven, Kruger, and Greeff (2012) studied differences in health-seeking behaviors between rural and urban dwellers in South Africa; they reported significant differences in socioeconomic variables, beliefs about health and health care utilization patterns, all of which favor urban settlers of rural dwellers. Their study further revealed that urban settlers had more health care options and better access to health services and were five times more likely to prefer the generally more expensive private health care facilities.

Sociocultural Factors

Sociocultural factors confer unique identities to communities and individuals, and have been cited as an important determinant of differential choice of healthcare options by past researchers (Bailey, 1987; Shaikh & Hatcher 2004). Indeed, health, illness, and healthcare have been described as integral parts of cultural systems (Kleinman, 1980) in part because of cultural perceptions of disease(s), cultural idioms of distress and suffering, associational and causal factors as well as accepted modalities of treatment, all of which may vary widely between cultures. Other researchers (Foster & Anderson, 1978; Okwaro, 1999) observe that non-western individuals

sometimes have strong values and beliefs that conflict with western medicine enough to dissuade them from accessing and utilizing any associated healthcare services.

Religion has been cited as another important sociocultural factor influencing healthcare behavior. As an example, Mwabu (1984) found that Christians were more likely to seek healthcare from modern healthcare facilities compared to believers of traditional African religion, who were more likely to resort to traditional healing. The present researcher believes this observation may, at least in part, be tied to differences in socioeconomic variables, such as educational and income levels between practitioners of various religions and in part because of strong values and beliefs among traditional African religion practitioners that make them view modern medical care with suspicion (Foster & Anderson, 1978; Okwaro, 1999).

Studies on the effect of age on health-seeking behaviors are nuanced; while some studies depict differential health-seeking behaviors with age, such that older people with chronic health problems were more likely to seek multiple sources of care, with a bend towards non-traditional healthcare (Mwabu, 1984), Ahmed, Tomson, Petzold & Kabir (2005) in their study of health-seeking behaviors among rural Bangladeshi determined there were no major differences in health-seeking patterns between the elderly and the young. Indeed, their study reinforced the notion that socioeconomic indicators such as income and educational status are more important predictors of health-seeking behavior than to age and even gender. The present researcher believes differences in range of health issues (older individuals tend to have more chronic health problems) between the aged population and younger individuals together with possible differences in socioeconomic variables may inform differential health-seeking patterns across the age strata. Subsequently, age will be explored in the present study as a possible predictor of health-seeking behaviors among the Ghanaian population.

Nature of and Perceived Severity of Illness

The nature and perceived severity about the index illness have also been cited as important determinants of health-seeking behavior (Kanungo et al., 2015). In a recent study, Peppas, Edmunds, and Funk (2017) explored health-seeking behaviors among individuals with influenza-like illness in an internet based cohort; they found that individuals with fewer symptoms were less likely to seek medical care, while those with more severe and protracted symptoms were more likely to seek care. As cited by Okwara (1999), individuals with “non-serious” disease such as “fever” are more likely to ignore the problem altogether, or resort to self-medication at best, while those whose conditions are severe enough to interfere with routine activities of life or pose an imminent threat to life, are more likely to seek the services of a professional healer (physician or CAM practitioner) for diagnosis and treatment purposes.

Regarding nature of illness, while individuals may choose any option of care based on their social and economic circumstances, the very nature of their current illness, and their beliefs about its cause(s) and perceptions of most effective treatment option available, influence the kind of care they seek (Koenig, 2012; Senah, 2004; Kanungo et al., 2015). In an extensive review of existing literature pertaining to religion, spirituality, and health, Koenig (2012) states that there are particularly important links between mental health diseases and religious and spiritual beliefs. His findings highlight the importance of religion and spirituality not just in the explanation of mental diseases, but also in the prevention and treatment of these types of diseases. To the extent that mental disorders are believed by many among some cultures to be caused by spiritual factors and forces, the Koenig suggests health-seeking behaviors for mental disorders among such individuals and populations tend to be tilted in favor of a “spiritual solution”, often through faith-healing or some other form of alternative health care. Researchers from Ghana (Arias, Taylor, Ofori-Atta &

Bradley 2016; Edwards, 2014) report trends where sufferers of diseases believed to have supernatural and spiritual origins, mainly mental health disorders, seek and are sent to prayer camps and faith healers for spiritual healing and deliverance rather than mainstream healthcare facilities. The present researcher aims to explore existing health-seeking patterns in Ghana, and how variables such as gender, age, educational and income levels influence these patterns.

Modern Medicine/Primary Care

Introduction

Modern medicine, also variously referred to as mainstream, orthodox, western, allopathic or evidence-based medicine, refers to a system of healthcare, where combined teams of trained professionals including doctors, nurses, and pharmacists, use various methods and agents supported by scientific evidence, to diagnose and treat diseases and medical conditions (National Cancer Institute, 2016). Modern medicine, as known and practiced today, evolved from a system of treating illnesses based on religious and cultural beliefs, traditions, and magic, premised upon the supernatural origins of disease. The transition from accepting the supernatural cause of disease to looking for natural and physical causes of same, marked the beginning of modern medicine, largely credited to the works of Hippocrates, who initiated a system of diagnosing and treating diseases based on accumulated knowledge, clinical observation, and logical reasoning (Marketos & Skiadas 1999).

Today, modern medicine has evolved to the point where scientifically sound and high quality medical research is combined with relevant clinical experience and patient values to guide decisions regarding individual patient care, summarily referred to as evidence-based medicine (Masic, Miokovic & Muhamedagic 2008). Against a background of the preceding point, strict advocates of modern medicine have often touted modern medical care as superior, more

dependable and predictable compared to all other forms of medical care and health interventions (Angell & Kassirer 1998). Subsequently, modern medical care has emerged as the standard and preferred option of care for many individuals and populations around the world (Williamson, Ramirez & Wingfield 2015).

Primary Care

The American Academy of Family Physicians (AAFP, 2017) defines primary care as comprehensive, initial, and continuing medical care provided to the undifferentiated patient in a variety of healthcare settings, and involves the diagnosis and treatment of acute and chronic medical conditions, patient education, and health promotion. There is considerable and growing advocacy for expanding primary care services globally, in response to scientific evidence crediting primary care with not only disease prevention and health promotion, but also as an effective tool in reducing extant health inequities (Starfield, Shi & Macinko, 2005).

Modern Medicine/Primary Care and Health Outcomes

Previous researchers and experts have found strong evidence associating better health outcomes with primary care (Starfield, Shi & Macinko, 2005). Shi (1992, 1994), in his studies on the relationship between primary health care and health outcomes, determined that U.S. states with higher primary care physicians to population ratios enjoyed more favorable health outcomes including lower mortality rates from all causes despite controlling for sociodemographic and lifestyle factors. Further support for primary care is provided in a study by Vogel and Ackermann (1998), in which increased numbers of primary care physicians and services, was associated with longer life span and better quality of life. The benefits of primary healthcare transcend the individual patient to help contain rising medical costs associated with specialist medical care, for services that can be managed at the primary care level, and avoid medical complications, that

inflate the general costs of medical care, while improving the overall quality of healthcare services (Friedberg, Hussey & Schneider 2010). Indeed, the benefits and potential of primary care in improving health and health outcomes are so compelling that primary care effortlessly became one of the pillars of the WHO's Alma-Ata declaration of 1978 (Shi, 2012; WHO, 2017).

Providers of primary care vary from one jurisdiction to another, and commonly include family physicians and general medical practitioners, physician and medical assistants, pharmacists, nurse practitioners, community health nurses, and clinical officers, who provide community-based care to local populations (Shi, 2012). While serving as the first point of modern medical care in their operating communities, primary care providers also coordinate care of individuals with secondary and tertiary health facilities for onward care involving complex cases requiring specialized care and facilities.

Factors Affecting Primary Care Utilization

In line with the aforementioned benefits of primary care within the context of modern medicine, using primary care services as a first point of care following ill-health or for any health needs in general, would be expected of any individual. However, several factors influence access to and utilization of primary care services, such that there is a shortfall of primary care services and utilization across both developed and developing countries (Shi, 2012, MacLean et al., 2014). Factors affecting the utilization of primary care services range from availability, or lack thereof, of primary care facilities, providers and services, relative cost and affordability of primary care services (Grimsno & Siem 1984), and socioeconomic and demographic variables that have been cited by past researchers in the discrepancies observed in the use of primary care services (Alsubaie, 2016; Abu-Mourad et al., 2008).

Effect of Age, Gender, Health Insurance Status, Education, Rural and Urban Status, Religion on Primary Care Utilization

Alsubaie et al. (2016) studied the socioeconomic factors associated with primary care use in Riyadh, Saudi Arabia; analyzing data from a sample of 358 participants, they found that the main determinants of primary care utilization were the presence of one or more chronic medical conditions, self-rated poor health, and possession of health insurance. In a similar study by Abu-Mourad et al. (2008), in the Gaza Strip, older age, higher incomes, unemployed status, poor self-rated health, current smoking habit, and married status were determined to be significant predictors of primary care use. In a study by Grimsmo and Siem (1984), which was conducted to determine factors associated with primary care utilization among a Norwegian population, the authors found that increasing age and presence of a chronic condition influenced primary care utilization; however, education and income level did not have any significant influence on primary care utilization, when other factors were considered.

In a comparative study of gender influence on primary care utilization rates in the United Kingdom, Wang, Hunt, Nazareth, Freemantle, and Petersen (2013) found that men had a 32 percent lower primary care consultation rate compared to women, with the greatest gender gap seen between the ages of 16 and 60 years. Interestingly, their study revealed that reproductive reasons only partially accounted for the relatively higher primary care consultation rates among women, with a near-total effacement of these differences when men and women with similar illnesses were compared.

In a study of the differences between rural and urban primary care units in Turkey, Yikilkan, Gorpelioglu, Aypak, Uysal, and Ariman (2013) determined that long distances to primary care facilities in rural compared to urban areas, coupled with fewer primary care facilities

in rural areas resulted in larger patient volumes and longer waiting times at primary care facilities, all of which negatively affected primary care access and utilization. Having fewer health facilities and resources including medical personnel in rural areas compared to urban, compromises quality of available care and limits options of care, and together with socioeconomic factors such as lower incomes, may limit access to modern medical care for rural dwellers (Anderson, Saman, Lipsky, & Lutfiyya, 2015), resulting in a situation where individuals resort to other avenues for meeting medical needs.

Koenig (2012) describes the influence of religion on medical decision making by patients; he reports that religious beliefs significantly influence the type and volume of medical care sought by individual patients, as well as influence compliance with recommended treatments. As mentioned earlier, he reported that mental disorders are especially linked to spiritual factors and forces, and are more likely to provoke a search for “spiritual solutions” among sufferers, often faith-healing or some other form of alternative care.

Primary Care in Ghana

The Ministry of Health has the mandate to oversee health care delivery in Ghana, which is done through the public health care system or the private health care facilities. The public health care facilities are all government owned and are operated under the Ghana Health Service (GHS), with a few quasi-government facilities such as the military, police, and teaching hospitals which are semi-autonomous. The government facilities are organized into community-based facilities, sub-district, district and regional facilities, with each succeeding level serving as referral point for the facilities beneath it. The private hospitals are either mission hospitals, company, group or individual owned (MOH, 2015).

Ghana's National Health Insurance Scheme

Ghana successfully enacted and passed the National Health Insurance Act (Act 650) into law in 2003, paving the way for the establishment of the National Health Insurance Authority (NHIA) as regulatory body for all health insurance schemes (both public and private) in the country. This subsequently led to the establishment of the National Health Insurance Scheme (NHIS), a form of social insurance scheme under the NHIA, and the former commenced operations in 2004. With over 95 percent of all diseases afflicting Ghanaians covered, the basic package under the NHIS covers all costs, including food for inpatients, outpatient care, full payment for medicines included in an approved list, and payments for referrals in an approved list (Salisu et al, 2009; Mensah, Oppong & Schmidt, 2010).

As of 2009, the NHIS enjoyed a total subscriber base of 14,511,777 (over 60 percent of population), with 1,930 healthcare facilities accredited nationwide to provide services to these members including all government facilities and many privately-owned facilities such as private pharmacies, laboratories and diagnostic centers (NHIA, 2011). In 2012, it cost an annual premium of only GHS 7.2 (US \$ 4.8) to register and benefit from the services of the NHIS described above, with free coverage for elderly citizens older than 70 years and children below 18 years (Dalaba et al., 2014; Kassena-Nankana District Mutual Health Insurance Scheme, 2012).

Current Primary Care System in Ghana

Ghana has made significant progress toward bringing primary care services closer to individuals and families in their own communities. The adoption of the community-based health planning and services (CHPS) in 2000, under which trained community health nurses serve as the first point of clinical contact and referral in addition to offering basic public health services such as immunization to local communities and individuals has since yielded a considerable improvement in health outcomes across the country (Lawson & Essuman 2016). Nevertheless,

Ghana's current population-to-doctor ratio of 10,032:1 and population-to-nurse ratio of 1,240:1 as of 2011 (Lawson & Essuman 2016), fall far below the WHO's recommendation of 4.45 skilled health professionals per 1000 population (WHO, 2017). Compounding the lack of capacity to meet primary care needs by the mainstream healthcare workforce is the palpably skewed distribution of doctors in the country; in 2009, 69 percent of the 2,442 physicians in Ghana practiced in hospitals in the Greater Accra region or at the Komfo Anokye teaching hospital located in Kumasi, Ghana's second largest city. The uneven distribution of physicians in the country significantly affects the volume and value of primary care delivered to Ghanaians, with rural dwellers and remote communities worse affected (Snow et al., 2011). This observation is of interest to the current study, as the author believes the uneven distribution of health personnel and facilities across the country will not only influence access to primary care services, but will also affect health-seeking behaviors of individuals, with possible variations between rural and urban dwellers.

The Private Healthcare System

Private health facilities contribute significantly to health care delivery in Ghana, with privately owned and managed faith-based health facilities leading the private health sector in the country (Salisu & Prinz 2009). While many of these privately-owned health facilities are accredited service providers under the NHIS, some voluntarily opt out of the scheme and take care of patients on a fee-for-service basis, where the average cost per visit is around US \$10 or accept private insurance schemes that offer better reimbursement rates for services rendered to holders of such insurance portfolios (van den Boom, Nsowah-Nuamah & Overbosch 2007).

With private, for-profit health facilities enjoying a perceived better responsiveness, shorter waiting times and overall quality of services than public and not-for-profit facilities among the general population, a study by Awoke et al., (2017) revealed older age group, higher education

and higher income as significant predictors of primary care at private health facilities in Ghana, while individuals with health insurance, particularly those covered by the NHIS were more likely to seek primary care services at a public outpatient facility. In the current study, health insurance status will be explored together with other variables in the study of health-seeking behaviors among Ghanaians, in the face of other existing avenues for satisfying healthcare needs of individuals.

Other Factors Affecting Primary Care Utilization in Ghana

Other studies conducted in Ghana to determine the factors affecting the utilization of primary care services confirm the importance of some of the factors in primary care behavior as discussed in the preceding sections. Buor (2003) studied the effect of distance on the utilization of health services in the Ahafo-Ano South District. Analyzing data from a sample of 400 participants, the author found that increasing distance and travel time to health facilities resulted in reduced use of health services including primary care services, such that residents in these communities resorted to other avenues for satisfying their healthcare needs. The results of this study also suggested income, cost of health services and educational level as important predictors of primary care usage in the communities in this area.

A study by Addai (2000) on the factors affecting utilization of maternal and child health (MCH) services in rural Ghana showed that the use of MCH services in rural Ghana is variously informed by educational level, religious beliefs, region of residence as well as occupation and ethnicity. It will be interesting to see how some of these factors such as religious beliefs and ethnicity (tribe) affect health-seeking behaviors in the present study.

Self-Medication

Introduction

Self-medication refers to the use of selected medicines and medicinal products, including patent drugs and herbal preparations, for the purposes of treating self-diagnosed medical problems or symptoms (Ruiz, 2010), and without the advice of a trained healthcare provider such as a physician (Montastruc, Bagheri, Geraud & Lapeyre-Mestre, 1996). Self-medication has been described as a global phenomenon with significant contributions to pathogen resistance to existing antimicrobial agents (Bennadi, 2013). The practice of self-medication may involve the use of patent drugs (both prescription and non-prescription), herbal/traditional medications or a combination of these, and serves as an important avenue for meeting health needs among individuals and communities without access to formal health services (Selvaraj, Kumar & Ramalingam 2014). Most people will have tried one form of self-medication or another throughout the course of their life time, and while over-the-counter medications are generally available, and indeed useful for such purposes as treating minor illnesses (Vizhi & Senapathi 2010), the unguided use of any medications may present serious health implications for the individual such as adverse drug reactions, with graduated, undesirable multiple economic and social effects on the larger society (Selvaraj, Kumar & Ramalingam 2014).

Self-Medication and Health Outcomes

Despite the many challenges and disadvantages posed by self-medication, which virtually eclipse any merits to the practice, there are benefits of self-medication that need to be situated in context, as relevant to the purposes of this dissertation. Indeed, self-medication is not entirely a bad practice; it saves money and time, and as mentioned previously, partly fills the gap for individuals and communities without adequate access to formal health care facilities and personnel

(Selvaraj, Kumar & Ramalingam 2014). To the extent that access to universal healthcare continues to elude many the world over, self-medication has been progressively integrated into some healthcare systems around the world, with the deregulation of many, hitherto prescription only medications to over-the-counter status, and found to be helpful for individuals with better education and higher overall socioeconomic status (WHO, 2000).

Benefits of Self-Medication

Self-medication has benefits for both the individual patient as well as the healthcare system. Benefits to the individual include empowerment to make medical decisions toward their own care for minor ailments, convenience, as well as reduction in treatment costs and time spent seeking treatment in formal healthcare settings (Hughes, McElnay & Fleming, 2001). Benefits to the healthcare system occur in the form of reduced pressure on medical resources and personnel, especially in publicly funded health systems, as well increased access to medications and the potential to reduce costs associated with prescribed drugs (Hughes, McElnay & Fleming, 2001). In a study by Stearns et al. (2000) on the economic implications of self-care for Medicare beneficiaries, self-medication was found to improve the health status of participants, with desirable spillover effects of reductions in Medicare expenditures associated with care for such individuals.

Risks Associated with Self-Medication

Despite the benefits associated with self-medication as described above, there are important risks connected with the practice that ought to be considered as well. Documented risks associated with self-medication include misdiagnosis and concomitant use of inappropriate medications or dosages, drug-drug interactions and adverse reactions, development of drug dependence, and polypharmacy (Hughes, McElnay & Fleming, 2001). The misapplication of self-medication in the form of misdiagnosis, inappropriate treatment or a combination of both, may

also lead to the development of medical complications with varying threats to life and disability, and concomitant increases in definitive treatment costs to the individual and healthcare system (Ruiz, 2010; Vidyavati, Sneha, Kamarudin & Katti 2016), in addition to the emergence of pathogen resistance owing to the irrational use of antimicrobial agents in poorly regulated healthcare systems, mainly in the developing world, add to the list of compelling disincentives for self-medication (Vidyavati, Sneha, Kamarudin & Katti 2016).

Determinants of Self-Medication

Several factors including education, income, perceived severity and type of index illness (Zhao & Ma, 2016), cultural beliefs and family influences, availability of drugs, regulatory frameworks and existing laws, and exposure to drug advertisements variously influence self-medication behaviors (Sarahroodi 2012). For the purposes of this study, literature relating to selected variables of interest and how they affect self-medication was reviewed.

Income and Self-Medication

A motley of literature exists on the effect of income as a determinant of self-medication. Based on the findings from some studies, researchers determined that individuals with higher incomes were more likely to engage in self-medication (Gelayee, 2017; Oztora, Nepesova, Caylan & Dagdeviren, 2017), while other researchers (Awad, Eltayeb & Capps 2006; Al-Azzam, Al-Husein, Alzoubi, Masadeh & Ali 2007) reported that lower incomes were associated with and more predictive of self-medication. In the present study, the influence of income on self-medication practices among Ghanaians will be explored to determine how this agrees or varies with other studies.

Education and Self-Medication

Like income, studies on the relationship between education and self-medication are inconsistent in findings. In national studies conducted in Greece (Papakosta, Zavras & Niakas 2014), China (Yuefeng, Keqin & Xiaowei, 2012) and Turkey (Nur, 2010), where the emphasis was on herbal self-medication, researchers ascertained that self-medication was more prevalent among individuals with higher education and/or more medical knowledge (Zhao & Ma, 2016). Conversely, in a study on self-medication for diabetes in Iran, opposing findings were reported, where individuals with lower education were more likely to self-medicate, while a study in Argentina on self-medication for eye-related conditions reported no significant effect of the different levels of education (Marquez et al., 2012).

Gender and Self-Medication

Gender differences in self-medication patterns have also been reported. Some past researchers report significantly higher rates of self-medication among females (Alavi, Alami, Taefi & Gharabagh, 2011; Cherniack et al., 2008). In other studies in parts of India (Selvaraj, Kumar & Ramalingam, 2014) as well as a national study on use of analgesics in Spain (Carrasco-Garrido, 2010), opposing findings were revealed, such that self-medication was more prevalent among males (Zhao & Ma, 2016).

Health Insurance Status and Self-Medication

Having health insurance is variously tied to income and socioeconomic status, and has been determined to have a significant influence in health-seeking behavior in general. Applicable mainly for mainstream clinical care, a study in Mexico found that individuals without health insurance coverage had a higher likelihood of engaging in self-medication (Pagan, Ross, Yau & Polsky, 2006), since it is a cheaper option compared to out-of-pocket payment for medical care in

a clinical facility. Similar results were found in a study by Jafari, Khatony, & Rahmani (2015), who reported a significantly higher prevalence of self-medication among the uninsured elderly in Kermanshah-Iran.

Age and Self-Medication

The effect of age on self-medication has been studied extensively with disparate findings. In studies in India (Kumar, Mangal, Yadav, Raut & Singh, 2015), Pakistan (Humayun et al., 2016) and Jordan (Yousef, Al-Bakri, Bustanji, & Wazaify, 2008) higher prevalence of self-medication among younger subjects was reported. The opposite was found in other studies as reported by Jafari, Khatony and Rahmani (2015) as well as Sarahroodi, Maleki-Jamshid, Sawalha, Mikaili, and Safaeian, (2012), who found significantly higher rates of self-medication among older individuals who tend to have multiple chronic conditions for which they self-medicate, while Aqeel et al., (2014) found no significant differences in self-medication behaviors among different age groups.

Rural-Urban Differences in Self-Medication

Opportunities for seeking and receiving medical treatment vary between rural and urban areas. Lack of time has been cited for the higher prevalence of self-medication in urban areas, while lack of health care facilities and financial reasons appear to influence self-medication in rural areas (Aqeel, 2014). Past researchers have documented significant differences in self-medication behaviors between urban and rural dwellers. In studies in India (Balamurugan & Ganesh, 2011) and China (Yuefeng, Keqin & Xiaowei, 2012) there was a significantly higher prevalence of self-medication in urban compared to rural areas. Nevertheless, the practice of self-medication is rife in rural communities, and has been the focus of many studies around the world (Marak, Borah, Bhattacharyya, & Talukdar, 2016; Keche et al., 2012; de Melo et al., 2006).

Self-Medication in Ghana

With wide and relatively easy access to nonprescription, prescription, and herbal medicines in Ghana, self-medication is a fairly common practice (Biritwum, Welbeck & Barnish, 2000). The weak regulation of prescription and non-prescription drug sales as well as the poorly regulated traditional/herbal medicine industry, make it quite easy to purchase and use any medication including antibiotics and other antimicrobial agents without a trained health professional's advice and/or prescription. Indeed, it is not uncommon to find drug peddlers with little or no formal training in pharmaceutical products and drug dispensing (both patent and herbal drugs) in public places such as market areas, places of worship (including mosques and churches) and public buses, gleefully marketing their drugs and making recommendations for treatment of various conditions to the public. To the extent that self-medication is now considered endemic in parts of Ghana, Asenso-Okyere, Anum, Osei-Akoto, and Adukonu (1998), advocate training of drug peddlers and attendants of drug stores to at least improve the safety and use of drugs for self-medication practices.

In a survey study involving 600 respondents on self-medication practices with antibiotics among tertiary students in Ghana's capital city, Accra, Donkor, Tetteh-Quarcoo, Nartey, and Agyeman (2012) report a self-medication prevalence of 70 percent with a common frequency of monthly antibiotic usage; they also found that students in the medical sciences were less likely to self-medicate, while the relatively cheaper cost of self-medication compared to care in a hospital was cited together with long delays at hospitals as reasons for engaging in self-medication. Additionally, they found that 49 percent of the study participants had poor knowledge about the health implications of irrational antibiotic usage, while 46 percent neither complied with the recommended dosages nor completed the full course of the antibiotics, raising serious concerns of

building antibiotic resistance. In a similar study on the use of antimicrobials for self-medication purposes among patients attending a sexually transmitted diseases clinic, Adu-Sarkodie (1997) reports that 74.5 percent of respondents self-medicated with antimicrobials obtained over the counter, from friends or as 'left-overs' from previous treatments prior to visiting the clinic following treatment failure. In the present study, the scope of self-medication as an avenue for satisfying health needs among Ghanaians will be explored on a broader scale, together with possible modulating factors such as age, educational status, and related factors using the Health Belief Model.

Traditional/Herbal Medicine

Introduction

The WHO (2007) defines traditional medicine as “the combination of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness”. Modern medicine is thought to have evolved from traditional medicine, which is still widely practiced globally today; indeed, an estimated 70 to 95 percent of the populations in developing countries in Africa, Asia, and Latin America are said to rely on traditional/herbal medicines procured through local practitioners or as self-medication for satisfying primary care needs (Robinson & Zhang 2011).

It is clear from available literature that traditional/herbal medicine not only fills in the gap where modern medical care is nonexistent or inaccessible, it is in some cases, the only option of healthcare available to individuals and communities, and for many others, simply a preferred option of healthcare (Qi & Kelley 2014). While some experts advocate the integration of traditional/herbal medicines into mainstream healthcare (Chi, 1994; Gqaleni, Moodley, Kruger,

Ntuli & McLeod 2007; Patwardhan & Partwardhan 2005), others strongly suggest caution in any such calls (Ekor, 2013), with both proponents and opponents referring to the heavy mix of research findings highlighting the pros and cons of traditional/herbal medicine and associated practices.

Traditional/Herbal Medicine and Health Outcomes

Traditional/herbal medicines and associated practices have been and are used to treat a broad variety of medical conditions and satisfy other health needs among various populations globally (WHO, 2007). As discussed previously, traditional/herbal medicines existed long before the introduction of modern medicine; indeed, modern medicine is largely believed to have evolved from the practice of traditional medicine. Despite growing interest in many parts of the world regarding use of traditional/herbal medicines as an alternative to modern medicine, few scientific studies have investigated the therapeutic effectiveness of traditional/herbal treatments to date (Ekor 2014).

To the extent that traditional/herbal treatments and practices vary widely within and across national and international borders, such that their effectiveness and quality are at the mercy of a wide array of factors, it is difficult to establish a parallel system of standards and methods for evaluating their therapeutic effectiveness and associated factors such as safety. This has culminated in paucity of scientific data supporting the use of such treatments and raised suspicion among practitioners and strict advocates of modern medicine, many of whom oppose the increasing calls for integrating traditional/herbal medicines into main stream medical care (WHO, 2002; Zhang, Xue & Fong, 2011).

Determinants of Traditional/Herbal Medicine

The apparent lack of adequate scientific support for the safety and efficacy of traditional/herbal treatments notwithstanding, there is no denying that these treatments not only

serve the health needs of individuals and communities where there are no modern medical alternatives, they are a preferred option of healthcare for many individuals and provide an alternative to many others looking for medical solutions outside the purview of modern medicine. In the wake of growing use of traditional/herbal treatments globally, many researchers have sought to evaluate the factors that influence the use of such treatments among various populations.

Age and Traditional/Herbal Treatments

Generational gaps, beliefs, experiences, and range of medical conditions may be important determinants of traditional/herbal treatment use. Stjernberg, Berglund and Halling (2006) studied the effect of age on the use of herbal medicines in a Swedish population; they report a trend of decreasing use of herbal medicines for treatment purposes with increasing age. Similar findings are reported in a study by Duru et al. (2016), in which they reported decreasing use of herbal/traditional medicines with increasing age among pregnant Nigerian women visiting a tertiary health facility. In another study on the effect of age on use of traditional/herbal treatments among women attending a fertility clinic in Uganda, Kaadaaga et al. (2014) reported significantly higher use of traditional/herbal treatments among younger women (aged 30 years or less) compared to older women (aged more than 30 years).

Gender and Traditional/Herbal Treatments

Gender roles and socialization may be another important determinant of traditional/herbal medicine use, together with possible differences in disease presentation and appraisal between women and men. Many previous researchers have found that use of traditional/herbal medicines is significantly higher among women compared to men (Stjernberg, Berglund & Halling, 2006; Shih, Liao, Su, Tsai & Lin, 2012; Kristoffersen, Stub, Salamonsen, Musial & Hamberg 2014; Jawahar, Yang, Eaton, McAlindon & Lapane, 2012). Kristoffersen, Stub, Salamonsen, Musial,

and Hamberg (2014) further offer that women report a significantly higher usage of traditional/herbal medicines because of less satisfaction with modern medical treatments, prompting a need for alternative solutions to their medical problems.

Education and Traditional/Herbal Treatments

Educational attainment has been established as an important component of socioeconomic status such that individuals who are better educated tend to have greater access to and utilization of healthcare services (Goldman & Smith 2002). Gerald and Ogwuche (2014) forward that individuals who are better educated generally have a better understanding of their current medical problem, their therapeutic options and respective effectiveness, and are therefore more likely to make better healthcare choices.

A study of by Laelago, Yohannes, and Lemango (2016) illustrates the relationship between educational level and use of traditional/herbal treatments; in their study of the effect of educational attainment on use of traditional medicines in Southern Ethiopia, the authors report that women with lower educational attainment were more likely to use traditional/herbal treatments during pregnancy compared to women with higher educational attainment. A study by Duru et al. (2016) not only supports the findings that individuals with higher educational attainment are less likely to use traditional/herbal medicines, but also reports that women whose spouse had a higher educational level were less likely to use traditional/herbal treatments during pregnancy.

Income and Traditional/Herbal Treatments

Income has already been discussed as an important determinant of health-seeking behavior such that the ability to afford different therapeutic options may directly influence choice of healthcare or indirectly through health insurance coverage. Traditional/herbal treatments are generally less expensive compared to modern medical treatments for comparable conditions

(Pathak & Das, 2013). In a comprehensive review of studies investigating traditional/herbal medicine use for treatment of malaria in Asia Pacific countries, Suswardany, Sibbritt, Supardi, Chang, and Adams (2015) report low incomes as the commonly cited reason for resorting to traditional/herbal treatments. Findings from other researchers generally agree that individuals with lower incomes are more likely to turn to the relatively cheaper herbal treatments for their healthcare needs (Duru, 2013; Yeh, Lin, Chen, Wang & Huang, 2015; Shewamene, Dune & Smith, 2017). As previously discussed, health insurance coverage is influenced by income status, which will make it a good proxy for income as a determinant of traditional medicine use. However, Gyasi (2015), in his study on factors associated with use of traditional medicines in Ghanaian healthcare settings, showed no statistically significant difference in use of traditional/herbal medicines between insured and uninsured participants.

Rural-Urban Differences in Traditional/Herbal Treatments

Availability of therapeutic options vary widely between rural and urban communities. Subsequently, access to therapeutic options may be limited depending upon their availability in a place of residence. Urban communities tend to have more social amenities and medical resources compared to rural communities (Spasojevic, Vasilj, Hrabac & Celik, 2015). According to the WHO (2013), use of traditional/herbal treatments is pervasive among rural populations due to non-availability of public health facilities. A study by Adams, Sibbritt and Lui (2011) illustrates rural-urban differences in use of traditional/herbal treatments; analyzing data for over 10,000 participants from an Australian population, the authors found that use of traditional/herbal treatments is significantly higher among rural dwellers compared to urban residents, and dissatisfaction with modern medicine was reported as the leading reason for use of traditional/herbal medicines.

Rural-urban differences in use of traditional/herbal treatments are further highlighted by Uzochukwu, Onwujekwe, Onoka, and Ughasoro (2008); in a study of responses to childhood fever in South-Eastern Nigeria, while rural mothers were more likely to recognize danger signs and symptoms of ill-health among their children, they were also more likely to resort to herbal/traditional medicines at home for management of childhood febrile illnesses compared to urban mothers. The authors suggest that while differences in other sociodemographic variables such as education may partly account for this finding, the relative lack of access to health facilities (due to unavailability or longer distance to care center) in rural compared to urban areas may be a significant contributor to the use of traditional/herbal medicines in rural areas.

Perceived Illness Severity and Traditional/Herbal Treatments

As discussed previously, individual appraisal of current medical condition or needs may also inform choice of healthcare, such that those who perceive their condition to be more serious and life-threatening will seek what they believe to be the best option of care available and accessible to them. An illustration of the effect of perceived illness severity on use of traditional/herbal treatments is provided by Jaime-Pérez et al. (2012); despite not finding statistically significant differences (64.7% versus 41.7%; p -value = 0.08), the authors report a higher use of traditional/herbal medicines among individuals who perceive their current condition to be non-life-threatening.

Yang, Corsini-Munt, Link, and Phelan (2009) studied the implications of perceived effectiveness of traditional Chinese medicine (TCM) on mental health service utilization among Chinese-Americans; they reported that while perceived illness severity was generally unrelated to assessment of TCM, respondents viewed TCM less favorably for mental disorders, and were less likely to use or recommend TCM for mental disorders. In a mixed methods study to determine the

factors associated with traditional/herbal treatment use in Tanzania, Stanifer et al. (2015) reported that chronic, noncommunicable ailments were especially cited as a reason for using traditional/herbal treatments. Deducing from the findings of the aforementioned studies, individuals who believe traditional/herbal treatments are effective are likely to use them for treatment of illnesses perceived to be serious. Additionally, lack of satisfaction with treatment progress for chronic, noncommunicable diseases, appears to be another important influence of traditional/herbal medicine use, as sufferers scout for alternative solutions to their medical problem(s).

Religious Beliefs, Ethnicity and Traditional/Herbal Treatments

Traditional/herbal treatments have been described as integral parts of sociocultural systems, and while they vary between ethnicities and religious groups, form part of the belief system and practices of many local populations (WHO, 2005). While some researchers have documented a positive relationship between religiosity (in general, irrespective of religious affiliation) and use of traditional/herbal treatments (Nicdao & Ai, 2014; Heathcote, West, Hall & Trinidad, 2011), the present researcher did not find any studies comparing religious differences in use of traditional/herbal medicines.

Traditional/herbal treatments and practices vary widely between ethnic groups and locations. In their study on herbal medicine use in selected districts of Uganda Tabuti, Kukunda, Kaweesi, and Kasilo (2012) revealed that differences in knowledge of traditional/herbal treatments not only existed between the different tribes in these districts, they accounted for significant differences in use of herbal treatments such that tribes with wider knowledge of herbal treatments and practices used more herbal treatments compared to those with little knowledge. This may

suggest that previous exposure to and experience with herbal treatments may partly explain any observed differences in herbal medicine use between tribes.

Traditional/Herbal Medicine in Ghana

Traditional/herbal treatments existed long before the introduction of modern medicine in the Africa (Abdullahi, 2011) and continue to serve the health needs of many Ghanaians. As discussed previously, traditional medicine has undergone significant transformation in Ghana, to the point where there are now “scientific herbal clinics” across various parts of the country. According to Aziato and Antwi (2016), the growing appeal and use of traditional/herbal medicines in Ghana has necessitated decent attempts by successive governments to improve the knowledge, safety, and efficacy of these practices through training programs, standardization, and regulatory measures. Despite these efforts, traditional/herbal medicine use and practices remain poorly regulated in Ghana, leading many practitioners in mainstream medicine to oppose attempts to integrate traditional/herbal medical care into public health facilities (Asante & Avornyo, 2013).

Facilitators of traditional/herbal medicine use among Ghanaians include perceived ineffectiveness of mainstream medicine, perceived effectiveness of traditional/herbal medicines, preference for herbal medicines and integration of spirituality in traditional/herbal treatments, while barriers to traditional/herbal medicine use include negative perceptions and unfavorable attitudes towards traditional/herbal treatments, as well as previous undesirable experience with traditional/herbal treatments (Aziato & Antwi 2016). The determinants of traditional/herbal treatments as a preferred first point of call following ill-health, will be explored further in the present study.

Faith Healing

Introduction

Faith healing is defined as healing achieved by religious belief, prayer, and practices rather than by medical treatment (Pattison Lapins & Doerr 1973). Faith healing is largely premised on the spiritual causation of disease and the concomitant notion that supernatural forces and/or magic can be invoked to neutralize these spiritual causes of malady, leading to healing (Dahl, 1960). The history of faith healing is long, and can be traced back to the era when primitive religious beliefs were inextricably tied to primitive medicine such that the primitive healer was a rudimentary blend of physician and priest (Dahl, 1960).

Faith healing as practiced today, involves prayers and religious rituals, varies substantially between cultures, religious groups and individuals, and may be done in isolation, as a group, or under the direction of a recognized faith healer, who often doubles as a religious leader such as priest or imam, and may occur at home, religious house (such as church, mosque, shrine, or temple), or another designated place (Ateeq, Jehan & Mehmmod, 2014).

Faith Healing and Health Outcomes

Research on the effect of faith healing on health and health outcomes is sullied with contradictions and assumptions that essentially pit science against religion, as science struggles to understand and/or explain the potential mechanisms underlying faith healing, while religion simply describes and accepts it as miraculous healing due to faith (Andrade & Radhakrishnan, 2009). Research findings on the health outcomes of faith healing are therefore, heavily mixed.

In a randomized control trial of the effects of intercessory prayers on patient outcomes in a cardiac unit, Harris et al. (1999) report that compared to the standard care group (n = 524), the prayer group (n = 466) recorded better coronary care outcomes, suggesting that intercessory

prayers were associated with better patient outcomes. A similar study by Cha, Wirth, and Lobo (2001) on the effect of prayers on fertility outcomes among a study sample in Seoul, South Korea, demonstrated that compared to the standard group, women who had been prayed for recorded nearly two times the pregnancy rate for the standard group (50 vs. 26%; $P < 0.005$) after controlling for variables such as clinical or laboratory variables.

Other researchers did not find any significant effects on health outcomes following faith healing. As an example, Aviles et al. (2001) studied the effects of intercessory prayers on disease progression in a coronary care unit; they report that no statistically significant differences were observed for the standard group and the treatment/prayer group. In a similar study, Astin, Stone, Abrams, and Moore (2006) found no significant differences in health outcomes between the standard group and treatment/prayer groups after intercessory prayers by both professional healers and nurses for patients with opportunistic infections due to immunodeficiency syndromes.

A third group of researchers found that faith healing resulted in worse health outcomes. In a triple blind, randomized control trial of the effect of intercessory prayers on recovery after coronary bypass surgery, Benson et al. (2006) report that despite having no effect on complication-free recovery after surgery, receiving intercessory prayers was associated with a higher rate of postsurgical complications.

Determinants of Faith Healing

Many factors appear to influence the belief in and practice of faith healing. Among the most closely associated are gender, socioeconomic status, and rural-urban differences.

Gender and Faith Healing

Gender differences in faith healing behaviors have been documented by some researchers. As an example, Saeed, Gater, Hussain, and Mubbashar (2000) studied the characteristics of seekers

of faith healing for mental disorders by professional faith healers in Pakistan; they reported significant differences between men and women, such that the practice was more prevalent among women, who were also more likely to have more confidence in the health outcomes of faith healing for mental disorders. In a cross-sectional study of prayer and spiritual healing among Australian women, Rao, Sibbritt, Phillips, and Hickman (2015) reported a prevalence of faith and spiritual healing of 26 percent, with relatively higher rates among sufferers of chronic ailments.

Education, Income and Perceived Illness Severity, Socioeconomic Status and Faith Healing

Socioeconomic status as manifested by educational and income levels, together with illness type and perceived severity has also been documented by previous researchers as important determinants of faith healing. In a study of sociocultural factors associated with use of spiritual healing churches in Ibadan, Nigeria, Adegoke (2007) reported a significant relationship between educational level and spiritual healing, such that poor women were more likely to resort to spiritual healing. The researcher also reported that individuals in the lower income categories were more likely to use faith and spiritual healing services, while those who perceive their current illness to be caused by supernatural forces and factors such witchcraft, were also determined to be more likely to seek faith and spiritual healing. Other studies by Odebiyi (1980) and Adegoke (1997) not only support the finding that individuals with lower educational and income levels are more likely to use spiritual and faith healing services, but also suggests that individuals are more likely to perceive their conditions to be caused by mystical and supernatural causes, and tend to look to faith and spiritual healing for solutions mainly because they offer a cheaper alternative to mainstream care as well as offer an effective solution to their medical problems since spiritual problems require spiritual solutions.

Rural-Urban Differences in Faith Healing

As discussed previously, the distribution gap of modern medical facilities between rural and urban communities may lead to the development and widespread use of alternative forms of treatment including faith healing in rural communities. Variations in cultural beliefs and practices may also partly explain any differences in faith healing behaviors between rural and urban dwellers. Baniya (2014) observes that rural folks and communities are more resistant to changes in cultural beliefs and practices, and are more likely to stick to traditional modes of healing including faith healing.

The preceding points are highlighted in a study by Sherra, Shahda, and Khalid (2017); in a study to determine the role of culture and faith healers in the treatment of mood disorders in rural compared to urban areas in the United Arab Emirates, the authors found that rural patients had more confidence in faith healing, and were twice as likely to seek faith healing services as their first point of call compared to urban patients. The authors further report that more family members of mental disorder sufferers believed in the mystical and supernatural causation of the disorder(s) in rural compared to urban dwellers. Ateeq, Jehan, and Mehmmod (2014) also determined that faith healing is significantly more common in rural compared to urban areas. In explaining the significant differences in perception and faith healing behaviors between rural and urban communities, Sherra, Shahda, and Khalid (2017) forward that the lack of availability of public health facilities coupled with financial limitations, made faith healing more probable among rural compared to urban dwellers.

Faith Healing in Ghana

To the extent that most Ghanaians are affiliated with one religious belief or the other (Senah, 2004), faith healing, which owes its roots to religion and spirituality, is widespread in

Ghana, and is operated at many levels from individual level through organized prayer camps and healing centers to faith healing through mass media. While faith healing in Ghana cuts across all religious groups and disease conditions in Ghana, the practice seems especially common for diseases believed to have spiritual origins as mentioned by other researchers, of which mental disorders abound (Odebiyi, 1980; Adegoke, 1997).

In a qualitative study to explore the widespread appeal of faith healing in Ghana, Aengibise et al. (2010) reported that because of cultural perceptions of mental disorders, particularly those regarding supernatural causes, the psychosocial support from faith healers together with availability, accessibility, and affordability of faith healing services, made them a preferred point of call for sufferers of mental disorders and their families. In another qualitative study, Kyei, Dueck, Indart, and Nyarko (2014) explored supernatural belief systems, mental health, and perceptions of mental disorders in Ghana; they reported that while faith healing practices were commonly reported across all religious groups, participants also generally looked at modern medical treatments for mental disorders, such as psychotherapy, favorably. In a comparative study involving practitioners of Christianity, Islam, and Traditional African Religion, regarding child survival and faith in Ghana, Gyimah (2007) reported that after controlling for mediating and confounding variables, such as socioeconomic status, no significant differences were observed for child survival rates as reported by participating mothers across the three religious beliefs.

Theoretical Framework

The Health Belief Model (HBM) has been selected to give a theoretical foundation to the current study. First developed in the 1950s to explain and predict health-related behaviors (Hochbaum, 1958), the HBM remains widely used in health behavior research to date (Glanz et al., 2008). The choice of HBM for this study was informed by the simple reason that the model

has been used widely in the study of health behavior in different contexts among various populations, and has consistently bespoken appreciable utility in health behavior studies (Becker et al., 1979; Cockerham, 1992). In line with the foregoing points, the present researcher believes the HBM is well situated to explain the connections between the sociodemographic variables of interest and health-seeking behaviors among the Ghanaian population.

Health Belief Model

The HBM posits that people's beliefs about the seriousness of a health problem (Perceived Severity), how likely they are to develop the health problem (Perceived Susceptibility), what they stand to benefit from engaging in preventive and/or health-promoting behaviors/actions (Perceived Benefits), their assessment of the obstacles to adopting the preventive and/or health-promoting behaviors/actions (Perceived Barriers), and immediate pushing factors which may be internal such as pain, or external such as information from close friends (Cues to action) act together to determine whether or not a particular person will engage in these preventive or promotional health behaviors (Rosenstock, 1974). In other words, the HBM forwards that for individuals to engage in preventive or health promoting behaviors, they must possess a minimum knowledge of health as it relates to the specific condition, believe that the condition is serious and/or life-threatening and that they are in danger of contracting or succumbing to the condition, and finally, they must believe that engaging in the proposed preventive and/or health promoting behaviors will neutralize their vulnerability to the condition, while also foreseeing no significant barriers to engaging in these behaviors.

To the extent that an individual's subjective appraisal of their index illness and related factors may be so important in determining their choice of healthcare (Cockerham, 1992), the HBM applies to the current study as follows: 1) individual perceptions about the severity of current

illness will inform health-seeking behaviors 2) beliefs regarding therapeutic effectiveness of health care options will inform health-seeking behaviors 3) beliefs regarding barriers to some health care options such as higher cost of care, availability, and distance to care facilities will inform health-seeking behaviors, and 4) previous experience with different care options and observation of treatment outcomes of other people from different care options will inform health-seeking behaviors for current and future illnesses (cues to action). Self-efficacy is not being considered as a construct of interest in the present study because the present researcher does not find it significantly aligned with the purposes and scope of the current study, where the focus is on modulating factors such as age, gender, educational and income levels, and how these factors influence health-seeking behaviors in the context of the selected constructs, namely perceived severity of illness, perceived benefits, perceived barriers and cues to action.

Summary

Health-seeking behaviors have been demonstrated to significantly influence health and health outcomes (Currie & Wiesenberg, 2003). While different avenues exist for meeting the health needs of individuals and communities in various parts of the world, these avenues not only vary widely in scope but, more importantly, they also vary in their efficiency and effectiveness in treating various medical conditions, such that some may be more effective and efficient than others as supported by scientific evidence and research (Ruiz, 2010; Ernst, 2003). To the extent that all health consumers share a common basic need to prevent, treat, and improve their current medical condition or improve their health status, the choice of health care sought for a given condition rests, to a large extent, on what the seeker believes to be the most efficient, effective, and affordable option of care available.

Despite a shared desire for positive treatment outcomes, not all individuals have the same opportunities for seeking and receiving health care services. An extensive review of the literature pertaining to health-seeking behaviors revealed that different factors influence health-seeking behaviors of individuals around the world. Some of the important factors influencing health and health-seeking behaviors include gender, age, education, income, sociocultural beliefs and practices, place of residence, availability, accessibility and affordability of health care services, individual perceptions about the causation of various diseases as well as perceived effectiveness of the various treatment options available (O'Donnell, 2007; Shaikh & Hatcher 2005; Akeju et al., 2016; Audu et al., 2014).

Ghana has a pluralistic health environment, where there are different, mostly competing options of healthcare. Wide variations in demographic, sociocultural, and socioeconomic factors among Ghanaians, therefore, predispose them to differences in health-seeking behaviors, some of which lead to needless loss of lives and disability due to ineffectiveness and/or inefficiencies. In order to address the fallout from these disparities in health and health outcomes due to health-seeking behaviors among Ghanaians, a thorough understanding of the factors affecting health care options is necessary. The current study aims to arm future researchers and policy makers with a foundation upon which educational intervention programs can be developed and implemented to improve health-seeking behaviors among Ghanaians, with the view to improving health and health outcomes among them.

CHAPTER 3 – METHODS

Introduction

This chapter presents a comprehensive overview of the proposed methodology to answer the research questions advanced in chapter one. As a prelude to the main discussion on the proposed methodology, the chapter opens with a review of the purpose and significance of this study to health education as well as the research questions addressed, before providing a thorough discussion of the quantitative design, research method, sample and participant selection, data collection, instrumentation, and proposed data analysis.

Purpose of the Study

The purpose of this study is two-fold – 1. to improve the psychometric properties of a newly created comprehensive survey instrument to evaluate the factors that influence health-seeking behaviors among Ghanaians using selected constructs of the Health Belief Model (HBM) and 2. use the survey instrument created, to study factors that determine and/or predict health-seeking behaviors among Ghanaians.

Significance to Health Education

To the extent that health outcomes are influenced by health-seeking behaviors, this study is significant to health education such that, by seeking to provide an understanding of the factors that inform health-seeking behaviors among Ghanaians, it can provide a solid foundation upon which health education intervention programs to improve health-seeking behaviors among Ghanaians toward better health outcomes and overall quality of life are based.

Quantitative Design

As reviewed previously, the aim of the current study is to design a comprehensive survey instrument to evaluate the factors that influence health-seeking behaviors among Ghanaians, and

to use this instrument to study the determinants and predictors of health-seeking behaviors among Ghanaians. To the extent that the present researcher intends to gather information regarding health-seeking behaviors among Ghanaians, and the factors that influence these behaviors, from a representative sample of the Ghanaian population, conduct statistical analyses and draw conclusions based upon the data retrieved from this sample, and subsequently generalize the findings from this sample to the entire Ghanaian population, a quantitative method of enquiry is both described and required to answer the research questions of interest (Creswell, 2003).

Research Questions and Hypothesis

To focus the scope and direction of this study further, the following are working hypotheses developed in relation to the research questions of interest. Research question one represents the dependent, categorical variable, hence specific hypotheses have been skipped for this question.

- 1) What is the first point of call for seeking healthcare among Ghanaians?
- 2) What factors influence the choice of first point of call for health needs among Ghanaians?

Hypotheses for Research Question Two

H2a. First choice of care differs with distance to type of care.

H2b. First choice of care differs with cost of type of care.

H2c. First choice of care differs with time spent at type of care during previous visits.

H2d. First choice of care differs with previous experience of level of respect at point of care.

H2e. First choice of care differs with knowledge of treatment outcomes of known person(s) at point of care.

H2f. First choice of care differs with perceived severity of illness.

- 3) Are there any relationships between selected constructs of the HBM, modifying factors, and first point of call for healthcare among Ghanaians?

Hypotheses for Research Question Three

H3a. First choice of care is associated with perceived severity of illness.

H3b. First choice of care is associated with perceived effectiveness of care type.

H3c. First choice of care is associated with perception of preferred care type by majority of people in individual's community.

H3d. First choice of care is associated with distance to place of care.

H3e. First choice of care is associated with cost of type of care.

- 4) Are there differences in choice of first point of call for healthcare among Ghanaians due to gender, age, marital status, educational level, income level, health insurance status, religious affiliation, place of residence, ethnic group, or perceived illness severity?

Hypotheses for Research Question Four

H4a. First choice of care differs by age group.

H4b. First choice of care differs by gender.

H4c. First choice of care differs by educational level.

H4d. First choice of care differs by income level.

H4e. First choice of care differs by religious affiliation.

H4f. First choice of care differs by place of residence.

H4g. First choice of care differs by health insurance status.

H4h. First choice of care differs by perceived illness severity.

H4i. First choice of care differs by ethnic group.

H4j. First choice of care differs by marital status.

5) What are the predictors of health-seeking behaviors among Ghanaians?

Hypotheses for Research Question Five

H5a: Age predicts health-seeking behaviors among Ghanaians.

H5b: Gender predicts health-seeking behaviors among Ghanaians.

H5c: Marital status predicts health-seeking behaviors among Ghanaians.

H5d: Educational level predicts health-seeking behaviors among Ghanaians.

H5e: Income level predicts health-seeking behaviors among Ghanaians.

H5f: Place of residence predicts health-seeking behaviors among Ghanaians.

H5g: Religious affiliation predicts health-seeking behaviors among Ghanaians.

H5h: Health insurance status predicts health-seeking behaviors among Ghanaians.

H5i: Ethnic group predicts health-seeking behaviors among Ghanaians.

H5j: Perceived illness severity predicts health-seeking behaviors among Ghanaians.

Research Method

This study is designed to use a structured, self-administered, paper-based survey instrument to collect data at a single point in time from the target population in their natural environment, satisfying conditions for a cross-sectional, descriptive, and correlational study as described by Creswell (2003) and Cohen (2007). Despite their limitation in establishing causal inference, cross-sectional studies using surveys have the advantage of presenting researchers the opportunity to have good control over the measurement process, leading to a better understanding of the relationships between variables within representative samples (Mann, 2003), and have been and continue to be an important source of information for evidence-based public health (Aday, 1996). The current researcher believes the foregoing advantage of cross-sectional designs using surveys, will allow a meaningful collection of data and analysis of the factors that influence health-seeking

behaviors in Ghana and, most importantly, what relationships exist between these factors and how they independently and collectively influence health-seeking behaviors among Ghanaians.

The general desirability and advantages of using surveys in cross-sectional designs notwithstanding, survey enquiry presents considerable biases and limitations in the data collection process that cannot be glossed over. First, survey research is generally faced with declining response rates (Morton, Cahill & Hartge, 2006; Nohr, Frydenberg, Henriksen & Olsen, 2006) which as a limitation, accentuates the problem of response bias in descriptive and correlational studies, such that important differences between responders and non-responders can lead to a non-representative sample (Griffen et al., 2011), which by extension, limits the external validity of the study (Hohwü et al, 2013). Some suggestions to improve survey response rates include careful wording of survey questions to ignite interest of prospective respondents, keeping the language simple for ease of understanding the questions and using shorter surveys (Dillman, 2007).

Second, survey studies are prone to response biases, in particular, social desirability bias, where responders deny socially undesirable behaviors and attitudes in favor of socially desirable ones, especially where sensitive topics such as health information is concerned (Zerbe & Paulhus, 1987). To minimize the occurrence of this type of bias, De Jong, Pieters, and Fox (2010) suggest researcher openness about research goals and intentions, anonymity in data collection, and improving and explaining privacy and confidentiality in data collection and utilization to responders prior to survey administration.

Operationalization of Study Variables

This study has one categorical dependent variable (DV) – first choice of health care following ill-health, operationalized by questions such as “during my last illness, I sought treatment from a government health facility”. There are six categories for the dependent variable

- 1. self-medication with herbal/traditional medicines
- 2. self-medication with pharmaceutical/patent drugs
- 3. faith-healing
- 4. traditional/herbal medical care from practitioners
- 5. care at a government health facility and
- 6. care at a private health facility

The study further has a total of ten independent variables – 1. age range (refers to reported number of years in 10-year groups) 2. ethnic group/tribe (people who share common cultural background) 3. religious affiliation (self-identified association with religious group) 4. health insurance status (having health insurance and type) 5. place of residence (rural, determined by population less than 5000, versus urban, population more than 5000) 6. gender (male or female) 7. educational level (highest level of formal education completed) 8. income level (self-reported income category) 9. perceived illness severity (self-adjudged gravity of last illness) and 10. Marital status. The dependent variable, independent variables, and attendant levels of measure as well as relevant question number from instrument, are presented in Table 1 below.

Table 1

Dependent Variable, Independent Variables and Levels of Measure

Variable	Level of Measure	Instrument
Choice of healthcare	Nominal	HSB Q1 – 30
Age range	Ratio	DI Q2
Gender	Nominal	DI Q3
Marital Status	Nominal	DI Q4
Educational level	Ordinal	DI Q9
Income level	Ordinal	DI Q10
Ethnic group	Nominal	DI Q5
Religious affiliation	Nominal	DI Q6
Health insurance status	Nominal	DI Q11
Place of residence	Nominal	DI Q7
Perceived severity of illness	Ordinal	PS Q1 - 4

Note: DI refers to Demographic Instrument, Q refers to question number, and HSB refers to Health-Seeking Behavior component of survey instrument and PS refers to Perceived Severity component of instrument.

Study Sample and Participant Selection

The population of interest in the current study is Ghanaians residing in Ghana, who are at least 18 years of age at the time of data collection. To the extent that the present investigator is interested in ethnic distribution as an umbrella independent variable in the population, the selection of participants for the study will first follow stratification of the population into the four main ethnic groupings in Ghana; namely Ga/Adangme, Akan, Ewe, and Northern tribes. A convenience

sampling procedure, a form of non-probability sampling in which participants are recruited for the study based on their availability and willingness to volunteer at the time of the study (Dane, 2010; Nardi, 2003), will then be used to recruit participants for this study from the four ethnic strata described.

The study participants will thus, be recruited from four regions in Ghana, namely the Greater Accra, Ashanti, Volta, and Northern regions, where the Ga/Adangme, Akan, Ewe and Northern tribes are the dominant ethnic groupings respectively. Inclusion criteria are that prospective participants are Ghanaians residing in the target regions, and are at least 18 years of age at the time of data collection. Exclusion criteria will be non-Ghanaian residents in these regions and individuals younger than 18 years of age. Table 2 below, presents the number of Ghanaians aged 18 years and older from the four regions from which the study sample will be selected, using data obtained from the 2010 Ghana Population and Housing Census.

Table 2

Number of Ghanaians aged 18 years and older in the Greater Accra, Volta, Ashanti and Northern Regions of Ghana

Region	Population
Greater Accra Region	2,530,344
Volta Region	1,170,624
Ashanti Region	2,664,330
Northern Region	1,211,127
Total target population	7,576,425

Sample Size Estimation

To achieve statistical significance, various experts recommend varied methods for estimating minimum sample size requirements. For instance, Gliner, Morgan, and Leech (2009) recommend a sample size of 500 participants or less for studies where the focus is on identifying factors that influence and predict a dependent variable of interest, while Peduzzi, Concato, Kemper, Holford, and Feinstein (1996) recommend a minimum of 10 participants per predictor variable.

For the purposes of standardization and stronger statistical power, the current researcher used the online version of the Raosoft sample size calculator to determine the minimum sample size required for this study. To estimate the minimum sample size required for a given study, the Raosoft sample size calculator uses the margin of error, desired confidence level, population size, and response distribution of the prospective sample. For a total target population size of 7,576,425 individuals, 5% margin of error, confidence level of 95%, and level of distribution set at 50%, the Raosoft sample size calculator estimates a minimum sample size requirement of 385 participants for this study (Raosoft, 2004). Based on this minimum sample size requirement, the current researcher will aim to recruit a total of 500 participants for the current study, such that 125 participants will be targeted for each of the four regions of interest described earlier.

Data Collection

Data collection for the proposed study will start with approval of research methodology by the dissertation committee, followed by review and approval by the Human Subjects' Committee (HSC) at Southern Illinois University Carbondale (SIUC). Once the study has been reviewed and approved, data collection will begin in earnest.

Since the primary researcher targets multiple sites for participant selection and data collection, plans are being advanced to recruit and train research assistants (RAs) from local public universities in the regions from which the study sample will be drawn, namely University of Ghana in the Greater Accra Region, Kwame Nkrumah University of Science and Technology in the Ashanti Region, University for Development Studies in the Northern Region, and University of Health and Allied Sciences in the Volta Region. These RAs will themselves be residents in the regions of interest, speak the local language(s) in these areas and will lead the recruitment of participants for the study, administer the survey, and collect the data as required. While training, facilitation and coordination of the RAs will come at a cost to the primary investigator of this study, the overall process will save cost and time in the data collection process, without compromising the quality of data expected.

Active data collection will proceed as follows; first, an urban area in each region, preferably the regional capital (Accra for Greater Accra Region, Kumasi for Ashanti Region, Ho for Volta Region and Tamale for Northern Region) and a rural area in each region will be randomly selected from the list of rural areas identified in the region. The Ghana Population and Housing Census (2010) describes an urban area in Ghana as one that has at least 5000 residents, and a rural area as one that has less than 5000 residents. Next, a door-to-door approach will be used by the RAs to recruit participants for the study from the two research sites identified in each region of interest.

A maximum of one participant will be recruited from each household to reduce unnecessary duplication of responses. Once an individual agrees to participate in the study, they will start by signing a consent form detailing the purpose of the study and informing them of their rights as participants of this research. Once the consent form has been signed, the participants will then complete the survey. An important consideration in completing the survey is that, some of

the participants will have no formal education, educational level being a variable of interest in the study. Subsequently, the trained RAs will administer the survey to these participants in their respective local language, obtain, and record their responses to complete the survey. For the purposes of comparative analysis, the researcher will aim to recruit at least 60 participants and at most 65 participants for each rural and corresponding urban area in the target regions to make up the 125 participants required for each region. It is estimated to take each participant 30 minutes to complete the survey.

Once the data collection process has been completed and the desired number of 500 participants reached, the completed surveys will be collected from the volunteers, and the data entered into the Statistical Package for the Social Sciences (SPSS) version 24 (IBM Corp., Armonk, New York) software according to the respective regions. Once data entry has been completed, the paper copies will be kept under lock and key in the personal office of the primary investigator.

Instrumentation

Against the background of a quantitative design, a comprehensive survey instrument was culled from several existing survey instruments for studying health-seeking behaviors with established validity and reliability (Bahrami, Atashbahar, Shokohifar & Montazeralfaraj, 2014; MEDAIR, 2010; Ahmed, Adams, Chowdhury & Bhuiya, 2000; Oliver, Pearson, Coe, & Gunnell, 2005). All of these existing scales are available for use online, and most of the questions from these surveys were modified to capture the scope of the current study, and some new questions were created by the primary researcher of this study to help answer the research questions of interest.

The final survey instrument is comprised of seven sections – 11 questions on demographic characteristics, 30 questions on health-seeking behaviors, 4 questions on perceived severity, 21 questions on perceived benefits, 10 questions on perceived barriers, 36 questions on cues to action and 4 questions on perceived susceptibility. Questions across all segments of the instrument have categorical responses or Likert-type scale options depending on the question being asked. This instrument will be subjected to expert review to judge face and content validity, as well as appropriate wording of questions, following which final modifications will be made prior to pilot testing.

Pilot Testing

Upon expert review and approval by the HSC at SIUC, the instrument will be pilot-tested using a convenience sample of 40 participants, who will not be included in the main study; Hertzog (2008) recommends using a sample size of 25 to 40 participants when developing new scales. The pilot testing will be done in the Greater Accra Region of Ghana with the help of a local research assistant from the University of Ghana, and is intended to serve two purposes – 1) further refine survey items based on feedback obtained from the pilot sample and 2) provide data for evaluating the psychometric properties of the instrument prior to the main study. Based on the data obtained from the pilot, component factor analyses will be conducted to evaluate the validity of the instrument, and then reliability estimates for each of the relevant segments of the instrument outside of demographic characteristics will be determined by calculating the coefficient (Cronbach's) alpha for each of these segments of the instrument.

Data Analysis

Once participant responses have been entered into the Statistical Package for the Social Sciences (SPSS) version 24 (IBM Corp., Armonk, New York) software, stepwise data analysis

will be conducted as follows. First, descriptive statistics will be performed to assess the frequencies, percentages, measures of central tendency, and dispersion for all demographic variables in the study. Second, the validity and reliability of the measurement scale will be assessed using principal component analysis, and by calculating the coefficient alpha for the various segments of the instrument. To assess existing differences between groups with two levels on the independent variable, independent samples t-tests will be performed at a confidence interval of 95 percent ($\alpha = 0.05$), while Analysis of Variance (ANOVA) will be performed at the 95 percent confidence interval ($\alpha = 0.05$) to assess difference between groups with more than 2 levels on the independent variable.

Finally, to determine which demographic characteristics in addition to perceived severity of illness predict each of the six categories of the dependent variable (treatment option), namely self-medication with herbal drugs, self-medication with patent drugs, treatment by traditional healer, treatment by faith healer, treatment at a government health facility and treatment at a private health facility, multinomial logistic regression analysis will be performed by regressing each of the aforementioned categories of the dependent variable on the independent variables of interest using an adjusted Bonferroni correction of alpha, to neutralize the occurrence of an inflated type I error rate. Multinomial logistic regression is recommended in predictive studies in which the dependent variable is categorical, and multiple independent variables (both dichotomous and continuous) are being considered (Starkweather & Moske, 2011). A summary of the research questions, corresponding hypotheses and planned data analyses procedures are presented in table 2 below.

Table 3
Summary of research questions, hypotheses, and planned analyses procedures

Research Question	Hypotheses	Data Analysis
1. What is the first point of call for seeking healthcare among Ghanaians?		Descriptive/Univariate Analysis
2. What factors influence the choice of first point of call for health needs among Ghanaians?	H2a – H2g	ANOVA
3. Are there any relationships between selected constructs of the HBM, modifying factors and first point of call for healthcare among Ghanaians?	H3a – H3d	Bivariate Correlational Analysis
4. Are there differences in choice of first point of call for healthcare among Ghanaians due to sex, age, educational level, income level, health insurance status, religion, place of residence (rural versus urban), marital status, perceived illness severity and ethnic group?	H4a – H4j	ANOVA/Independent Samples T-test
5. What are the predictors of health-seeking behaviors among Ghanaians?	H5a – H5j	Multinomial Logistic Regression

Summary

A comprehensive overview of the suggested methodology for conducting the proposed study was presented in this chapter. More specifically, the chapter opened with a reiteration of the purpose and relevance of the proposed study, before providing detailed descriptions regarding the research design and methods, focal research hypotheses, operationalization of study variables, participant selection, data collection, instrument synthesis, pilot-testing and planned data analysis.

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APPENDICES

Appendix A

The Survey Instrument

Determinants of Health-Seeking Behavior in Ghana

I. Demographic Characteristics

1. Initials: _____

2. Age range

- 30 years and below 31 – 40 years 41 – 50 years 51 – 60 years
 61 years and older

3. Gender

- Male Female

4. Marital Status

- Single Married Separated Divorced Widowed

5. Ethnic Group/Tribe

- Akan Ga/Adangme Ewe Northern Tribe

6. Religious Affiliation

- Christianity Islam African Traditional Religion Other

7. Place of Residence

- Rural Urban

8. Region of Residence

- Greater Accra Ashanti Eastern Western Central Brong Ahafo
 Volta Northern Upper West Upper East

9. Educational Level Completed

- No Formal Education Primary Education
 Secondary Education Tertiary Education Postgraduate Education

10. Self-Reported Income Category

- Low (Less than \$2 or GHS8 per day)
 Average (Between \$2 or GHS8 and \$20 or GHS80 per day)
 High (Greater than \$20 or GHS80 per day)

11. Health Insurance Status

- No Health Insurance Private Health Insurance
 Government Health Insurance (NHIS)

II. Health-Seeking Behaviors – Health Facility (Tick the box that best applies to you)

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. I usually go to a government health facility for treatment.					
2. I have sought treatment from a government health facility.					
3. During my last illness, I sought treatment from a government health facility.					

4. During my next illness, I will seek treatment at a government health facility.					
5. I usually go to a private health facility for treatment.					
6. I have sought treatment from a private health facility.					
7. During my last illness, I sought treatment from a private health facility.					
8. During my next illness, I will seek treatment at a private health facility.					
9. If I had equal access to all options of care, I would routinely seek care at a government health facility.					
10. If I had equal access to all options of care, I would routinely seek care at a private health facility.					

III. Health-Seeking Behaviors – Alternative Care (Tick the box that best applies to you)

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
11. I usually self-medicate with herbal drugs during illness.					
12. I have self-medicated with herbal drugs in the past.					

13. During my last illness, I self-medicated with herbal drugs.					
14. During my next illness, I will self-medicate with herbal drugs.					
15. I usually self-medicate with pharmaceutical drugs during illness.					
16. I have self-medicated with pharmaceutical drugs in the past.					
17. During my last illness, I self-medicated with pharmaceutical drugs.					
18. During my next illness, I will self-medicate with herbal drugs.					
19. I usually go to the traditional healer/herbal practitioner for treatment during illness.					
20. I have sought treatment from a traditional healer/herbal practitioner.					
21. During my last illness, I sought treatment from the traditional healer/herbal practitioner.					
22. During my next illness, I will seek treatment from the traditional healer/herbal practitioner.					
23. I usually seek treatment from a faith healer during illness.					
24. I have sought treatment from a faith healer.					

25. During my last illness, I sought treatment from a faith healer.					
26. During my next illness, I will seek treatment from a faith healer.					
27. If I had equal access to all options of care, I would routinely seek care from a traditional healer/herbal practitioner during illness.					
28. If I had equal access to all options of care, I would routinely seek care from a faith healer during illness.					
29. If I had equal access to all options of care, I would routinely self-medicate with herbal drugs during illness.					
30. If I had equal access to all options of care, I would routinely self-medicate with pharmaceutical drugs during illness.					

IV. Perceived Severity – General Illness

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. My last illness was mild. (Reverse Code)					
2. My last illness was not severe. (Reverse Code)					

3. My last illness was life threatening.					
4. My last illness was severe.					

V. Perceived Benefits – Health Facility

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. Health care at government health facilities is effective at treating illnesses.					
2. Health care at private health facilities is effective at treating illnesses.					
3. My illnesses are treated effectively at government health facilities.					
4. My illnesses are treated effectively at private health facilities.					

VI. Perceived Benefits – Alternative Care

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. Self-medication with herbal drugs is effective for treating illnesses.					

2. Self-medication with pharmaceutical drugs is effective for treating illnesses.					
3. Traditional healers/herbal practitioners are effective at treating illnesses.					
4. Faith healers are effective at treating illnesses.					

VII. Perceived Benefits – Personnel at Health Facilities

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. Health professionals at government health facilities treat patients with respect and dignity.					
2. Health professionals at private health facilities treat patients with respect and dignity.					
3. It is safe to seek care at a government health facility.					
4. It is safe to seek care at a private health facility.					

VIII. Perceived Benefits – Alternative Care

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)

1. Traditional healer/herbal practitioners treat patients with respect and dignity.					
2. Faith healers treat patients with respect and dignity.					
3. It does not cost a lot to seek treatment from a traditional healer/herbal practitioner.					
4. It does not cost a lot to seek treatment from a faith healer.					
5. It does not cost a lot to self-medicate with herbal drugs.					
6. It is convenient to seek treatment from a traditional healer/herbal practitioner.					
7. It is convenient to seek treatment from a faith healer.					
8. It is convenient to self-medicate with herbal drugs.					
9. It is convenient to self-medicate with pharmaceutical drugs.					

IX. Perceived Barriers to Health Facilities – Access

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)

1. It is expensive to seek care at government health facilities.					
2. It is expensive to seek care at private health facilities.					
3. Distance to a private health facility was an important consideration for me in deciding my choice of care during my last illness.					
4. Distance to a government health facility was an important consideration for me in deciding my choice of care during my last illness.					
5. Waiting times at government health facilities are too long.					
6. Waiting times at private health facilities are too long.					
7. Health personnel at government health facilities are rude towards patients.					
8. Health personnel at private health facilities are rude towards patients.					
9. My religious beliefs constrain use of modern health facilities.					
10. My cultural beliefs constrain use of modern health facilities.					

X. Cues to Action – Health Facility

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. My friends seek treatment at a private health facility.					
2. My friends have excellent outcomes after treatment at a private health facility.					
3. My family members seek treatment at a private health facility.					
4. My family members have excellent outcomes after treatment at a private health facility.					
5. My friends seek treatment at a government health facility.					
6. My friends have excellent outcomes after treatment at a government health facility.					
7. My family members seek treatment at a government health facility.					
8. My family members have excellent outcomes after treatment at a government health facility.					

XI. Cues to Action – Alternative Care

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. My friends seek treatment from a faith healer.					
2. My friends have excellent outcomes after treatment by a faith healer.					
3. My family members seek treatment from a faith healer.					
4. My family members have excellent outcomes after treatment by a faith healer.					
5. My friends seek treatment from a traditional healer/herbal practitioner.					
6. My friends have excellent outcomes after treatment by a traditional healer/herbal practitioner.					
7. My family members seek treatment from a traditional healer/herbal practitioner.					
8. My family members have excellent outcomes after treatment by a traditional healer/herbal practitioner.					

9. My friends self-medicate with herbal drugs when ill.					
10. My friends have excellent outcomes after self-medicating with herbal drugs.					
11. My friends self-medicate with pharmaceutical drugs when ill.					
12. My friends have excellent outcomes after self-medicating with pharmaceutical drugs.					
13. My family members self-medicate with herbal drugs when ill.					
14. My family members have excellent outcomes after self-medicating with herbal drugs.					
15. My family members self-medicate with pharmaceutical drugs when ill.					
16. My family members have excellent outcomes after self-medicating with pharmaceutical drugs.					
17. My religious beliefs encourage treatment by traditional healer/herbal practitioners.					
18. My religious beliefs encourage treatment by faith healers.					
19. My religious beliefs encourage treatment by self-medication.					

20. My cultural beliefs encourage treatment by traditional healer/herbal practitioners.					
21. My cultural beliefs encourage treatment by faith healers.					
22. My cultural beliefs encourage treatment by self-medication.					

XII. Cues to Action – Social Influence

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. My spouse helps me make important decisions regarding my choice of healthcare.					
2. My parent(s) help(s) me make important decisions regarding my choice of healthcare.					
3. My children help me make important decisions regarding my choice of healthcare.					
4. My friend(s) help(s) me make important decisions regarding my choice of healthcare.					
5. My other relatives help me make important decisions regarding my choice of healthcare.					

6. My religious leader helps me make important decisions regarding my choice of healthcare.					
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XIII. Perceived Susceptibility

Question	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1. It is likely that I will become ill in the next week.					
2. It is likely that I will become ill in the next month.					
3. It is likely that I will become ill in the next year.					
4. I am susceptible to illness.					

THANK YOU

Appendix B

Survey Consent Letter

My name is Kaamel Nuhu. I am a doctoral student at the department of Public Health and Recreation Professions at Southern Illinois University Carbondale. I humbly request you as a Ghanaian healthcare consumer to participate in my doctoral research study. The purpose of this quantitative study is to determine the factors and predictors of health-seeking behaviors among Ghanaians as a basis for developing an intervention program subsequently.

This is an anonymous survey, and the privacy of every participant will be protected such that the results cannot be traced back to any participant at any point in time. All your responses will be kept confidential within reasonable limits. Only a small group of people directly involved in the study will have access to the data, which will be locked in a cabinet in a locked personal office once the study is completed. Participation is voluntary, and respondents reserve the right to withdraw their participation at any point during the survey. To be eligible to participate, you must be at least 18 years of age at the time of completing the survey.

If you choose to take part in the study, you will be asked to complete a short survey about your beliefs, attitudes and behaviors toward various healthcare options such as self-medication, traditional/herbal medicine, faith healing and modern medical care. The survey will take approximately 25-30 minutes of your time. There are no anticipated risks to participating in this study, and your participation will contribute to knowledge about the factors that affect health-seeking behaviors among Ghanaians, as a basis for possible future intervention programs to improve health-seeking behaviors and health outcomes among Ghanaians.

If you have any questions about the study, please contact me (via email: nnmkaamel@siu.edu or cell phone number 618-303-7103) or my supervisor (Dr. Wendi Middleton via email at wkmidd@siu.edu). Return of a completed survey indicates your voluntary consent to participate in this research study. Thank you for taking the time to assist me in this research.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu