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DETERMINANTS OF SELF-MANAGEMENT PRACTICES AMONG HYPERTENSIVE PATIENTS IN THE ACCRA METROPOLIS

BY

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DECLARATION

I declare that this thesis is my own work produced from researches embarked on under supervision. This thesis/dissertation has not been submitted in any form for any degree or diploma in any university or other institution of tertiary education. Authors and publishers whose works have been utilised in this study have been duly acknowledged in the text and list of references.

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DEDICATION

I dedicate this thesis to my husband, Dr Ebenezer Owusu Darkwa and my children Emery-Jaden N. B. Owusu-Darkwa, Brandon-Jaden T. K. Owusu-Darkwa and Bryan-Jaden T. K. Owusu-Darkwa.

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LIST OF ABBREVIATIONS

AJOL:	African Journals Online
BP:	Blood Pressure
DDNS:	Deputy Director of Nursing Services
EBSCOhost:	Elton B Stephens Company host
ENT:	Ear, Nose and Throat
FM:	Frequency Modulation
GHS:	Ghana Health Service
HBM:	Health Belief Model
IRB-NMIMR:	Institutional Review Board of the Noguchi Memorial Institute for Medical Research
JSTOR:	Journal Storage
KBTH:	Korle-Bu Teaching Hospital
MOH:	Ministry of Health
OPD:	Out-Patient Department
PB:	Perceived Benefits
UGMS:	University of Ghana Medical School
UK:	United Kingdom
USA:	United States of America
WHO:	World Health Organization

ABSTRACT

Hypertension is a global public health problem in high, middle and low income countries. Management of hypertension involves both pharmacological and non-pharmacological approaches. Self-management is an important non-pharmacological approach that facilitates blood pressure control. Self-management practices in hypertension include medication adherence, lifestyle modifications and self-monitoring of blood pressure. There is paucity of literature on self-management practices among hypertensive patients in Ghana. An exploratory-descriptive qualitative research design was used to explore the determinants of self-management practices among hypertensive patients in the Accra Metropolis. Purposive sampling technique was used to sample 15 participants aged 39-89 years, who were fluent in English, Twi or Ga, diagnosed of hypertension for 1 year or more and attended clinic at Korle-Bu Teaching Hospital. A semi-structured interview lasting approximately 45-60 minutes each were conducted with 15 participants using the Health Belief Model (HBM) as the framework for questions and analysis. Knowledge of risk factors and complications of hypertension, motivators, perceived benefits and perceived barriers of self-management practices were the major themes identified from the interviews. Spiritual belief and disease management emerged as an additional major theme that was not related to the HBM. It was observed that there is the need to continuously educate hypertensive patients on the benefits derived from self-management practices.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

The American Heart Association defines hypertension as a persistent rise in blood pressure exceeding 140/90 mmHg or a systolic blood pressure above 140 mmHg or a diastolic pressure above 90 mmHg (American Heart Association, 2015). Hypertension, also termed high blood pressure, is a global public health problem associated with health implications worldwide. It is estimated that one billion people all over the world suffer from hypertension. This figure is expected to increase to 1.56 billion in 2025 (Sadeghi et al., 2013). However, hypertension has varying prevalence in different regions of the world. A national survey in Canada, United States of America (USA) and United Kingdom (UK) showed that the prevalence of hypertension was lower in Canada (19·5%) than in the USA (29%) and UK (30%) (Joffres et al., 2013). The highest prevalence of hypertension is reported in Africa at 46% of adults aged 25 years and above (World Health Organization, 2013). Hypertension poses a threat to the health of people living in sub-Saharan Africa and plays a major role in morbidity and mortality in the sub-region (Ogah et al., 2012). West Africa has a hypertension prevalence of 16% among its inhabitants (Opie & Seedat, 2005).

Hypertension is subdivided into two groups, namely primary or essential hypertension and secondary hypertension (Thomas, 2007). Primary or essential hypertension has no known aetiology but has predisposing factors such as obesity, high sodium or low potassium intake, psychosocial stress, physical inactivity and alcohol intake (Gupta & Guptha, 2010; Tee et al., 2010). Secondary hypertension on the other hand has a known aetiology such as renal failure and diabetes (Brunner, Smeltzer, Bare, Hinkle, & Cheever, 2010). Hypertension commonly presents itself as an asymptomatic condition. In unusual cases, symptoms presented include

persistent severe headache, blurred or double vision, dizziness, epistaxis or nosebleeds, shortness of breath, palpitations and chest pain (World Health Organization, 2013).

Hypertension can lead to disruption in economic activities as well as loss of income to the individual, family and the government (Uddin et al., 2014). Hypertension is a leading cause of global burden of heart disease, stroke, renal failure, peripheral vascular disease and premature mortality and disability (World Health Organization, 2013). The global burden of hypertension revealed that 25% of adults are living with hypertension and 9.2 % of the total mortality are due to hypertension related events (Bilal et al., 2015).

Pharmacological and non-pharmacological strategies are mainly employed in the management of hypertension (Seyedmazhari, 2013). The pharmacological strategies involve using anti-hypertensive medications such as beta-blockers, beta-blockers with intrinsic sympathomimetic activity, alpha-1 blockers, combined alpha and beta-blockers, vasodilators and angiotensin II receptor blockers (Brunner et al., 2010). Non-pharmacological strategies in the management of hypertension include dietary intake moderation or reduction (particularly saturated fats and excess sodium consumption), regular exercise and avoidance of exposure to active and passive tobacco smoke (Sliwa, Stewart, & Gersh, 2011). Advice and counselling in key areas of increased risk factors such as smoking, sedentary behaviour, poor dietary habits, raising awareness of cardiovascular diseases, the importance of adhering to prescribed treatment and lifestyle changes serve as a significant approach to management of hypertension (Sliwa et al., 2011).

Self-management is an important strategy in the management of chronic diseases (Novak, Costantini, Schneider, & Beanlands, 2013). Self-management refers to an individual's ability to manage the symptoms, treatment, physical, psychosocial and lifestyle changes inherent in living with a chronic disease (Johnston, Liddy, Ives, & Soto, 2008.). It has been widely

employed in the management of chronic diseases such as diabetes and anticoagulation therapy (McManus et al., 2010). Self-management approaches include patient educational support group meetings, the distribution of printed or electronic educational materials, motivational counselling, nurse home visits, case management, individualised care/action/coping plans and periodic follow-up calls to patients by health practitioners (Johnston et al., 2008). These approaches allow an individual to confidently carry out responsibilities that deal with medical management, role management and emotional management of a chronic disease (McGowan, 2005). Self-management support calls for a provider or health care team to assume a defined set of responsibilities to build the self-efficacy required for a patient to deal positively with the emotional, physical, and physiological symptoms of their chronic disease. Self-management support focuses on the individual and the family. It involves a collective plan and self-efficacy approaches including effective problem solving, self-monitoring of condition, relapse prevention plans, patient education, group support and shared decision making (Johnston et al., 2008).

Hypertensive self-management describes the behaviour of hypertensive individuals in relation to different social characteristics, knowledge and beliefs regarding blood pressure control (Lopes, Carreira, Marcon, Souza, & Waidman, 2008). It involves patients' ability and willingness to monitor their own blood pressure in non-medical environments (Magid & Farmer, 2014). Hypertension self-management approaches include medication adherence, self-monitoring of blood pressure and lifestyle modifications relating to diet, exercise, alcohol and tobacco. These self-management behaviours form the key areas of recommended hypertension treatment and have been shown to be associated with significant improvements in hypertension control (Flynn et al., 2013). It has also been shown to yield better results than the medical or clinical office-based hypertension management approach (Magid & Farmer, 2014). The World Health Organization's International Society of Hypertension suggested that in addition to

patient lifestyle modifications, adherence to therapy, regular monitoring of blood pressure and increasing knowledge of hypertension successfully improved blood pressure control (Gu, Zhang, Wang, Zhang, & Chen, 2013).

In addition, studies have been conducted to examine the influence of knowledge, attitudes and behaviour of hypertensive patients towards their self-management practices using different approaches. One of the commonest approaches of assessing a hypertensive patient's behaviour towards self-management practices is the use of the Health Belief Model (HBM). This conceptual framework states that patients have choices and are able to make appropriate decisions relating to their health (Kamran, Ahari, Biria, Malpour, & Heydari, 2014). An individual's effort to initiate steps to protect his or her health depends on that person's belief in relation to susceptibility of an ill-health. Moreover, the occurrence of a disease condition could have a severe effect that may have a course of action to prevent it, and usually the benefits of taking this action are greater than the costs (Kamran et al., 2014). Thus, the model comprises of four main constructs which are perceived susceptibility to a disease, perceived seriousness or severity of a disease, perceived benefits of certain behaviours in reducing a disease and perceived barriers (Kamran et al., 2014; Thalacker, 2011). The model has now been extended to include three other constructs which are cues to action, modifying factors and self-efficacy. The Health Belief Model is essential for understanding health behaviours and possible reasons for non-compliance to recommended health action. This understanding provides clues for health development agenda to address non-compliance.

1.2 Problem statement

In spite of the available treatment options such as the use of anti-hypertensive medications and healthy lifestyle recommendations for blood pressure control, controlling high blood pressure

has been a worldwide problem even in high income countries (Bosworth et al., 2011). Hypertension is one of the major killer diseases in Ghana with a prevalence rate of 30-40% (Ministry of Health, 2011). In 2004, a study of the greater Accra area found an urban prevalence of hypertension to be 32.9% and a rural prevalence of hypertension to be 24.1% (Cappuccio et al., 2004). Studies in the Ashanti region determined the prevalence of hypertension to be 33.4% in urban areas and 27.0% in rural areas (Agyemang, 2006). More than half of all admission cases and 70% of all deaths at the Korle-Bu teaching hospital are due to hypertensive disorders (Ministry of Health, 2011). Hypertension is associated with severe complications such as cerebrovascular accidents and myocardial infarction. Therefore, its prevention and control is of essence.

Although significant efforts are being made by healthcare providers to control the morbidity and mortality associated with hypertension, it is still considered a major public health problem (Bosworth et al., 2011). This is as a result of lack of knowledge and attitude of patients towards self-management practices, leading to failure to adhere to medication and non-compliance to recommended healthy lifestyles (Eugene & Bourne, 2013; Kamran et al., 2014). These factors exert negative impact on hypertension and may explain the high number of hypertensive disorder admissions and mortality rate at Korle-Bu Teaching Hospital (Ministry of Health, 2011).

At the korle Bu teaching hospital, where the admission rate of hypertension cases is high (Ministry of Health, 2011), the high morbidity associated with the disease, can cause a decline in the quality of life and also place a huge financial burden on the patients, family and society. There is therefore, the need to conduct a study to explore further, the determinants that undermine self-management practices among hypertensive patients. This study will be guided by the Health Belief Model.

1.3 Purpose of the study

The purpose of the study is to explore the determinants of self-management practices among hypertensive patients in the Accra Metropolis using the Health Belief Model.

1.4 Specific objectives

The specific objectives of the research are to:

a. Explore hypertensive patients' knowledge of risk factors and complications of hypertension.
b. Describe the factors that motivate self-management practices among hypertensive patients.
c. Explore the benefits of self-management practices among hypertensive patients
d. Explore the barriers to self-management practices among hypertensive patients

1.5 Research questions

The research questions of the study are as follows:

a. What do hypertensive patients know regarding the risk factors and complications of hypertension?
b. What are the factors that motivate hypertensive patients to practice self-management in the Accra Metropolis?
c. What are the benefits derived by hypertensive patients who practice self-management in the Accra Metropolis?
d. What barriers do hypertensive patients encounter in practicing self-management in the Accra Metropolis?

1.6 Significance of the study

The results of this study will contribute to the development of self-management protocols that may practically facilitate monitoring and improvement of blood pressure (BP) control among hypertensive patients at the Korle-Bu Teaching Hospital. The results of the study will also assist clinicians to identify avenues and develop strategies for more effective approaches aimed at proper control of hypertension. Moreover, the results will inform policy-makers and other stakeholders to formulate and initiate an effective campaign to educate hypertensive patients about the benefits derived from self-management practices. Finally, the findings of this research will add to existing knowledge on hypertension.

1.7 Operational definitions

Determinants: They are perceived factors that influence the likelihood of engaging in a recommended preventive health action among hypertensive patients.

Hypertension: Is the persistent rise in blood pressure exceeding 140/90 mmHg or a systolic blood pressure ≥ 140 mmHg or a diastolic pressure ≥ 90 mm Hg on three consecutive readings (American Heart Association, 2015).

Hypertensive patients: These are individuals who have been diagnosed of hypertension with blood pressure reading of 140/90 mm Hg or more for a year or more.

Self-management practices: These are perceived day-to-day activities that facilitate the management of hypertension by individuals during the course of the disease process.

CHAPTER TWO

2.0 LITERATURE REVIEW

Search engines such as Google Scholar, PubMed, EBSCOhost, Science Direct and AJOL and JSTOR were used to generate relevant literature to inform this study. The key words used include hypertension, self-management practices, self-management behaviours, self-management activities, hypertensive patients, motivators of self-management practices, benefits of self-management practices and barriers to self-management practices. The literature reviewed is organised as:

a. The theoretical framework for the study
b. The Overview of hypertension
c. Risk factors and complications of hypertension
d. Motivators (cues to action) to self-management practices among hypertensive patients
e. Benefits of self-management practices among hypertensive patients
f. Barriers to self-management practices among hypertensive patients

2.1 Theoretical framework for the study

Chronic disease like hypertension has a huge impact on the lives of people living in low, middle and high income countries. As a way of fighting this health crisis, self-management has been identified as an important management tool, and researchers have attempted to develop comprehensive models which may serve as a theoretical framework for investigating self-management practices. Examples of these models include the Health Belief Model, the Chronic Care Model (CCM), and Bandura's Self-Efficacy Model.

2.1.1 Health Belief Model

The Health Belief Model, developed by the social psychologists Hochbaum, Rosenstock, Leventhal and Kegels in 1950, provides the main conceptual framework for this study., It remains one of the best known and most widely used theories in health behaviour research (Carpenter, 2010; Glanz & Bishop, 2010). The model focuses on behavioural change at the individual level. It suggests that decision-makers make a mental calculus about whether the benefits of a promoted behaviour change outweigh its practical and psychological costs or obstacles. That is, individuals conduct an internal assessment of the net benefits of changing their behaviour, and decide whether or not to act. The model identifies four aspects of this assessment: perceived susceptibility to ill-health (risk perception), perceived severity of ill-health, perceived benefits of behaviour change, and perceived barriers to taking an action (Green & Murphy., 2014).

The Health Belief Model has gained substantial and empirical support since its development in the 1950s (Carpenter, 2010; Janz & Becker, 1984). A review of 18 prospective and 28 retrospective studies suggest that evidence for each component of the Health Belief Model is strong (Janz & Becker, 1984). The review reports that empirical support for the Health Belief Model is particularly notable given the diverse populations, health conditions, and health-related behaviours examined and the various study designs and assessment strategies used to evaluate the model (Janz & Becker, 1984). A recent meta-analysis noted a strong support for perceived benefits and barriers predicting health-related behaviours; but, weak evidence for the predictive power of perceived seriousness and susceptibility (Carpenter, 2010). The authors of the meta-analysis suggested that examination of potential moderated and mediated relationships between components of the model is needed (Carpenter, 2010).

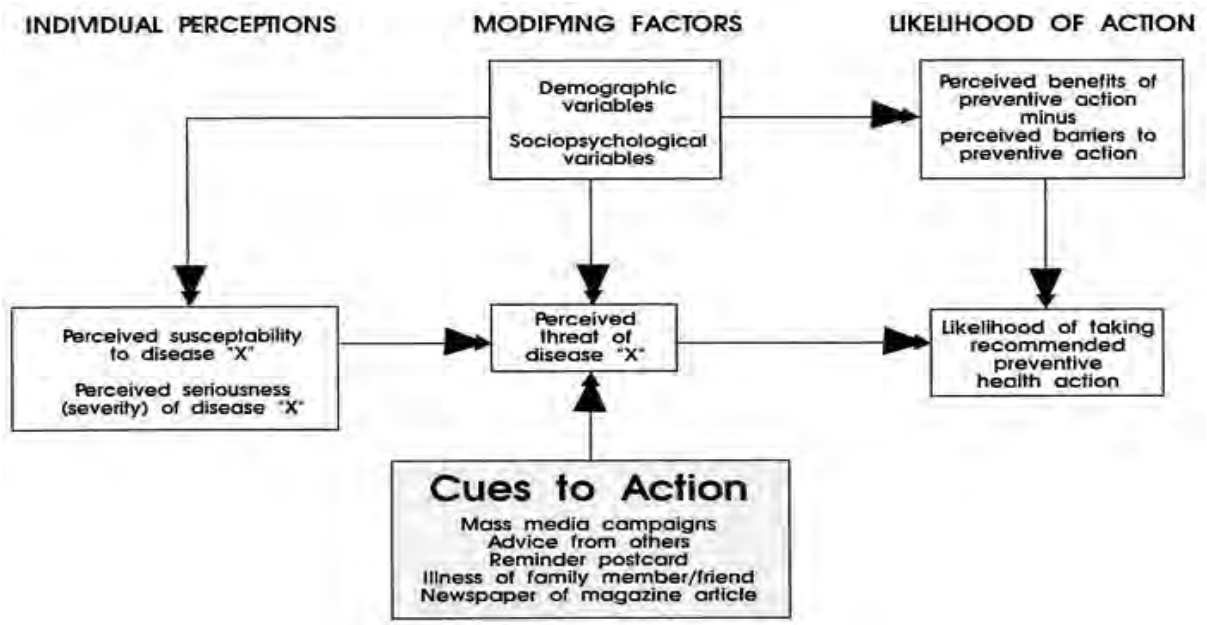

Figure 1. The Health Belief Model

Source: (Dobe, 2012)

Furthermore, it is important to note that the social psychologists (Hochbaum, Rosenstock, Leventhal and Kegels) working at the U.S. Public Health Service developed the HBM to explain why many people did not participate in public health programs. Originally, the model was used to better understand preventive behaviours related to tuberculosis (Glanz, Rimer, & Lewis, 2002). Later on, it was extended by Leventhal, Rosenstock, Becker and others like Glanz, Rimer, & Viswanath, 2008 to explain differing reactions to symptoms and variations in adherence to treatment. Thus, it has subsequently been used to guide the design of interventions to enhance compliance with preventive measures. The Health Belief Model describes an individual's intrapersonal health behaviour and psychological state. It has been applied to a range of health-promoting behaviours (e.g., diet, exercise), health-risk behaviours (such as smoking and condom use), and adherence to recommended medical regimens and treatment plans (Glanz et al., 2002). Recently, a guide for health promotion practices proposed that Health Belief Model (HBM) may be useful in the examination of non-compliance of persons

with or at risk for heart disease and stroke (U.S. Department of Health and Human Services; National Institutes of Health; National Cancer Institute, 2005).

The Health Belief Model assumes that proper health behaviour is formed based on personal beliefs. Health behaviours are influenced by a person's desire to avoid illness, and by their confidence that the recommended action will achieve positive results. It also describes association between health behaviours and demographic factors such as social class or ethnicity. The model's original four main constructs namely; perceived susceptibility, perceived seriousness/severity, perceived benefits and perceived barriers to a disease have been extended to include other constructs such as modifying factors, cues to action and self-efficacy constructs.

The constructs of the model are explained as follows:

2.1.1.1 Perceived seriousness/severity of disease

The construct of perceived seriousness assesses the severity of a disease and its potential effects. This construct of the HBM says that individuals who perceive a disease to be severe are likely to engage in preventive behaviours so as to reduce the severity. While the perception of seriousness is often based on medical information or knowledge, it may also come from the beliefs that a person has about the difficulties a disease would create or the effects it would have on his or her life in general. Perceived severity of a disease includes clinical consequences, pain, disability, death, and impact on ability to work and on relationships.

2.1.1.2 Perceived susceptibility to disease

This construct explains that when people are at the brink of contracting a certain disease, they will be more likely to do something to prevent it from happening. On the contrary, people tend to develop unhealthy behaviours when they feel they are not at risk or have a low risk of

susceptibility. Susceptibility to disease prompts people to adopt healthier behaviours. The higher the perceived risks, the greater the chances of engaging in behaviours that could promote decreased risks. Thus, a perception of increased risk of a disease often relates to healthier behaviours, and a decrease in unhealthy behaviours. When the perception of susceptibility is combined with seriousness, it results in perceived threat (Stretcher & Rosenstock, 1997) and behavioural changes. Perceived threat is influenced by information. It creates a pressure to act, but does not determine how the person will act.

2.1.1.3. Perceived benefits of a preventive action

The construct of perceived benefits is a person's assessment of the value or usefulness of engaging in a health-promoting behaviour to decrease the risk of a disease (Joseph, Burke, Tuason, Barker, & Pasick, 2009). People tend to adopt healthier behaviours when they believe the new behaviour will decrease their chances of developing a disease (Larsen, 2009). Perceived benefits play an important role in the adoption of secondary preventive behaviours, (Joseph et al., 2009) such as screening.

2.1.1.4. Perceived barriers to a preventive action

This construct refers to an individual's evaluation of the obstacles to a behaviour change. Perceived barriers are very important in determining behaviour change. In order for an individual to engage in a health-promoting behaviour, the perceived benefits must outweigh the perceived barriers. Perceived barriers to engaging in health-promoting behaviours include the perceived discomfort (e.g. pain), expense, inconvenience and danger (e.g. side effects of drugs) and lack of access to affordable health care.

2.1.1.5. Modifying factors

These are individual characteristics that influence personal perceptions (that is perceived severity, susceptibility, benefits and barriers). These four major constructs of perception are modified by individual's demographic factors (e.g. gender, age, race and educational level), psychosocial factors (e.g. peer pressure, personality and social class) and structural factors (e.g. prior exposure to a disease and knowledge about a disease).

2.1.1.6. Cues to action

The HBM suggests that a cue is required for engaging in health-promoting behaviours. Examples of cues to action include the illness of a family member, media reports, mass media campaigns, advice from others, reminder postcards from a health care provider, or health warning labels on products. The magnitude of the cue required to initiate an action would depend on the motivation to change and the perceived benefit.

2.1.1.7. Self-efficacy

Self-efficacy is the belief in one's ability to do something. In 1988, self-efficacy was added to the original four beliefs of the HBM (Rosenstock, Strecher, & Becker, 1988). This posits that people generally do not try to do something new unless they think they can do it. If someone believes a new behaviour is useful, but does not think he or she is capable of doing it, chances are that it will not be tried (Vazini & Barati, 2014).

Nevertheless, despite the explanations offered by the various constructs of the Health Belief Model, many scholars including Abbatangelo-Gray, Cole & Kennedy (2007), Dutta & Basu, (2011) and Albarracín et al., (2005) criticise the model of leaving out emotional, social and other environmental influences such as culture. The theory, according to these scholars posit that the perception of a personal risk is necessary to motivate a protective behaviour but ignores

the fact that individual differences could affect attention to health messages. The authors (Abbatangelo-Gray et al., 2007, Dutta & Basu, 2011 and Albarracín et al., 2005) explain that the Health Belief Model grew out of prevention and is based on beliefs about only undiagnosed conditions. Risk perceptions, they noted, do correlate with behaviour, but interventions aiming to increase perceived risk have not been effective at changing behaviour.

2.1.2. Chronic Care Model

The tenets of the Chronic Care Model (CCM) are also relevant for this study. This model is based on the assumption that, improvement in care requires an approach that incorporates patient, provider, and system level interventions (Tsai et al., 2005). The CCM consists of six elements which are the community, the health system, the delivery system design, decision support, clinical information systems and self-management support. Majority of research papers have noted an association between the use of CCM elements and improvement in health outcomes for people living with chronic diseases while a few have noted otherwise (Nagykaldi & Mould, 2003; Siminierio, Piatt & Zgibor, 2005; Baynouna et al., 2010). However, what constitutes a CCM and how it is used and delivered within healthcare services has continued to evolve (Ouwens, Wollersheim, Hermens & Hulscher, 2005; Norris, Glasgow, Engelgau, O'Connor & McCulloch, 2003). While self-management support and delivery system design has been the commonest used elements of the CCM, there have been considerable variations between studies regarding the combination of elements included as well as how the model was implemented. It is therefore impossible to clearly identify any optimal combination of CCM model elements that may lead to the reported improvement.

2.1.3. Bandura's Self-Efficacy Model

Similar to the HBM and CCM, Bandura's self-efficacy model has also been one of the most enabling psychology models adopted into positive psychology. Bandura defined self-efficacy as " people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1977). Bandura named four main sources of influence by which a person's self-efficacy is developed and maintained. These sources are performance accomplishments, vicarious experiences, verbal or social persuasion and psychological or emotional state (Bandura, 1977; Bandura, 1982).

However, Bandura's self-efficacy model has been criticised by other authors. Eastman and Marzillier (1984) mentioned three main criticisms to this theory. The first was ambiguity and lack of definition in self-efficacy. The second was methodological deficiencies which could cast doubt on the "published relationship between the empirical findings and self-efficacy." Thirdly, it is argued that the claims and conclusions made by Bandura were not adequately evaluated (Eastman & Marzillier, 1984).

Regarding the conceptual limitations of self-efficacy, it was noted that "efficacy expectations were definite in a way that were included within expectations of outcome , and thus could not be regarded as conceptually distinct"(Eastman & Marzillier, 1984). Bandura made distinction between self-efficacy and outcomes but others found some of his statements to be misleading in this regard. One specific statement, " the conviction that one can successfully execute the behaviour to produce the outcomes," was the focus of much criticism and debate concerning the actual difference in efficacy and outcomes (Eastman & Marzillier, 1984). Kazdin (1978) found the concepts of self-efficacy and outcomes expectation to be closely related (Kazdin, 1978). While critics of Bandura and self-efficacy agree that there is value in his experiment, it

is criticised that self-efficacy and outcomes can be limited and distinct in application of the theory or on a larger scale.

2.1.4 The relationship between the main theoretical framework (Health Belief Model) and the objectives of the study

a. The construct perceived susceptibility to a disease and perceived seriousness/severity of a disease is represented as knowledge of risk factors and complications of hypertension respectively.
b. The construct cues to action are represented as the motivators of self-management practices among hypertensive patients.
c. The construct perceived benefits of a preventive action is represented as benefits of self-management practices among hypertensive patients.
d. The construct perceived barrier to a preventive action is described as the barriers to self-management practices among hypertensive patients.

2.2 The Overview of Hypertension

Hypertension, also called high blood pressure, is a non-communicable disease. It contributes to the burden of cardiac disease, cerebrovascular accident, renal failure, premature death and disability. Its impact is mostly felt in low and middle-income countries with weak health systems. Hypertension is ranked as the third factor for disability-adjusted life years (World Health Report, 2002).

Hypertension is mainly asymptomatic in most patients. Clinically, hypertension may manifest as persistent headache, blurred or double vision, nosebleeds and shortness of breath (National

Health Service, 2015). Over 95% of hypertensive cases have no known cause and are termed essential hypertension, primary hypertension or idiopathic hypertension (Bloomfield, Bradbury, Grubb, & Newby, 2006). Secondary hypertension accounts for approximately 5% of hypertensive cases. It is a type of hypertension with an identifiable cause such as renal disease, endocrine disease, obesity, alcohol abuse, coarctation of the aorta and pregnancy induced (Bloomfield et al., 2006).

In Ghana, hypertension is the second leading cause of out-patient morbidity in adults older than 45 years (Ministry of Health, 2005). Addo et al., (2012) in a hypertensive population review reported a high urban prevalence compared to rural areas in Ghana. They also reported a high prevalence in men compared to women. The prevalence of hypertension has also been reported to be high in rural southern Ghana compared to northern Ghana (Kunutsor & Powles, 2009).

Management of high blood pressure can be achieved by lifestyle modifications and pharmacological therapy. Lifestyle modification plays an important role that complements pharmacological therapy and have significant benefits in reducing high blood pressure and preventing cardiovascular complications (Sacks et al., 2001; Vollmer et al., 2001; Xin et al., 2001; Wen et al., 2008).

Anti-hypertensive drugs used in treating high blood pressures include diuretics, centrally acting alpha-2 agonists, beta-blockers with or without intrinsic sympathomimetic activity, alpha-1 blockers, combined alpha and beta-blockers, vasodilators, angiotensin II receptor blockers, angiotensin converting enzyme inhibitors, calcium channel blockers and direct renin inhibitors (Smeltzer et al., 2010).

Hypertension adds to the health worries of an individual as it alters an individual's eating pattern and lifestyle. Anti-hypertensive medications are expensive and there is also a hassle need to take them daily. The long term complications of hypertension such as cardiac failure,

renal failure and cerebrovascular accident can also occur. The average life span of a patient with hypertension is five years less than a non-hypertensive patient due to the ill effects of hypertension (Harvard Health Publications, 2010-2015). Patient's relationships with friends and family as well as their income status can be negatively affected due to the emotional and physical restrictions of hypertension (Gihl, 2009).

Middle and low income countries who cannot afford the high cost of social and economic effects of hypertension suffer the highest mortality from hypertension. Untimely death, income loss and high cost of health care due to hypertension have severe consequence on families, communities and the nation as a whole. Many people do not seek treatment for hypertension early in developing countries as a result of the cost involved. This usually leads to late presentations with complications such as renal failure and cerebrovascular accidents which are expensive to manage. Families are burdened with high cost of health expenditure which is often long term. This can result in poverty (World Health Organization, 2011). It is estimated that from 2011-2025, developing countries will cumulatively lose $7.28 trillion as a result of non-communicable diseases (Bloom et. al., 2011). The yearly loss of U.S $500 billion from major non-communicable diseases approximates 4% of gross domestic product for middle and low income countries. Nearly half of this cost is due to cardiovascular diseases including hypertension.

2.3 The knowledge of risk factors and complications of hypertension

Some risk factors have been mentioned in literature as predisposing factors for hypertension (Srinivas & Satyanarayana, 2015). These factors are related to an individual's lifestyle and can be modified to prevent the development of hypertension. These factors include excessive alcohol intake, cigarette smoking and bad eating habits such as excessive salt and fat intake,

late night eating, among others (Sainju, Shah, Geethanjali, & Sankaran, 2015). Psychological stress, ageing and genetic or family history has also been cited as risk factors for development of hypertension (Khairunnisa, Tanjung, & Sumantri, 2015; Sainju et al., 2015; Salaudeen et al., 2014; Vasan et al., 2002). There have also been differences in the risk factors being cited as predisposing factors of hypertension based on the population under study. In a study by Shaikh et al., 2011 on knowledge of hypertension risk factors among Muslim community, alcohol was not mentioned as one of the risk factors (Shaikh et al., 2011).

A lot of studies have been done to assess the knowledge of hypertensive patients on predisposing factors to hypertension. Some of these studies noted a high incidence of knowledge among hypertensive patients on hypertension while others recorded low incidence of knowledge of risk factors among hypertensive and non-hypertensive patients (Mlunde, 2007; Sowemimo, Ajayi, Akpa, & Ossai, 2015; Wijayathunge & Hettiaratchi, 2015). It is interesting to note that some studies observed a low level of knowledge of hypertension and its risk factors among educated hypertensive patients. A study by Wijayathunge and Hettiaratchi on the knowledge of hypertension and its risk factors among school teachers in Nuwaragam Palatha-East educational division, Anuradhapura district recorded a low level of knowledge of hypertension and its risk factors among them (Wijayathunge & Hettiaratchi, 2015).

Diwe et al., (2015) also came to a similar conclusion as that of Wijayathunge and Hettiaratchi (2015) in their study on prevalence and awareness of hypertension and its associated risk factors among bank workers in Nigeria (Diwe, Enwere, Uwakwe, Duru, & Chineke, 2015). Oladapo et al., (2015) also reported a similar conclusion as that of Diwe et al., (2015) even though their studies were among rural southern Nigerians (Oladapo, Salako, Sadiq, Soyinka, & Falase, 2013). In the study by Oladapo et al., (2013) they noted that only a few of their participants could correctly identify the relationship between cardiovascular risk factors and

cardiovascular diseases even with some misconceptions. The differences in findings on the level of knowledge of hypertension and its risk factors seem to lie in the population group under study. While low level of knowledge is usually common in studies among non-hypertensive patients, the reverse is usually true among hypertensive patients (Diwe et al., 2015; Ghembaza, Senoussaoui, Kendouci Tani, & Meguenni, 2014). Ghembaza et al., (2014) reported that the presence of a disease condition may lead to an increase in the chances of people seeking knowledge about the disease and vice versa (Ghembaza et al., 2014).

Several complications of hypertension have been cited in literature. These complications arise as a result of poor management of hypertension. These complications include stroke, heart attack, renal failure, decrease sexual function and even death (Almas, Godil, Lalani, Samani, & Khan, 2012; Brunner et al., 2010). Some studies have reported a high level of awareness of complications among hypertensive patients (Abdullahi & Amzat, 2011; Mendis, 2013; Sawicka et al., 2011) whiles others have also reported a low level of awareness of hypertensive complications among both hypertensives and normotensives (Zafar, Gowani, Irani, & Ishaq, 2008).

In conclusion, it was found in the literature review that the level of knowledge of the risk factors and complications of hypertension varies among hypertensive patients.

2.4 The motivators of self-management practices

Motivation is a significant variable or factor in health behaviour (Xu, 2009). Health motivation has been employed in various health behaviour theories including protection motivation theory, theory of planned behaviour and health action process approach (Xu, 2009). Clinicians have over the years considered motivation as one of the main significant factors in the process of psychotherapy. Motivation is defined as “a state of activation which occurs in response to a

need requiring fulfilment, such as improving quality of life or securing a benefit" (Golay, Lagger, & Giordan, 2007).

Two main types of treatment motivations have been described in literature, namely; Intrinsic and Extrinsic treatment motivations. Behavioural motivation influences patients to explore various treatment possibilities and follow recommendations and instructions to treatment in order to achieve long term improvement (Millere et al., 2014). Motivation generates effective compliance and positively influences a patient to change. It has been established in literature that fear, anxiety and other beliefs can negatively impact on a patient's motivation (Golay et al., 2007). Motivation drives patients to consistently carry out self-management practices. When motivated, patients make rational decisions which consequently facilitate their adherence to recommended treatment. (Rajpura & Nayak, 2014).

Behaviours that people exhibit out of their own wish for an inner sense of satisfaction or a reward are termed intrinsic motivational behaviours while behaviours that are performed by individuals as a result of stimulation by an external source are termed extrinsic motivational behaviours (Houston, McKirnan, Cervone, Johnson, & Sandfort, 2012). An intrinsic self-management motivator reported in hypertensive patients is their desire to live a long life (Correa & Domènech, 2013; Newton, Asimakopoulou, & Scambler, 2015). Certain internal emotions and feelings de-motivate a patient and lead to poor self-management practice. These emotions include feeling of inevitable death, boundedness and stigma (Fex, Flensner, Ek, & Soderhamn, 2012; Greenhalgh et al., 2013; Jones et al., 2012).

External or outside stimulator sources of extrinsic motivational behaviours include support from healthcare providers, support from family members, support from friends/peers and social norms. (Houston et al., 2012). These external sources of motivators can drive hypertensive

patients to practice self-management (Houston et al., 2012; MacKichan, Paterson, & Britten, 2012; Minatodani, Chao, & Berman, 2013; Shen, Edwards, Courtney, McDowell, & Wei, 2013). Support from family members may include assisting patients with food choices and preparation, assisting patients to take their medications, alerting patients for their medical appointments and advising patients on adoption of positive lifestyles (Correa & Domènech, 2013; Elissen et al., 2013; Fairbrother et al., 2013; Flynn et al., 2013). Family members and friends also support sustenance of hypertensive self-management practices in patients by being involved in educational sessions for hypertensive patients as well as accompanying them for their clinic appointments (Austin & Claiborne, 2011; Burkow et al., 2013; Norris & Kilbride, 2014; Riley, Gabe, & Cowie, 2013; Shaw, Armin, Torres, Orzech, & Vivian, 2012). Family support can be from either the extended family or the nuclear family (Shaw et al., 2012).

Patients' education has been very pivotal in motivation to hypertensive self-management practices (Golay et al., 2007). Education conditions a patient to learn and be involved in his or her own disease management as it instils a desire for a change (Heymann, Gross, Tabenkin, Porter, & Porath, 2011). Healthcare providers including physicians, nurses, dieticians, nurse assistants, pharmacists among others have also been identified as a source of motivation to hypertensive patients in practicing self-management (Chuang, Levine, & Rich, 2011; Silagy & Stead, 2001; Thorogood, Hillsdon, & Summerbell, 2003; World Health Organization, 2011). Patient's health outcome has been noted to improve when engaged by physicians in their own care (Hroscikoski et al., 2006; World Health Organization, 2011). Healthcare providers achieve better results when they involve themselves in the welfare of their patients by educating them on their clinical conditions, advising them on the importance of treatment regimens, adherence and in some instances regular home visits (Lotika, Mabuza, & Okonta, 2013; Mathew, Gucciardi, De Melo, & Barata, 2012; Viera, Cohen, Mitchell, & Sloane, 2008b). It has been observed that poor participation of care-givers in their patient's management may lead to

patients finding alternate sources of healing including herbal treatment (Egede & Zheng, 2002; Goudge, Gilson, Russell, Gumede, & Mills, 2009; Huang et al., 2004; Stange, Flocke, Goodwin, Kelly, & Zyzanski, 2000). Health illiteracy is a barrier to the practice of hypertensive self-management (Mshunqane, Stewart, & Rothberg, 2012). Flynn et al., (2013) have also identified positive relationships between patients and doctors as a motivational factor in engaging patients in hypertensive self-management practices (Flynn et al., 2013). Hypertensive patients are also motivated by information received from the mass media to practice self-management (Elkjaer, 2012; Elkjaer et al., 2010). Media sources include the Internet, television, newspapers, mobile phone alerts on medications and alerts on mobile watches (de Jongh, Gurol-Urganci, Vodopivec-Jamsek, Car, & Atun, 2012; Glynn, Murphy, Smith, Schroeder, & Fahey, 2010; Go et al., 2014; Mancia et al., 2013; Rasmussen, Jørgensen, & Leyshon, 2014). The usefulness of patients monitoring their own blood pressures and sending them via mobile devices to their clinicians for advice on their mobile phones and watches cannot be overemphasised (Greenhalgh et al., 2013; Murphy, Chuma, Mathews, Steyn, & Levitt, 2015; Saleem, Hassali, Shafie, Bashir, & Atif, 2011).

Shared patients' experiences can also motivate hypertensive patients to practice self-management in order to avoid severe problems suffered by others (Bokhour et al., 2012; Poon, Etti, & Lal, 2010; Viera, Cohen, Mitchell, & Sloane, 2008a; Roumie et al., 2006).

In conclusion, it was found in the review that support from family members, friends/peers, healthcare providers and information acquired from the mass media are vital motivation factors of self-management in hypertensive patients.

2.5 The benefits of self-management practices

Benefits of blood pressure control in hypertensive patients have been reported in literature (Kamran et al., 2014; Maciejewski et al., 2014). These benefits of blood pressure control include reduced risk of stroke and coronary heart diseases, decreased risk of congestive heart failure and mortality (Rajpura & Nayak, 2014). Patients' perceived benefits of blood pressure control can enhance physician-patient interaction thereby achieving more success therapeutically (Kallistratos, Poulimenos, & Manolis, 2015; Saleem et al., 2011).

The benefits of hypertension control may relate to the beliefs an individual possesses. A study by Pires and Mussi using the HBM found out that majority of the participants had extreme beliefs regarding the perceived benefits of diet control (Pires & Mussi, 2012). It was observed that men, younger individuals, lack of a partner, low educational level and income were related to the beliefs concerning the perceived benefits of adopting a healthy diet. However, the study did not consider soliciting information from participants in respect of their feelings and opinions.

Strict patient adherence to treatment is influenced by his or her perceived benefits of blood pressure control (Barlow, Wright, Sheasby, Turner, & Hainsworth, 2002; Bodenheimer, Lorig, Holman, & Grumbach, 2002; Maciejewski et al., 2014; McManus et al., 2010; McManus et al., 2014; Penaloza-Ramos et al., 2016). Better health outcomes have been reported by numerous studies as related to perceived benefits of self-management practices in hypertension (Burke et al., 2007; Elmer et al., 2006; Kaambwa et al., 2014; Mancia et al., 2013; Uhlig, Patel, Ip, Kitsios, & Balk, 2013; Writing Group of the Premier Collaborative Research Group, 2003; Xue, Yao, & Lewin, 2008).

A study by Kamran et al., (2014) based on the HBM showed that participants who consistently exercised and were non-smokers were more compliant to hypertension medication when

compared to participants with inactive lifestyle and who were smokers (Kamran et al., 2014). Although prevalence of adherence was low in this study, it was found that participants who perceived high benefit had good adherence as compared to those who perceived moderate and low benefit. Furthermore, self-management of hypertension is associated with long-lasting clinical benefits, which can be interpreted to mean minimising healthcare utilisation and costs (Maciejewski et al., 2014). In a study that compared usual care with self-management of hypertension, it was found that patients had greater improvement in proportion of BP control during and after 18 months' trial and an estimated proportion of BP control improved 18 months after trial completion for patients in the behavioural and medication management. However, utilization and expenditure trends were identical for all patients (Maciejewski et al., 2014).

Reduced financial burden with regards to cost of management has also been observed as a perceived benefit to adoption of self-management practices among hypertensive patients (Carter et al., 2010; Green, Anderson, Ralston, Catz, & Cook, 2013; Linden, Lenz, & Con, 2001; Penaloza-Ramos et al., 2016).

The above review shows that hypertensive patients can benefit from self-management as a result of their perceived benefits.

2.6 The barriers of self-management practices

Perceived barrier is a person's estimation of the level of challenge of social, personal, environmental, and economic hindrances to a specified behaviour or their desired goal status on the individual (Glasgow, 2008). The factors associated with barriers range from "proximal" (e.g. family) to "intermediate" (e.g. health care team, work related) to more "distal" (e.g. community access, media advertising and regulatory policy) (Glasgow, 2008). Barriers and

how they are perceived, interpreted, and addressed have a large influence on an individual's goal setting and attainment in the management of a disease (Glasgow, 2008). The Barriers to medical self-management affect disease outcomes, mortality, and quality of life of the individual (Bayliss, Ellis, & Steiner, 2007). This means that a hypertensive patient's inability to participate in the management of hypertension can adversely affect his or her well-being.

The barriers to chronic diseases self-management can be placed into three broad classes namely; individual, relationship and environment (Vallis, 2009). An individual who engages in self-management practices creates an effective means of improving symptoms, functional ability and quality of life. This places the individual in total control of his/her life. Consequently, this creates and develops the self-efficacy and self-esteem level of the individual. However, the individual may be impeded by depression, anxiety, and behavioural barriers. Lack of awareness on a healthy lifestyle as well as support from families, co-workers, healthcare providers can clearly negatively influence self-management (Vallis, 2009). An individual's attitude, beliefs, confidence, family members' support and other condition associated with patients' care can negatively influence self-management (Anthony, Valinsky, Inbar, Gabriel, & Varda, 2012; Flynn et al., 2013).

According to Gee et al., (2012) "individuals who perceive their blood pressure as uncontrolled may have intentions to make health-enhancing changes but may lack the information to do so" (Gee et al., 2012). Also, according to Anthony et al., (2012) "patients' denial and non-adherence to hypertension treatment will be prevalent depending on the patients' knowledge and perceptions regarding hypertension and its treatment" (Anthony et al., 2012). A study by Fort et al., (2013) showed that lack of information and presence of co-morbidities other than hypertension are barriers to self-management of hypertension (Fort et al., 2013). It was also

found that individuals were able to depend on themselves better for treatment than on their family members.

Furthermore, the fear of not being able to work because of illness, the expenses of medications and examinations, the higher cost of healthy foods, and the cost of caring for the person who is sick have been identified as barriers to self-management (Bayliss et al., 2007; Fort et al., 2013; Nam, Chesla, Stotts, Kroon, & Janson, 2011; Oliver et al., 2010; Pun, Coates, & Benzie, 2009; Thalacker, 2011; Utz et al., 2006; Wanko et al., 2004). Patients who were mothers (gender) also found it difficult managing their disease as they have to care for other family members (Fort et al., 2013). Other barriers to self-management practices are depression and physical limitations (Fort et al., 2013). Other studies also outlined barriers to practice of self-management as forgetfulness (Chao, Nau, Aikens, & Taylor, 2005), not having time or laziness, office readings accuracy of cuff, competing health priorities, lack of knowledge about hypertension (Macabasco-O'Connell, Crawford, Stotts, Stewart, & Froelicher, 2008; Murphy et al., 2015; Nath, 2007; Oliveira, Ramos, & Melo, 2013; Riegel, Lee, & Dickson, 2011), poor access to community resources (Flynn et al., 2013; Huff et al., 2011) and the lack of self-efficacy.

Other perceived barriers to self-management such as adherence to medication are the adverse side effects of the medication (Chao et al., 2005). Adherence to medication is also hindered by the presence of multiple co-morbidities with resultant multiple medical treatment regimens and therefore an increase in the incidence of side effects (Anthony et al., 2012; Boutin-Foster, Ogedegbe, Ravenell, Robbins, & Charlson, 2007; Fort et al., 2013; Oliveira et al., 2013).

Difficulty in quitting unhealthy lifestyle and psychological barriers such as depression has been observed in literature as a possible barrier to self-management practices (Haynes, Ackloo, Sahota, McDonald, & Yao, 2008; Kelly & Lynes, 2008; Pun et al., 2009; Riegel et al., 2011).

In summary, perceived barriers including family support, relationship with physicians, lack of knowledge or awareness of hypertension, cost of healthcare and the individual characteristics have the tendency to impede self-management in hypertensive patients. This means that the patients' effort alone is not enough to improve hypertension control but collaboration with their healthcare providers is needed to ensure that these barriers are dealt with to enhance their quality of life.

2.7 Reflection on the literature review

A general search of literature reveals that database searches were unsuccessful to produce any literature exploring self-management practices of hypertension specifically among Ghanaians despite its high prevalence in Ghana. A possible explanation is that enough education or counselling may not have been done to serve as a basis to conduct research into self-management of hypertension. Most of the reviews done solicited information through self-reporting. Therefore, data from these studies were subject to both recall and social desirability bias which made it impossible to receive a deeper insight of concepts. Hence further research is necessary to explore self-management practices among hypertensive patients using a qualitative approach. This will provide detailed information that will contribute to the development of protocols and policy formulations that will enhance effective management of hypertension resulting in controlled blood pressure.

CHAPTER THREE

3.0 METHODOLOGY

The chapter describes the method used for the study. This begins with a description of the philosophical paradigm and methodological assumptions, research design, research setting, target population, sample size, sampling technique, data collection tool, pretesting semi-structured interview guide, data collection procedure, data management, data analysis and ethical consideration.

3.1 Research philosophy

This is the belief about a phenomenon regarding how data should be generated, analysed and used. The philosophical stance adopted by researchers provides a basic set of beliefs that guides their action (Creswell, 2014). To enhance rigour, it is important to carefully consider not only the research methodology but also the philosophical intent of the study (Wilson & McCormak, 2006).

Ontology refers to the nature of being or existence (Bergin et al., 2008), and epistemology refers to the study of the nature of knowledge and justification (Schwandt, 2001). Ontology is a system of belief that reflects an interpretation of an individual about what constitutes a fact. In simple terms, ontology is associated with a central question of whether social entities need to be perceived as objective or subjective. The ontology of this research is that individuals can adopt self-management activities to control their blood pressure.

Subjectivism or constructionism or interpretivism was chosen as the philosophical paradigm underpinning this study. Subjectivism perceives that social phenomena are created from perceptions and consequent actions of those social actors concerned with their existence.

Interpretivists' methodologies that focus on human discourse, perceptions and motivations are of value (William, 2003). This stance was taken as the ultimate goal of this research to explore the perceptions or beliefs of social actors which involved factors influencing self-management practices among hypertensive patients using the HBM constructs.

Interpretivists believe that reality is multiple and relative (Hudson & Ozanne, 1988). They also believe that these multiple realities depend on other systems for meaning (Neuman, 2000). The knowledge gained in this discipline is socially constructed rather than objectively determined (Hudson & Ozanne, 1988). Therefore, flexible and receptive research structures are adopted to capture meanings in human interaction and make sense of what is perceived as reality (Black, 2006; Carson et al., 2001). The interpretivist researcher enters the field with some sort or prior insight of the research context but assumes that this is insufficient in developing a fixed research design due to the complex, multiple and unpredictable nature of what is perceived as reality. The researcher remains open to new knowledge throughout the study and let it develop with the help of participants (Hudson & Ozanne, 1988). For this study, the HBM constructs guided the interview questions as well as the analysis therefore creating partially what was studied since pre-understanding is important interpretivist point of view.

The goal of this research is to understand and interpret the meanings in human behaviour (that is self-management practices among hypertensive patients) rather than to generalise and predict causes and effects (Neuman, 2000; Hudson & Ozanne, 1988). The researcher set out to understand motives, meanings, reasons and other subjective experiences which were time and context bound.

3.2 Research design

In conducting a research, quantitative approach, qualitative approach or a mixed method could be used. Quantitative approach involves a formal, objective and systematic process of obtaining information about the world. The aim of this method is to test relationships, describe and examine cause and effect relations (Creswell, 2014). Quantitative approaches that incorporate standardized measures and statistical techniques are usually affiliated with the positivist or objectivist paradigm. Often associated with the natural sciences, positivism is based on the philosophy that an individual's preconceptions must be set aside in order to identify objective facts based on empirical observations (Robson, 2002). With regard to definitional characteristics, researchers who engaged in quantitative research tend to employ large and random samples, test hypotheses, work deductively and generalize their findings to a wider population (Bergman, 2011). Quantitative approaches associated with the positivist paradigm include closed-responses interviews and questionnaires, randomized controlled trials and systematic reviews with meta-analysis (McEvoy & Richards, 2006).

In contrast, qualitative approaches based on non-numeric are commonly associated with the interpretivist paradigm. Researchers conducting qualitative research typically employ small samples, they are non-reductionist about their subject matter, they concern themselves with subjective experience, work inductively, and study phenomenon in their natural setting (Bergman, 2011). Participants are selected on the basis of how useful they are likely to be for the pursuit of the inquiry, and the views of the participants who are not representative of the general sample are actively sought out (Kitzinger, 2006). Qualitative approaches associated with the interpretivist paradigm include focus groups, unstructured interviews, textual analysis and ethnographic case-studies (McEvoy & Richards, 2006).

For the purpose of this study, qualitative exploratory-descriptive design was employed to fully understand determinants of self-management practices among hypertensive patients. This design involves the use of open-ended question that allows a researcher to probe where necessary. Apart from these, data analysis is inductively built and a researcher is able to interpret meaning to the data generated (Creswell, 2014). This design explores research questions and therefore provides significant preliminary insight into a given problem, fill in gaps and expand understanding. In this regard, interviews were conducted using a semi-structured interview guide to gain understanding regarding knowledge of risk factors and complications, benefits, barriers and motivators of self-management in hypertensive patients. Constructs from the Health Belief Model were used to guide development of questions for the interview.

3.3 Research setting

The setting for this study was the Greater Accra Region. It is the urban hub of Ghana which is located in the southern part of the country. It is bordered by the Gulf of Guinea to the south; the Eastern region to the north; Central region to the west and finally the Volta region to the east. It is the smallest of the regions in terms of landmark occupying an area of 3,245 square kilometres or 1.4 per cent of the total land area of Ghana. Accra is the capital city of Ghana in the Greater Accra region which is the second most populated region after the Ashanti Region. Out of a total population of 24,658,823, the population of Accra is 4,010,054 forming 16.5% of the general population. Ghana Statistical Service in 2010 indicated that females form 51.2% of the general population whereas the rest (48.8%) are males in Greater Accra.

The recruitment site for the study was the Korle-Bu Teaching Hospital (KBTH), Accra. The hypertensive Out-Patient Department (OPD) clinics at the hospital runs four days in a week

from 8 a.m. to 2 p.m. The working days for the clinics are Mondays, Tuesdays, Thursdays and Fridays. This institution was established on October 9, 1923. The Korle-Bu Teaching Hospital has grown from an initial 200 bed capacity to 2,000. It is currently the third largest hospital in Africa and the leading national referral centre in Ghana. Korle-Bu Teaching Hospital, was established as a General Hospital to address the health needs of the indigenous people under Sir Gordon Guggisberg's administration, the then Governor of the Gold Coast but attained the status of a teaching hospital upon the inception of the University of Ghana Medical School (UGMS) in 1962 to train medical students. Currently the hospital has 2000 bed capacity and 17 clinical and diagnostic departments/units. It has an average daily attendance of 1500 patients and about 250 patient admissions. Clinical and diagnostic departments of the hospital include Medicine, Child Health, Obstetrics and Gynaecology, Pathology, Laboratories, Radiology, Anaesthesia, Surgery, Polyclinic, Accident Centre and the Surgical and Medical Emergency. Other Departments includes Pharmacy, Finance, Engineering, and General Administration. The hospital also provides investigative procedures and specialisation in various fields such as Neuro-surgery, Dentistry, Eye, Ear, Nose and Throat (ENT), Renal, Orthopaedics, Oncology, Dermatology, Cardiothoracic, Radiotherapy and Radio diagnosis, Paediatric Surgery and Reconstructive Plastic Surgery and Burns.

3.4 Target population

The target population were hypertensive patients who visited the OPD of Medicine and Therapeutics unit at the Korle-Bu Teaching Hospital. Approximately 100 hypertensive patients visit each clinic day.

3.4.1 Inclusion criteria

a. Patients who have been diagnosed with hypertension for 1 year or more as these have had the disease for a while and therefore are likely to share adequate experiences.
b. Hypertensive patients aged 35 years and above as hypertension are common in this population.
c. Hypertensive patients who were oriented to time, place and person and did not show any sign of mental illness so that the correct information can be shared.
d. Hypertensive patients who were able to express themselves in English, Twi or Ga as these are the languages that the researcher is fluent in so as to avoid misinterpretation of data.

3.4.2 Exclusion criteria

a. Hypertensive patients who were critically ill or admitted, because they may be too sick to be interviewed.
b. Hypertensive patients with co-morbidities such as diabetes mellitus, stroke, renal failure, myocardial infarction and congestive heart failure were excluded to eliminate the influence of their self-management perceptions.
c. Hypertensive patients who lived outside the Accra Metropolis as these do not form part of the study site.

3.5 Sampling technique

The participants for the study were purposively selected. Purposive sampling technique is a type of non-probability sampling method in which the researcher carefully selects participants based on particular characteristics and also personal judgment about which of them will be

most representative (Polit, Beck, & Hungler, 2001). This form of sampling enabled recruitment of participants who met the inclusion and exclusion criteria after obtaining an informed consent. The researcher visited the hypertension OPD clinic on all the four clinic days per week at the Medical Department of the Korle-Bu Teaching Hospital after permission was granted by the Hospital Administration. Approximately three months were allotted for recruitment and conduct of interviews.

3.6 Sample size

Sample size for this study was determined by data saturation and not statistical power analysis since it was a qualitative study (Suen, Huang, & Lee, 2014). Saturation is the point in data collection when no new or relevant information emerges with respect to the newly constructed theory (Saumure & Given, 2008). Fifteen (15) participants who gave their informed consent were recruited and included in this study after fulfilling the inclusion and exclusion criteria. Data saturation was reached at the tenth participant.

3.7 Data collection tool

A semi-structured interview guide was used in collecting the data. This data collection tool was used because it is not rigid, it provides a sequence for data collection and allows probing into specific areas of interest to a researcher during an interview (Mason, 2004). In addition, it is useful when working with small samples and in studying specific situation or for supplementary and validating of information (Laforest et al., 2010). The semi-structured interview guide used in this study was developed by the researcher and consisted of two main sections (A and B). The section A comprised of socio-demographic data of participants and section B comprised of open-ended questions with probes on perceptions of self-management

practices among hypertensive patients. The guiding questions were typed in English. However, it was translated into Twi or Ga to participants who could not communicate in English. Constructs from the Health Belief Model were used to guide the development of questions for the semi-structured interview guide.

3.8 Data collection procedure

The researcher obtained ethical clearance from the Institutional Review Board of the Noguchi Memorial Institute for Medical Research, (IRB-NMIMR) (see Appendix A). An introductory letter from School of Nursing, University of Ghana (see Appendix B) together with the ethical clearance was presented to the administration of the Korle-Bu Teaching Hospital (KBTH) to seek permission. A visit was paid to the Department of Medicine where the researcher introduced herself and established a rapport with the Deputy Director of Nursing Services (DDNS) of Department of Medicine and Therapeutic as well as the DDNS in- charge of the Medical Out-Patient Department (OPD). They were informed of the purpose of the research and the sample to be recruited for the study. The first month at the hypertension OPD clinic was used as a period of introducing the research to all patients visiting the clinic. The purpose and procedure of the research was introduced to the patients attending the clinic. This was done on every single hypertension OPD clinic day for the first month. Data was not collected during this period so as to allow participants to gain understanding of the study and also decide as to whether to participate or not.

During the briefing session, participants were informed about the purpose and objectives of the study; how data will be collected from them, that is, the face-to-face interview between the researcher and the participant and they were also informed that the interview will be recorded on an audio tape. How data would be analysed was also made known to each selected participant. Patients who were potential participants were assured of confidentiality and how

data would be managed to ensure privacy. This was further explained that participants will be referred to only as a number. Furthermore, participants were assured that pseudo names would be given to each of them during the interview and that whatever information they volunteer will be available and assessable only to the researcher. This will be electronically secured using a password code only known to the researcher. They were also informed of their right to withdraw from the study at any point in time. Patients participation in the study was voluntary and they were given a month to consider whether or not to take part in the study. The consent form (see Appendix C) was explained to the participants. They were given the opportunity to ask questions after the explanation to clarify any doubt.

3.9 Pretesting of interview guide

This is also called 'feasibility' studies. It involves specific pre-testing of a particular research instrument such as a questionnaire or interview schedule (Teijlingen & Hundley, 2001). The semi-structured interview guide was pretested among three participants who had similar characteristics with the study participants at the OPD of the Korle-Bu polyclinic in the Accra Metropolis. This was essential because it enabled the researcher to restructure unclear questions thereby ensuring clarity and preventing ambiguity. It also facilitated in estimating the length of the period for the interview, data transcription and other relevant issues that cropped up. In addition, it offered the research an opportunity to analyse the raw data, questions and process of data analysis. Data gathered from the pre-test was not included in the main study.

3.10 Data collection

Data collection started during the second month visit to the hypertension OPD clinic. A visit to the clinic was done on every clinic day for data collection until 15 participants were obtained.

Patients who had been briefed about the study the previous month and who were willing to participate in the study were recruited after meeting the inclusion and exclusion criteria. Each participant was interviewed in a private room. Permission was obtained from the participant for the interview to be audiotaped. A semi-structured interview guide was used where opened-ended questions were asked to allow participants to express their opinions freely. A specified time period of about 45-60 minutes was allotted to each participant during the interview. The researcher also took note of non-verbal cues during each interview session and documented them in a field diary. The assistance of a psychologist was not employed because all the participants did not experience overwhelmed emotional or psychological reaction during the interview session. At the end of each interview, participants were thanked for their time. Data collection lasted over a two-month period excluding the one month used for introducing the study to potential participants.

3.11 Data management

According to Padgett, the main aim of data management in a qualitative study is to keep data for maximal efficiency in retrieval and analysis (Padgett, 1998). The researcher kept a field note and diary in which she wrote the date, time and place where the interview was conducted. Each participant was given a number (P1to P15) and pseudo name such as Alhaji, Martin, Comfort, Angie, George and Emma etc. which was written in a file and kept separately for each person for easy access. Each participant was assured of confidentiality by keeping each person's response from other participants. The participants were also interviewed separately. Personal information including demographic data was kept separate from the interviewed data, locked and accessible to only the researcher. Soft copies of these information were stored and secured electronically using a password only known to the researcher. Hard copies of all audio

tapes, transcribed data, field notes and diaries as well as all documented information were under lock and the key accessible to only the researcher. The transcript and the consent forms would be kept for about five years following completion of this study. This would serve as evidence when necessary.

3.12 Data analysis

The Health Belief Model provided a theoretical framework to explain how patients' perceptions affect perceived role and likelihood of involvement in self-management practices using the constructs described above. Interview guide questions were structured based on the constructs of this model. The HBM has been previously validated for use in describing preventive health and sick role behaviours as well as engagement in other health services initiatives such as patient safety (Carpenter, 2010; Pope et al., 2009)

After completion of interviews, a debriefing session was immediately conducted with the supervisors of the study. The researcher initially familiarised herself with the data by transcribing the audio recorder verbatim. This was done by a line-by-line coding of the data and the data set established by the HBM constructs. The non-English recorded interviews were translated into English and translated again into the language of the interview by a professional translator to certify correctness and accuracy of the translation. The transcript was read and re-read in order for the researcher to get herself immersed with the data to facilitate coding and searching of meaning and patterns. The initial coding was manually and systematically generated by using a highlighter to mark all potential codes and themes and the code set established by HBM constructs.

Analysis involved thematic analysis of transcripts based on the constructs of the HBM. Thematic analysis within and across codes to identify recurrent themes was performed. The

researcher first analysed the transcripts separately, and then met with supervisors to reach consensus regarding identified themes and patterns. The data was identified by collating similar codes together and different codes were sorted to form potential themes. Comments and phrases of similar nature were grouped together to form a sub-theme. The codes were tabulated and further sorted into main themes and sub-themes. The themes were reviewed and refined by collapsing some themes into other themes. Some of the themes were also broken down into small components. This was to ensure that all the data followed a coherent pattern. A final report was generated by using vivid examples to support each theme.

Thematic analysis in qualitative research is a method that involves identifying, analysing and reporting within the data generated (Braun & Clarke, 2006). This method allows for flexibility in the choice of theoretical framework and description of rich, detailed and complex data. Thematic analysis was done by the researcher by following all the six steps outlined by Braun and Clarke (2006). Thematic analysis is a poorly demarcated and rarely-acknowledged, yet widely used qualitative analytic method. Thematic analysis is not wed to any theoretical framework, and so it can be used within different theoretical frameworks. Indeed, Holloway and Todres identify “thematizing meanings” as one of a few shared generic skills across qualitative analysis (Holloway & Tedres, 2003). For this reason, Boyatzis (1998) characterises it not as a specific method but as a tool to use across different methods. Ryan and Benard (2000) locate thematic coding as a process performed within ‘major’ analytic traditions, rather than a specific approach in its own right.

3.13 Methodological rigour

Trustworthiness in qualitative studies is a very important concept which can be achieved through the concepts of credibility, dependability, transferability and confirmability (Lincoln & Guba, 1985).

Credibility looks at the truth and value relating to the findings of the study and the representation of this truth and values (Topping, 2006). This is important in ensuring accuracy in research work.

The researcher ensured credibility, by recruiting participants who gave informed consent and met the inclusion criteria for the study. The responses of these participants were verified at the end of each interview session before drawing conclusions from the data. This ensured that responses of participants were clearly understood and their perceptions correctly documented by the researcher. In addition, each day's interview was transcribed verbatim and coded before subsequent interviews were conducted so as to assist the researcher relate with the responses and content. Again, non-English interviews were transcribed and shown to an expert in the local language to review to make sure that participants' perceptions were correctly captured. Also, the findings of the study were studied by the research supervisors.

Transferability refers to the degree to which the results of the qualitative research can be transferred to other contexts with other participants. It is the interpretive equivalent of generalizability (Bitsch, 2005). Transferability was ensured by the researcher by making sure that, the detailed description of the methodology and procedures guiding interviews were provided. Again, the findings of the study reflected the participant's perceptions with self-management practices.

According to Bitsch, dependability refers to the stability of findings over time (Bitsch, 2005). Dependability involves participants evaluating the findings and the interpretation and recommendations of the study to make sure that they are all supported by the data received from the informants of the study (Cohen, Manion, & Morrison, 2011). To ensure dependability in this study, the researcher implemented the research methodology strictly throughout the

study. The study setting, steps and procedures carried out were described clearly. The researcher also kept an audit trail.

Confirmability refers to the degree to which the results of an inquiry could be confirmed or corroborated by other researchers (Baxter & Eyles, 1997). It is concerned with establishing that data and interpretations of findings are not figments of the inquirer's imagination, but are clearly derived from the data" (Tobin & Begley, 2004). In order to ensure confirmability, the researcher reflected on her views and predisposition to make sure that they do not influence the findings of the study. The sample size and data collection procedure were clearly documented in the field diary. Audio recordings were transcribed verbatim and direct quote used to support emerging themes. Furthermore, an audit trail comprising field notes, notes from member check and summaries were used to provide information on the context and background of interview to enhance analysis.

3.14 Ethical consideration

Ethical issue is about morality which deals with issues of right and wrong among a group of people in a society (Creswell, 2014). Hence it is essential for researchers to take the ethical aspects of their studies very important (Babbie, 1995). Creswell identified ethical issues for consideration in research as; fully informing participants about the aims, methods and benefits of the research, granting voluntary consent and maintaining the right of withdrawal (Creswell, 2014). This was carried out by the researcher.

Strict implementation of ethical principles was employed. Participant's anonymity was ensured by not using participant's names but instead pseudo names in place of their names. Confidentiality was also ensured by providing privacy during interview session and by keeping the interview data / recordings privately, making it accessible to only the researcher. The

interview data will be destroyed after 5 years following completion of the study. Moreover, informed consent was provided and the study objectives were explained to the participants for them to append their signature or thumb print. The informed consent (appendix C) contained details of research procedure, risk, benefits, rights of participants, information on confidentiality and contact information of the researcher. There were no foreseeable risks to participants in this study. Besides, there were no undue psychological or emotional stress on participants during the interview and so the service of a psychologist or counsellor was not employed. Also, voluntary participation, right to withdraw, and respecting the dignity of the participants were also ensured during the study.

CHAPTER FOUR

4.0 FINDINGS

This chapter presents the findings of the study. Patient interviews revealed 5 major themes affecting their perception of self-management. Four main themes emerged based on the construct of the Health Belief Model and 15 sub-themes emerged through thematic analysis. These themes were knowledge of risk factors and complications of hypertension, perceived motivators (cues to action) of self-management practices, perceived benefits of self-management practices and perceived barriers to self-management practices. However, spiritual belief and disease management emerged as an additional theme through thematic analysis of the data which was not related to the Health Belief Model. The chapter will be presented in relation to the main themes. The description starts with the demographic characteristics.

4.1 Demographic characteristics

15 participants aged between 39 and 89 years were recruited for the study. They were all hypertensive patients residing in different suburbs in the Accra Metropolis. Duration of diagnosis of hypertensive status differed for all participants. The duration ranged between 1 to15 years. Of the fifteen participants, eight were females. Six of the participants were fluent in English; six fluent in Twi and three spoke Ga. With regards to education, two participants had no formal education, six had primary education, and four had secondary education whilst three had tertiary education. Six of the participants were employed by the government sector, five were self-employed and four were unemployed. Two of the unemployed were on retirement. Nine of the participants were married, one divorced, three widowed and two single. Majority of the participants, 13 had more than two children while two of them had one child each. With the exception of one participant who was a Muslim, all the other 14 participants

were Christians. The data was collected from these participants through an interview using a semi-structured interview guide and thematic analysis used to analyse data generated. The ensuing sections comprise the findings that emerged.

4.2 Organisation of themes

Details of all the themes and the sub-themes are presented in table 1

Table 1 Themes and Sub-themes.

THEMES	SUB-THEMES
Knowledge of risk factors and complications of hypertension	• Knowledge of risk factors of hypertension • Knowledge of complications of hypertension
Motivators (cues to action) of self-management practices	• Information from health care providers • Information from mass media • Socio-economic support • Experiences of others • Desire to live long
Benefits of self-management practices	• Controlled blood pressure • Good health • Reduced financial burden
Barriers of self-management Practices	• Adverse effects of medication • Unhealthy lifestyle • Financial constraint • Non-compliance to medication • Inadequate knowledge of condition
Spiritual belief and disease management	

In an attempt to answer the research question ‘What do hypertensive patients’ know regarding the risk factors and complications of hypertension’ the theme knowledge of risk factors and

complications of hypertension was described based on the construct of the Health Belief Model.

4.3 Knowledge of risk factors and complications of hypertension

This theme represents perceived susceptibility of disease and perceived seriousness or severity of disease (perceived threats) respectively. The theme described the information, understanding or awareness that the participants had on the risk factors that may contribute to the development of hypertension and its associated complications. The participants had adequate knowledge of the risk factors such as unhealthy lifestyle (drinking alcohol, smoking and bad eating habits), excessive thinking, stress and family history of hypertension. Also, participants were able to demonstrate their Knowledge of complications of hypertension which included stroke, diabetes, heart attack and renal problem. The theme had two sub-themes which were knowledge of risk factors of hypertension and knowledge of complications of hypertension.

4.3.1 Knowledge of risk factors of hypertension

This sub-theme focussed on participants' knowledge of factors that predispose to developing hypertension. Most of the participants had adequate knowledge of the predisposing factors of hypertension and these were described by participants as unhealthy lifestyle such as alcohol intake and smoking.

> "*Personally, I knew very well that, unhealthy lifestyle like drinking too much alcohol and excessive smoking (tobacco and wee) could cause hypertension."* (**Alhaji**)

Majority of the participants mentioned poor eating habits including late eating and eating too much oily and fatty foods as a contributing factor to weight gain which predisposes to hypertension.

> *"Late eating is a bad habit… because it brings about weight gain causing high blood pressure. Also eating too much oily and fatty food is not good so we have to avoid or reduce the intake of it*." (**Angie**)

> *"I had my blood pressure through late eating. I used to be eating late at that time and my stomach bloated. I couldn't tuck in my shirt and…So I sought my doctor and he…diagnosed me with hypertension.*" (**Akwasi**)

However, there were others who were of the view that excessive thinking could cause hypertension.

> *"Sometimes, lack of enough funds may cause you to worry excessively over how you and your family would survive. This often results in headaches which could lead to hypertension*" (**Yaa**)

Another risk factor which was an issue of concern among some of the participants was stress. They said harbouring issues without letting it go would lead to stress which in effect would result in hypertension.

> *"Harbouring issues without letting go could lead to a stressed life which may result in hypertension. I know a friend who had hypertension because of stress due to marital problems."* (**Gladys**)

Also, a number of the participants mentioned genetic factor or family history of hypertension and aging as contributing factors to hypertension.

> *"It runs through my family. My siblings and I knew that hypertension runs through the family from infancy because that is what killed my father so all my siblings and I thought we had it."* (**Angie**)

> *"But that also depends on one's age. In most cases about 130 is ideal for those below 40 years and those above 40 and 50 years roughly 140 is okay. Because in my case I was diagnosed at the age of fifty-five while some of my friends were also diagnosed around the same age. This means that one is prone to having hypertensive issues upon reaching these ages and above."* (**Martin**)

4.3.2 Knowledge of complications of hypertension

This is the information or understanding acquired on the complications of hypertension. Complications are the consequences that occur as a result of ineffective management of hypertension. The participants shared adequate knowledge of the complications of hypertension. These were some of the complications that were identified by the participants; stroke and heart attack.

> *"My friend's father in-law suffered from stroke before he passed away."* (**Alhaji**)
>
> *"I knew that if your blood pressure goes very high, automatically you would get stroke and heart attack. As for these two complications, I knew them*." (**George**)

Other participants also mentioned diabetes and renal disease as complications of hypertension.

> *"I decided to take proper care of myself in order to avoid having issues of diabetes or renal problem.*" (**Grace**)

Another complication that featured prominently was death. Many of the participants believed that uncontrolled blood pressure and refusal to adhere to medical instruction may lead to loss of life.

> *"Not controlling one's hypertension as well as not abiding by medical instructions could lead to losing one's life"* (**Emma**)
>
> *"If you refuse to manage your hypertension, it may kill you."* (**Joe**)

Some of the participants were of the view that refusal of anti-hypertensive drugs may result in unconsciousness and death.

> "*You could collapse and if you don't take care, you would die. It had happened at my work place before. One of my colleagues refused to take his BP drugs and that was the end of him."* (**John**)

A few others also said knowledge of risk factors is frightening and so they exercise to stay fit in order to avoid stroke and death.

> *"Information from the Internet on risk factors of hypertension is sometimes quite frightening (laughed). So I do a lot of exercise to make sure that I'm fit at least to avoid stroke or a possible death (laughed)."* (**George**)

Majority of the participants were also of the view that the complications may affect employment. They said, if complications occur, there would be no strength to work. Some of them mentioned that, there would be loss of stock and the whole system would collapse.

> *"Not controlling one's BP condition properly may results in several complications which could affect one's job greatly, especially if you're an entrepreneur."* (**Martin**)

> *"My work would collapse if I get complications and bedridden. I have to take good care of myself so that my business would thrive on."* (**Mercy**)

Also, some said complications like persistent headache and hospitalisation due to complications may affect work output.

> *"Inappropriate management of one's hypertensive condition could lead to complications like constant headaches and this could affect one's work adversely*." (**Emma**)

> *"One must control his or her condition in order to avoid its deterioration, and thus a possible hospitalization since this could affect one's work."* (**Comfort**)

Most of the participants also said the complications may affect marriage and family as well. They said the patient having complications of hypertension may not be able to satisfy his wife in bed which could have negative effect on the relationship.

> *"Complications of hypertension such as stroke may result in one's inability to satisfy one's spouse sexually while creating a gap between you and your children. This may put your family in serious problems."* (**Martin**)

The participants said, the patient having complications resulting from hypertension may not be able to take care of his or her children.

> *"Complications could prevent one from spending much time with his or her family or even supporting with house chores. This situation may affect the children greatly."* **(Yaa)**

A participant said a spouse having hypertension complications may not be able to provide the necessary support for his or her partner.

> *"A caring husband would be worried should his wife be bedridden due to complications from hypertension. This is because one's spouse is one's right hand."* **(Angie)**

In the quest to answer the research question 'What are the factors that motivate hypertensive patients to practice self-management in the Accra Metropolis?' the theme; Motivators (cues to action) of self-management practices was identified in accordance with the Health Belief Model.

4.4 Motivators of self-management practices

Motivators are the things that encourage or influence an individual to manage his or her own condition outside the hospital environment. The participants reported that they were motivated to manage their condition through the information they received during education sessions on hypertension and its management from nurses, doctors and dieticians. They also had information from the Internet, television and radio. The family, friends and church provided socio-economic support to participants which motivated them to take care of their condition. The participants also had the desire to live long and this encouraged them to manage their condition. This theme has five sub-themes which are; information from healthcare providers, information from mass media, socio-economic support, experiences of others and the desire to live long.

4.4.1 Information from healthcare providers

This is the information provided by the healthcare professionals on hypertension and how to manage it outside the hospital environment. The participants received education on the condition and its management from nurses, doctors and dietician. A number of participants described how education from the dietician influenced them to self-manage their condition.

> *"I was referred to a dietician who advised me on some healthy eating habits. She asked me to cut down heavily on oily foods but could eat fish (especially, dried fingerlings) regularly. With regards to meat, she asked that I take in dried but not fatty meats. As for fruits, she recommended apples with thorns on it (soursop), oranges and watermelons. These dietary tips really influenced my eating habits and thereby assisted me to take proper care of myself."* **(Comfort)**

However, there was one person who reported that, she was mainly educated on a local meal made from cassava (fufu). Meanwhile she doesn't eat 'fufu' so she stopped the visit to the dietician after the third appointment.

> *"The dietician told me how and what to eat. But anytime I visited the dieticians, they educated me on only 'fufu' but I do not eat 'fufu' so after visiting there for about three times, I stopped"* **(Rita)**

Most of the participants received information from a doctor, which encouraged them to take care of their condition.

> *"I quite remember some time ago; I had a very bad headache on one side of my head. I reported the issue to the doctor and he referred me to the radiology department to carry out a scan on my head (CT-head). After the diagnosis, the doctor affirmed that my symptom is one of the effects of hypertension and advised that I take my medicine seriously. Since then, I never stopped taking my medicine."* **(George)**

> "*Actually, I was once informed of a health screening session at the staff clinic. I went and after my BP was checked, the doctor diagnosed that I had a borderline BP and needed to be monitored. Since that day I bought my personal BP machine which I used to check my BP every day while following my prescription without faltering, according to the doctor's advice."* **(Joe)**

Majority of the participants received education from the nurses on healthy eating, alcohol, smoking and exercise. This motivated them to take very good care of themselves.

> *"Usually, upon reaching the clinic, the first thing the nurses did was to give us a talk on hypertension. They also advised us on some healthy eating habits while abstaining from injurious lifestyles such as alcoholism and smoking. The nurses encouraged us to regularly exercise in order to keep fit. These tips indeed encouraged me to take a very good care of myself."* (**Amerley**)

> *"For me I have a nurse friend who would always call to find out whether I had taken my medicine and that encouraged me to always take my medicine."* (**Alhaji**)

The participants believed that frequent visit to the clinic would promote blood pressure monitoring because the nurse would check the blood pressure and give advice.

> *"As for me, I would encourage everybody to visit the clinic if you have hypertension. Visit the clinic at least twice in a month because you may not know that your hypertension is going up or not. But when you go the nurse would check your BP and advice you."* (**George**)

4.4.2 Information from mass media

This is the information that participants received from the mass media including television, radio, Internet, newspapers and mass campaign that motivated them to practice self-management. For most literate participants, Internet was their main source of information on risk factors and complications of hypertension and how to manage hypertension.

> *"The things I read on the Internet concerning the risk factors and complications of hypertension, encourages me to take good care of myself."* (**John**)

> *"I read. I read a lot. I surf the Internet to collect some useful information on how to take care of myself and this encouraged me to manage my condition. So I encourage everyone with hypertension to resort to the Internet for some useful tips on hypertension management."* (**Martin**)

> *"Personally, I think I have benefited from the Internet. Each time I needed some information on hypertension, I just go online and get some one or two tips. These tips have indeed motivated me to take very good care of myself."* (**Angie**)

Other participants said they get their information on hypertension and how to manage it from television and FM station.

> "*Personally, I like watching Mother Diana on crystal television. She usually talks about a lot of problems including hypertension. Her tips on hypertension have influenced the way I take care of myself.*" (**Yaa**)

> *"I listen to Obonu FM because doctors come there as well. I had a small radio which I used to listen to the doctors when they talked about diseases and how you are to take care of yourself. Last time they even gave a talk on hypertension. So now I know what to do with my hypertension"* (**Rita**)

> *"Sometimes I also get useful tips from watching television. They normally talked about hypertension, what hypertension is, and how hypertension could be controlled by one's self."* (**Akwasi**)

4.4.3 Socio-economic support

This is the assistance or support that is given to people in need. The participants identified various sources of support including the family, and church/friends. Majority of the participants expressed the important role played by their families in the management of their condition. The participants said they really appreciated the effort of their family because they met both their social and economic needs. Most of them said it was their children that bought them medications, paid hospital bills, provided recommended food and escorted them for medical check-up.

> *"My children have been very supportive. They bought all my drugs (sometimes, as much as one hundred Ghana cedis). Sometimes, they cleared their coffers from elsewhere just to foot my bills."* (**Yaa**)

> *"My children take very good care of me. They gave me all the needed support so I am not worried in any way. They paid my hospital bills and gave me food."* (**Comfort**)

> *"My children had been very supportive in diverse ways. Since I was diagnosed with this disease they had never left me alone. They buy me all my medicine, send me to medical check-ups and bought me recommended foods. Ever since my husband died, my children have not neglected me, they always provided for me."* (**Amerley**)

Apart from the above, some of the participants mentioned the role that their spouses played in taking care of their condition. They said their partners supported them to take their medication, pay their hospital bills and transportation fares to and from the hospital.

> *"Upon being diagnosed with hypertension, my husband has been very supportive. He ensured that I took all my drugs based on the prescription from the hospital and also accompanied me to the clinic each time I had an appointment. All my hospital bills and my transportation were also paid by him."* **(Gladys)**

> *"Actually, she was and has been with me from day one that I was diagnosed of this disease and God being so good, everything is okay. I was also being encouraged by my wife to take my drugs and by my father not to worry myself over the diagnosis.… Now I'm okay." (**Joe**)*

Few of the participants were encouraged by their spouses to exercise and eat healthy food.

> *"My husband supported me to take in my medications and made sure that I exercised more. My husband is my source of motivation because he wakes me up early in the morning every day for us to go for jogging and encouraged me to eat only healthy food." (***Joyce**)

The church also supported the participants in the form of organising health screening while other participants were also taken care of by their pastors.

> *"In my case, the church organized a health screening exercise and I happened to be present. So when the team checked my pressure it was very high, I think 180/110 (mmHg). So immediately the doctor referred me to Korle-Bu to see a physician and a dietician. So it was the church that assisted me to know my state and how to take of myself."* **(John)**

> *"I am in a church and it is the church that is supporting me now… I stay in the mission house and I am being taken care of by the pastor."* **(Rita)**

Most of the participants also received encouragement from their friends. They were encouraged by their friends to go for check-up at the hospital because they may be suffering from hypertension.

> "*So I complained to a friend about a pain that I feel under my feet and she encouraged me to go for check- up for it might be BP or menopause.*

> *I visited the hospital and the doctor affirmed that it was indeed BP."* (**Grace**)

> *"It wasn't any doctor that told me I had hypertension. I was first informed by my friend even before I visited the clinic that I had a BP. That is how come I also got to know it was BP. So she encouraged me to go to the hospital for check-up and truly when I went my BP was very high."* (**Comfort**)

4.4.4 Experiences of others

These are occurrences in people's life that encouraged or influenced participants to manage their condition in order to prevent complications. The participants said they had been able to take care of themselves because of the positive experiences of others.

> *"When you meet people, they tell you their experiences and through your conversations with them, you get to know how they treated their conditions. Through that, certain cues may be picked to assist in managing the condition."* (**Gladys**)

However, some of the participants were motivated to take very good care of themselves because of the negative experiences of their relatives.

> *"One of my sisters who had the condition but did not take good care of herself, now wears pampers… The other day I visited her and it was her husband who bathed and wore fix-on diapers on her. I don't want to be in that state so I'm trying hard to take very good care of myself."* (**Comfort**)

Other participants also said their family members suffered from stroke and they didn't want to go through similar experiences.

> *"This was a bitter experience and I wouldn't like to go through same. My father in-law suffered from stroke for three good years and he couldn't do anything for himself till he passed away. We had to always buy pampers and employ people to assist which was an additional cost to us. So I am doing everything possible to take care of my hypertension"* (**Akwasi**)

4.4.5 Desire to live long

This is a person's wish to have a long life. Almost all the participants had the desire to have a long life. The participants managed themselves because they wanted to avoid complications like renal failure, stroke, diabetes and death.

> *"I managed it because I know if I don't manage myself well, the hypertension may bring me renal problem or probably results in death. I am managing it well because I want to live long."* (**Alhaji**)

> *"If I don't take good care of myself, I could get stroke. It could also lead to diabetes; therefore, I have to be taking good care of myself so that I don't get any of these health complications. Also, I want to live long and take good care of my own children*." (**Joe**)

A few of the participants said they wanted to live long in order to see their grandchildren.

> *"Well, for me I wanted to live long because I want to see my grandchildren. To see them and live long if God permits."* (**Grace**)

Other participants also mentioned that if they don't take their drugs, they would die and their children would suffer.

> "*I take my drugs because I have just one child and if I refuse taking the drugs, my demise would adversely affect my child. For this reason, I take my medications seriously.*" **(Rita)**

In response to the research question 'What are the benefits derived by hypertensive patients in practicing self-management in the Accra Metropolis?' the description of the theme perceived benefit of self-management practices in relation to the Health Belief Model was obtained.

4.5 Benefits of self-management practices

This theme describes what an individual thinks he or she may gain or has gained from managing his or her condition. The participants' described the benefits derived from self-management practices with regards to dietary changes, exercising, and adherence to medication and self-monitoring of blood pressure. Furthermore, the participants were of the view that effectively

managing the condition would promote control of blood pressure, prevent complications thereby promoting good health and reduce medical expenses. This theme had three sub-themes which were controlled blood pressure (BP), good health and reduced financial burden.

4.5.1 Controlled blood pressure

Controlled blood pressure was described by the participants as blood pressure being normal. The participants perceived that modifying their lifestyle in relation to diet, exercise, cessation of alcohol and adherence to medication had promoted blood pressure control. Some of the participants mentioned the fact that dietary changes (eating of garlic, pawpaw and watermelon seeds) and exercise such as jogging, improved their blood pressure to 120/80 mmHg.

> *"…the last time I checked my BP, it was 120/80(mmHg) on two different occasions. This was because I ate a lot of garlic, chewed pawpaw and watermelon seeds and did jogging every morning, so my BP is now fine"* (**Alhaji**)

Others also said complying with medication and avoiding alcohol intake, promoted blood pressure control.

> *"The last time I checked, it was 180/110 (mmHg) but when I started the medication and stopped drinking alcohol it had reduced to 130/ 80 (mmHg)."* (**John**)

Some of the participants said taking medicine regularly and eating healthy food would prevent complications and promote blood pressure control.

> *"When you manage it by taking your medicines regularly and eating healthy food, I think it would be controlled and I think all these complications would be avoided."* (**Gladys**)

The participants mentioned that education on diet and medications automatically would promote control of blood pressure.

> *"When they educate you on what you should and should not eat and how you should take your medicine and you did, automatically, your blood pressure would be controlled."* (**Joyce**)

4.5.2 Good health

Good health was one of the sub-themes that participants reported as a perceived benefit. This was viewed by participants as hypertension being controlled without any complications thereby leading to extension of life or long life. Participants expressed this in several ways. To some participants, self-management provided healthy life because they took their medication and stopped eating certain foods

> *"Without my medication, I won't be healthy because my BP escalated seriously. But by adhering to medication, now I'm okay."* (**Joe**)

> *"If not because of the drugs and certain foods that I had stopped eating, I would not be as healthy as I am now or perhaps even being alive. Because the drugs and recommended foods had made me live for long."* (**Comfort**)

> *"All you need to do is to manage your hypertension and your heart's condition would be okay. This will contribute to prolonging one's life."* (**Amerley**)

A few participants believed that management of hypertension would boost the immune system and improve sexual performance.

> *"Managing one's hypertensive condition is highly beneficial. This is because it would boost your immune system and you will be okay in terms of anything, being it in sexual endeavours or anything."* (**Emma**)

Also, the participants said if they took good care of themselves and avoided alcohol intake, automatically, they would be healthy and strong.

> *"Assuming that you have hypertension and you are not drinking alcohol, automatically you would be healthy and strong."* (**John**)

> *"If I take good care of my hypertension, I would get healthy and strong and by God's grace, the BP could get out of my blood."* (**Rita**)

Some of the participants also perceived benefits with regards to undertaking exercise. They claimed exercise would increase their strengths and prevent palpitations.

> *"When I do exercise, I feel as though my strength has been revitalised. Formerly I easily had palpitations but due to the exercise now all those things have ceased. I am now okay."* (**George**)

Others also believed that not only exercising but stopping over eating had made their heart better and reduced weight.

> *"It has benefitted me because in those days when I walked, I felt heavy and my heart would beat. But now that I stopped over eating and I am exercising, I have realized that my heart is better and I feel light… My weight could be as high as 80kg, 70kg but now, when I checked I weigh 65kg… and weighed, it was 63kg"* (**Yaa**)

A few of the participants reported that exercises such as jogging and press-up enhanced their sexual performance.

> *"… now my sex life has been boosted (Laughed). She herself testified and asked if I've taken any drugs (aphrodisiacs) but I told her it was the jogging and the press up that I have been doing."* (**Alhaji**)

Some of the participants' perceived benefit with regards to dietary management such as reduced intake of a meal prepared with corn dough (kenkey) and cessation of alcohol intake.

> *"The benefit is if I watched my…and the diet too, I would be okay because formally I could eat four or three balls of 'kenkey' with fish and pepper and before I ate it, I would consume five cedis worth of alcohol … But I now take only one ball of kenkey and have stopped taking the alcohol so I'm okay. I don't feel too heavy as I used to feel formerly."* (**Emma**)

> *If I manage my diet, I can save my life (cheerfully)."* (**Martin**)

4.5.3 Reduced financial burden

This is where the cost of managing the condition is lessened as a result of effectively managing hypertension. Most of the participants claimed, if a person managed his or her condition very well, there would be no additional diseases or complications for a person to spend money.

> *"When you manage it, you won't get renal disease and other diseases where you have to spend so much money treating these additional diseases but rather you save your money."* (**Gladys**)

> *"You will save money, for instance, assuming you are buying drugs for Ghc100 and you are managing your hypertension, certainly there would be no complications for you to buy more drugs and do investigations but you would save that money… This means that in terms of income, you would be a little bit okay."* (**Rita**)

In response to the research question 'What barriers do hypertensive patients encounter in practicing self-management in the Accra Metropolis?' lead to the description of perceived barriers of self-management practices as an answer based on the Health Belief Model.

4.6 Barriers of self-management practices

These are the things that prevent or are likely to prevent a person from managing his or her condition. It is also the hindrances or possible hindrances that make one incapable of taking good care of himself or herself. Barriers of self-management practices were perceived by participants as erectile problems, frequent urination, low blood pressure and dizziness associated with anti-hypertensive medicines. They also believed that unhealthy lifestyle such as alcohol intake, excessive thinking and stress may prevent them from practicing self-management. Moreover, not complying with medication due to forgetfulness, controlled or reduced blood pressure and inadequate knowledge of condition were mentioned by participants as some of the hindrances to self-management practices. Sub-themes such as adverse effect of

medication, unhealthy lifestyle, financial burden, non-compliance to medication and inadequate knowledge of condition were described.

4.6.1 Adverse effects of medications

This sub-theme referred to the negative and unpleasant effects of anti-hypertensive drugs among hypertensive individuals. Although anti-hypertensive medications facilitate the control of high blood pressure in hypertension management, it may cause adverse effects in some individuals. Almost all the men reported effects on sexual function.

> *"Hmm… I think the drug I took is not good for me. Last year before December, I stopped taking my medications because I realised any time I took the medicine, it weakened my penis…I stopped for one week and that week, I had normal erection."* (**John**)

> *"The drugs at times affect sexuality. At times you can't even be with your own wife and have sexual intercourse because there is no power in your penis. So at times, I normally stopped taking in my drugs three or four days before sex."* (**Emma**)

Other participants also said anti-hypertensive medicines prevents or reduces penile erection which affects sexual performance thereby affecting the chances of impregnating a woman.

> *"I knew the moment you took the drugs (anti-hypertensive), you would have issues with erection and sometimes this affects one's sexual performance which could prevent you from impregnating your wife. But if you were not taking it, I am sure you will be sexually okay."* (**Joe**)

> "*Any time I take my medication my sexual performance deteriorates, but this is not the case when I halt taking in my drugs. This could affect the chances of my wife getting pregnant. In summary, I would say that the medicine had some effects on my sexual performances."* (**George**)

Most of the participants also described their erectile dysfunction in terms of decreased libido.

> *"I could remember that when I stopped taking in alcohol and started the drugs, I didn't perform well sexually and it is true. I didn't feel for sex at all. I had sexual problems which I think it is the… and drugs too."* (**Alhaji**)

> *"Yeah, because I have been taking the drugs, I don't think of having an affair with my wife and even if I did, it was very short."* (**Akwasi**)

However, some of the participants also described their adverse effects of medications with respect to frequent urination. They skipped their medications when going to public places

> *"Some of the drugs (the little ones) cause me to urinate much frequently so usually I do not take it when I am going out."* (**Rita**)

> *"I have it here but did not take it in the morning because if I did, I would urinate but it is expensive to urinate at the clinic... I would have to urinate for about five or six times."* (**Yaa**)

A few participants said the anti-hypertensive medicines made them wet their clothing at night.

> *"…when I take the drug, I urinate a lot. By the time I wake up, all my clothes would have been wet. So I was advised by a lady not to take it every day."* (**Amerley**)

Also, other participants claimed taking anti-hypertensive continuously made their blood pressure low and caused them to experience dizziness.

> *"I must take it every day, but once I do, my BP level falls and then I begin feeling funny in the face."* (**Grace**)

> *"…this is because any time I take the drugs and my BP level drops to 100, I feel dizzy when walking. But when my BP level is at 130 or 140 I feel pretty much okay which is normal with me since I was diagnosed."* (**Emma**)

4.6.2 Unhealthy lifestyle

This is the unhealthy way of living by some individuals or persons with respect to behaviour, level of physical activity and the choice of food. Most of the participants also believed that anger may negatively influence hypertension control.

> *"...because after getting angry for about two to three hours, my heart would be beating hard due to my uncontrollable anger."* (**Joyce**)
>
> *Three days ago, someone got me so infuriated and that kept me thinking."* (**Grace**)

Some of the participants thought of thinking and stress as an unhealthy lifestyle that may inhibit blood pressure control.

> *"Sometimes, even owing your landlord is also another headache on its own. All these could make me stressed which could make my BP go high."* (**Angie**)

Most of the participants also reported on alcohol intake as a hindrance to management of their condition.

> *"I used to take in shots of strong alcoholic drinks such as Alomo (four shots). In most cases I substituted Alomo with 2 bottles of beer and this was enough to take me through the whole day. As for the smoking, I stopped before I was diagnosed of the hypertension."* (**George**)
>
> *"My only problem is drinking alcohol. That is what I'm fighting now…and I'm hoping that by Easter, I would be able to quit it (Laughed). Because the last time I took in alcohol my pressure level escalated. That day, I was a little bit scared and so I did not take in any shots the next day. I went to the clinic to check again and this time my BP had reduced. This is why I want to stop."* (**Joe**)
>
> *"...I stopped drinking alcohol but sometimes when I go to funeral or any other occasion, I took in beer or any spirit but not always. So I'm hoping to stop drinking alcohol during occasions*" (**Grace**)

Few of the participants also mentioned peer pressure as an impediment to high blood pressure control.

> *"Peer pressure could affect hypertension control because your friends could influence you negatively such as going out to drink, smoke or chase women. This lifestyle does not contribute to improving one's blood pressure control. Rarely, you may also forget your drugs or not attach any importance to your medication."* (**George**)

Also, some participant thought that, lack of strong will in terms of dietary management, may inhibit hypertension management.

> *"If you don't have a strong will, you would be tempted to take in certain foods that you think is appetizing which would not facilitate hypertension control and so you need to be strong to have the will power to stick to your principle of dietary management. If you do that your hypertension would be controlled"* (**Martin**)

Some participants were of the opinion that eating plenty salt and red meat would not facilitate hypertension control.

> *"If you always ate plenty of salt and red meat your hypertension would not be controlled. Also fatty and oily foods would not keep the blood pressure down."* (**Angie**)

4.6.3 Financial constraint

Financial constraint is the limitations of an individual's finances. These limitations may arise from participant's effort in managing their condition especially when complications occur which may come with extra cost. Most of the participants mentioned expensive medication, transportation and hospital bills as constraints on their finances.

> *"The drug that was prescribed was very expensive. The money my elder son gave me was what I used to buy the drugs. All that is left is our money for transport. The money (200 Ghana cedis) we brought to the hospital today is finished"* (**Amerley**)

> *"I have no money on me. Should you ask me to pay for anything I will not be able to pay for it. The only money I have is the one I would use for transportation and what I would use at the clinic. I have paid five cedis for the sugar test and all that is left is money for transport back home."* (**Rita**)

Majority of the participants perceived that an individual may not be able to work which may affect their finances.

> *"If you are sick in bed, you may not be able to work to earn a living because you have to take care of your children and pay for your hospital bills too. So financially you would be constrained because you would*

> *have to use the little money that you have saved to pay for extra hospital bills and provide for your family"* (**Gladys**)
>
> *"If you're unwell as a result of stroke or heart diseases; you will not be able to work and you would spend so much money on drugs trying to get better."* (**John**)

Most of the participants said when complications set in, you would visit the hospital more often, buy more drugs and do series of investigations. All these would make you spend much money thereby rendering you financially constrained.

> *"If I do not manage it well and I get a renal disease, I would have to spend more money on it and visit the hospital often."* (**Angie**)
>
> *"If you don't control your hypertension, and complications set in, you may regret later because you would be financially constrained."* (**Rita**)
>
> *"When you get complications you may not be able to work and you would spend so much money buying drugs, doing investigations and paying admission bills."* (**Martin**)

4.6.4 Non-compliance to medication

This sub-theme describes the degree to which patients refused to correctly follow medical advice with respect to medication. A vast majority of the participants had their own reasons for not complying to treatment while others did not have any. Some of the participants thought that if their blood pressure is normal or low, then they have to stop taking the drug for a while and then if it goes up then, they take it.

> "*Hmm, I normally take my drugs three times in a week. But sometimes if I checked my blood pressure and it's risen, then it means I have to take my drugs. But if I checked and it is normal then it means I won't take the drug."* (**George**)
>
> *"I took my drugs depending what I am being told at the hospital. Should they tell me my blood pressure is low, I stop taking the drug for about a week then I go and check again and should my pressure be high, I take it for thirty days and then come for check-up."* (**Yaa**)

Some of the participants were not taking their tablet because they didn't believe and accept their diagnosis.

> *"Even I was asked to take one tablet every day but sometimes I do not take it all. For about two to three weeks now, I have not taken some of the medicines. But whenever I realise that my BP had risen, I have to start taking it since it is the doctor's prescription (although I know I am not suffering from BP)."* (**Grace**)

Participants were not complying with medication because of the negative thing they might have heard about anti-hypertensive medications. This ended up influencing their thought. These were reported as too much intake of the drugs would make them infected.

> *"(Coughs) at times some people do say that if you take too much of the drugs, you could get infected. So what I do is, if I take the drug and I realised that my BP has reduced to about 100, I presume I am okay so I have to wait for a week before I continue. Personally this is what I do because taking the drugs throughout the three to four months, could just affect you."* (**Emma**)

Other participants also stopped taking medications because their blood pressure was not controlled.

> *"Formally, I used to take all the drugs for the thirty days but even after taking the drugs for all the thirty days, I checked and BP was still high. So I decided to stop because my blood pressure was not controlled."* (**Angie**)

Some participants claimed they forget to take their anti-hypertensive and also had no desire to take the drug sometimes.

> *"Sometimes I forget to take the drug especially when I travel to my hometown and sometimes too I just do not feel like taking the drug."* (**Comfort**)

4.6.5 Inadequate knowledge of condition

The above sub-theme describes participant's inadequate knowledge of hypertension and its management. Although most participants had knowledge of hypertension and its management, there were few others who did not have adequate information on the condition. Some of the participants said they didn't know anything about high blood pressure and also didn't know they had it.

> *"As for me, I don't know anything about it. I didn't know that I had high blood pressure. Instead it was when I visited the hospital a week later after my husband had died (because I was not feeling well) that I was diagnosed and told that I had (stammering) . . . high blood pressure."* (**Gladys**)

> *"I don't know whether the sickness brought it; since then my BP kept rising from 120 to 130, 135, 140, 150mg. It kept fluctuating and so I don't know whether I did have hypertension because when they asked me I told them that I am not suffering from hypertension yet they insisted that I was suffering from it…."* (**Comfort**)

The participants also thought that if they take very good care of themselves, their hypertension would be cured.

> *"If I take good care of myself, the hypertension would vanish. But as a human being, hypertension is common to us all, except those who do not show it."* (**Rita**)

A few of the participants thought that continuous intake of drugs could leave you infected.

> *"I assumed that continuous intake of the drugs could get me infected. So personally, the best thing to do was to check it. That way I would get to know the status of my blood pressure so as to know how to control the drugs either by my discretion or that of my doctor's."* (**Amerley**)

4.7 Spiritual belief and disease management

This theme emerged as an additional finding that is not related to the Health Belief Model. The theme describes the role of spirituality in disease management. It is the belief in the existence

of a supernatural being (God) in relation to coping with disease. It includes the faith that a person has in a supernatural being. Spiritual belief was a means by which participants coped with their illness by trusting and relying on God. A vast majority of the participants believed that their blood pressure would not be controlled without the assistance of God. They thought medication adherence and lifestyle modifications are not enough to manage or control hypertension. The participants said, they need to pray to God for Him to assist with their blood pressure control so as to avoid any form of complications.

> *"Taking only the hypertension medicine is not enough to control the blood pressure. So for me I always pray to God so that my hypertension would be controlled."* (**George**)
>
> *"Personally, I believed that if I take my medicines and change my way of living without praying to God, my hypertension would never be controlled and I would end up suffering from stroke."* (**Gladys**)

Most of the participants coped with their disease by believing and trusting in God for healing and good health.

> *"God is in control of everything in this world including man's existence. And because I trusted in him for a healing miracle, ever since I was diagnosed of hypertension, my BP has never resulted in any complications but always under control"* (**Grace**)
>
> *"I would be healthy and not suffer from any form of complications arising from hypertension because I believe in the healing power of my maker (God)."* (**Rita**)

In summary, the findings of this study, revealed the factors that determined self-management practices among hypertensive patients. The study employed the Health Belief Model as a theoretical framework to derive the themes and sub-themes. Narration from the participants revealed four main themes which included knowledge of risk factors and complications of hypertension, motivators of self-management practices, perceived benefits of self-management practices and perceived barriers of self-management practices. Spiritual belief and disease management was also evident as an additional finding which was not related to the Health

Belief Model. Fifteen sub-themes emerged through content analysis and this threw more light into exploring the factors that determined self-management practices among hypertensive patients. This was supported by using quotes to authenticate the findings.

The findings of the study showed that majority of the participants had adequate knowledge of the risk factors and complications of hypertension. Motivators of self-management practices such as information from healthcare providers and mass media, experiences of others, socio-economic support, and desire to live long were very influential determinants in self-management practices among hypertensive patients in this study.

In addition, perceived benefit in relation to controlled blood pressure, good health and reduced financial burden were the driving forces behind hypertension management among participants. Furthermore, perceived barriers with regards to adverse side effects of medication, unhealthy lifestyle, financial constraint, non-compliance to medication and inadequate knowledge of hypertension emerged as some of the inhibiting factors that challenged participants in an attempt to practice self-management in this study. Also spiritual belief and disease management were means by which participants coped with their disease.

CHAPTER FIVE

5.0 DISCUSSIONS

This chapter discusses the findings of the study. The purpose of this study was to explore the determinants of self-management practices among hypertensive patients in the Accra Metropolis. Based on the constructs of the Health Belief Model, four main themes emerged. These themes were knowledge of risk factors and complications of hypertension, motivators of self-management practices, perceived benefits of self-management practices and perceived barriers of self-management practices. Spiritual belief and hypertension management also emerged as an additional theme from the findings of the study which was not related to the Health Belief Model. In the course of the discussion, references were made to the literature reviewed in order to incorporate the findings within the context of nursing knowledge. The objectives for the study were to:

a. Explore hypertensive patients' knowledge of risk factors and complications of hypertension.
b. Describe the factors that motivate self-management practices among hypertensive patients.
c. Explore the benefits of self-management practices among hypertensive patients.
d. Explore the barriers to self-management practices among hypertensive patients.

The discussion is done in relation to the objectives of the study and organised according to the main themes.

Improving hypertension management through self-management practices is recommended worldwide as a strategy to curb the increasing problems associated with hypertension. Currently in Ghana, management of hypertension is largely focused on anti-hypertensive prescriptions by physicians. The findings of this study suggest that patients may serve as an

untapped resource by serving as engaged and active participants in self-management practices among hypertensive patients.

Using the HBM as a guide, this study described several factors influencing hypertensive patients' likelihood of engaging in self-management practices. These include increased knowledge of risk factors and complications of hypertension facilitated by educative information and counselling by physicians and nurses, sufficient cues from clinicians, social support and mass media that may prompt patients to engage in self-management behaviours and the belief that patients should ultimately be involved in ensuring appropriate self-management.

5.1 The knowledge of risk factors and complications of hypertension

Risk factors of hypertension are indicators that may predispose an individual to develop hypertension if necessary steps are not taken to control them. Some risk factors have been identified in literature as predisposing factors of hypertension. Most of these risk factors are associated with individual's lifestyle and can be modified so as to prevent the development of hypertension. These risk factors include alcohol intake, smoking and bad eating habits such as excessive salt and fat intake (Sainju et al., 2015; Srinivas & Satyanarayana, 2015). Other risk factors of hypertension in literature include psychological stress, ageing and genetic predisposition (Khairunnisa et al., 2015; Salaudeen et al., 2014).

The common risk factors of hypertension mentioned by the participants in this study include alcohol intake, smoking, lack of regular exercise and bad eating habits just as noted in other studies (Sainju et al., 2015; Shaikh et al., 2011; Srinivas & Satyanarayana, 2015). First and second year medical and dental students in Sainju et al.'s (2015) study, for instance, reported

a habit of consuming alcohol, less fruit consumption, lack of regular exercise, smoking and family history as some of the potential risk factors of hypertension.

A few of the participants in this study were of the view that hypertension is genetically inherited, thus, a familial history of hypertension is a predisposing factor as reported in other studies (Sainju et al., 2015; Salaudeen et al., 2014). In the study by Salaudeen et al., (2014), bankers and traffic wardens both reported family history as a risk factor to development of hypertension. Other risk factors enumerated by few of the participants were excessive thinking, stress, and ageing just as reported by these studies (Mlunde, 2007; Sowemimo et al., 2015). Ageing was found to be associated with hypertension in the study by Sowemimo et al., (2015). Other risk factors mentioned by Sowemimo et al., (2015) were alcohol consumption and smoking. Mlunde (2007), in her study mentioned stress and consumption of fatty foods as the commonest risk factors of hypertension. Other risk factors reported by Mlunde (2007) were alcohol consumption, smoking and lack of exercise.

Alcohol consumption, smoking, lack of regular exercise and bad eating habits reported by the study participants as the commonest risk factors of hypertension demonstrate that hypertensive patients in the study setting are much aware of the effects of these unhealthy lifestyles on their risk of developing hypertension. This means that many of them are unlikely to engage in these risk factor behaviours for hypertension. This may assist in improving their blood pressure control and avoid development of complications. However, the observed report of ageing, psychological stress and family history among only few of the participants in this study suggest that hypertensive patients in the study setting are likely to ignore these risk factors as having association with the development of hypertension. Therefore, there is the need for a multi-disciplinary approach to proper counselling, education and management of hypertension among patients and the general public. Interventions that improve patients' health knowledge

could help patients incorporate and sustain the lifestyle changes necessary for hypertension control. Given the various risk factors reported by the participants, patients could also benefit from interventions that simultaneously address multiple factors influencing patients' blood pressure control.

Most of the participants in the current study had adequate knowledge of hypertension and its risk factors. Most of the participants cited alcohol consumption, smoking, lack of regular exercise and bad eating habits as risk factors to development of hypertension. The increased awareness of risk factors for development of hypertension observed in this current study, is supported by other studies (Khairunnisa et al., 2015; Sowemimo et al., 2015). Khairunnisa et al., (2015) observed a high level of awareness (80% of participants) in their study. However, the finding of an increased awareness of risk factors of hypertension in this current study is not supported by other studies (Diwe et al., 2015; Mlunde, 2007; Oladapo et al., 2013; Wijayathunge & Hettiaratchi, 2015). Mlunde (2007), in her study, observed that only 19.75% of the general population in Dares Salaam had knowledge of the risk factors of hypertension. Diwe et al., (2015) also noted a poor level of awareness of risk factors of hypertension among their banker participants (19.6%) in their study. Oladapo et al., in 2013 also reported a general poor level of knowledge of cardiovascular diseases like hypertension and its risk factors among rural south-western Nigerians with about 56% of the participants being unable to identify a single risk factor of cardiovascular diseases. The few that were able to identify a cardiovascular risk factor, even did it with some misconception. In this current study, the population under study were hypertensive patients. However, the studies by Mlunde (2007), Diwe et al., (2015), Oladapo et al., (2013) and Wijayathunge and Hettiaratchi (2015) were done among non-hypertensive individuals. This may explain the difference in findings because they did not have the disease and therefore had no reason to know about the risk factors of the disease. This misperception by non-hypertensive patients may affect the likelihood of engagement in

lifestyle modification behavioural changes. Therefore, the presence of a disease may increase one's chance of seeking knowledge about the disease, including its risk factors in an attempt to properly manage the disease. Oladapo et al., (2013), for instance, noted that a positive family history of cardiovascular disease and the presence of a disease were more likely to improve the level of knowledge of the disease and its risk factors.

Some complications of hypertension have been cited in literature. These complications usually arise as a result of poor management of hypertension. These complications include stroke, heart attack, renal failure and even death (Brunner et al., 2010). Therefore, awareness of these complications of hypertension can influence one's perception of self-management practices in an attempt to prevent the development of these complications.

Most of the participants from this study were aware of the consequences or the complications of hypertension. The complications mentioned by most of the participants in this study were stroke, heart attack, renal failure, diabetes and death. The increased awareness of complications of hypertension observed in this study is supported by other studies (Abdullahi & Amzat, 2011; Mendis, 2013; Sawicka et al., 2011). Abdullahi and Amzat (2011) noted a high level of knowledge of the complications associated with hypertension among staff of a university in Ibadan. The increase in awareness of complications of hypertension observed in this current study is not supported by Zafar et al., (2008), who noted a low level of awareness of hypertension complication among both hypertensive and normotensive patients (Zafar et al., 2008). Though part of the population studied by Zafar et al., (2008) were hypertensive patients, these patients had a very poor level of awareness regarding risk factors and complications of hypertension which is not evident in this current study. The reason may be that the participants in this current study are well informed than those studied by Zafar et al., (2008). This was the case as most of the patients admitted obtaining information from their healthcare providers and

the mass media. The availability of information on a disease to a patient can affect his/her level of knowledge about the disease. Oladapo et al., (2013) in their study supported the view that the availability of information through family/friend/opinion leaders of trusted groups, the media (including radio, public enlightenment programmes, and newspapers), and the doctor/nurse/health worker can affect one's level of awareness on hypertension (Oladapo et al., 2013). In this current study information from the mass media and healthcare providers were some of the sources of motivators for the participants in adopting self-management practices of hypertension. Abdullahi and Amzat (2011) also observed that the level of awareness of hypertension complications were also influenced by one's level of education and therefore a difference in the level of education of the population in this current study compared to that of Zafar et al., (2008) can also explain the difference in results. However, the level of education of the participants in this study was not assessed.

The participants also stated that complications of hypertension can impact negatively on their employment, sexual function, marriage, relationships with children and their entire family. Awareness of social impact of complications of hypertension can be a strong determinant for self-management practices as this can facilitate adoption of positive lifestyle and reinforcement of medication adherence in an effort to avoid these negative social impacts (Almas et al., 2012).

5.2 The motivators of self-management practices

Motivation has been established as a significant factor in health behaviour. It has therefore been employed in most health behaviour theories (Xu, 2009). Motivators generally influence a patient's perception and therefore may lead to effective compliance, strict adherence to recommendations and a positive attitude towards change (Golay et al., 2007; Millere et al., 2014; Rajpura & Nayak, 2014). Several factors have been identified in literature as sources of

motivation of self-management practices among hypertensive patients. These sources include healthcare providers, family/friend/peer support and social norms (Houston et al., 2012; MacKichan et al., 2012; Minatodani et al., 2013).

Majority of the participants in this current study recalled receiving motivational educative information on risk factors, complications and management of hypertension, adherence to medication, lifestyle modification and self-monitoring of blood pressure from their healthcare providers including physicians, nurses and dieticians. The identification of healthcare providers as a source of motivation for self-management practices among hypertensive patients in this study has also been reported in other studies (Chuang et al., 2011; Mathew et al., 2012; Minatodani et al., 2013; Shen et al., 2013; Viera et al., 2008a; Viera et al., 2008b). Viera et al., (2008) in two separate studies on hypertension made a similar observation that most patients with hypertension using home blood pressure monitoring do so because of a doctor's recommendation. Matthew et al., (2012) also reported patients' desire for physician support for both practical and affective aspects of self-management. Chuang et al., (2011) in their study on hypertensive patients concluded that patients gain health benefits through self-management by working with their clinical team. Minatodani et al., (2013) also observed that patients who receive support from nurses were able to identify changes in their health status, showed improved responsibility, self-efficacy and motivation to change their health behaviour. Shen et al., (2013) also found a good relationship with healthcare providers as a source of motivation in health behaviour changes.

The findings of this study and the supporting literature show that engaging patients in their own care improves health outcomes. This observation was also reported by the World Health Organization (World Health Organization, 2011). From this current study, healthcare professionals play a vital role in this engagement by thoroughly educating their patients on

their chronic condition, organising educative screening sessions as well as organising educative workshops on complications and proper managements of patients' chronic conditions. Patients are more likely to carry out instructions and counselling received from their healthcare professionals and also modify an unhealthy lifestyle on a healthcare professional's recommendations as noted by Viera et al., (2008).

In this study, there was an increased level of healthcare providers' participation in modifying their hypertensive patients' lifestyle. This should be encouraged and improved. This is of essence because it has also been noted that patients who are able to relate to their healthcare providers and therefore are able to openly discuss their concerns and doubts with them have better health outcomes with blood pressure control (Kagee, Le Roux, & Dick, 2007). Healthcare providers should have time and patience to educate their patients for an optimum outcome. This is because low counselling rates has been associated with poor compliance of self-management practices and even resorting to advice and healing from other sources other than healthcare professionals (Goudge et al., 2009; Huang et al., 2004; Lotika et al., 2013). Therefore, interventions that enhance patients' relationships with healthcare providers, reduce clinic waiting times, improve engagement with clinic outreach programs and connect patient and community resources may improve patients' adherence to hypertension self-management behaviours.

Healthcare professionals in the study setting owe it a responsibility to continuously interact with, explain to and educate their hypertensive patients so as to improve their quality of life by improving their self-management practices. This is because patients from such a low socio-economic setting often lack health literacy, self-efficacy and material resources to cope with the full extent of burden imposed by self-care or self-management (Mshunqane et al., 2012).

Furthermore, the current study found out that the mass media is an important source of motivational information for hypertensive patients in the study setting with regards to cues to action for self-management practices. In fact, the use of the mass media was the most common source of cues to action for self-management practices among hypertensive patients in this study. The sources mentioned here by the participants include the use of the Internet (commonest), tele-health education, radio station health education programs, newspaper publications and mass campaigns. This finding is similar to those of other studies (de Jongh et al., 2012; Glynn et al., 2010; Go et al., 2014; Mancia et al., 2013; Rasmussen et al., 2014). de Jongh et al., (2012), for instance, reported mobile phone messaging as an intervention providing benefits and support with self-management practices in long-term illness. Glynn et al., (2010) also observed that appointment reminders via emails and mobile phones provided a support for regular clinic attendance among hypertensive patients. Contemporary healthcare is increasingly being influenced by patient centred care. Greenhalgh et al., (2013) reported that patients are increasingly being motivated to self-monitor their blood pressures, record and report these to their clinicians via the use of electronic devices and Internet (Greenhalgh et al., 2013).

Various documentations, protocols, guidelines and programmes are available on the Internet, radio stations, newspapers and television stations and hypertensive patients are being encouraged to use these sources of information as a motivating factor to effective self-management practices (Norris & Kilbride, 2014; Riley et al., 2013; Shen et al., 2013). The information from these sources increases patients' participation in their hypertensive care (Go et al., 2014; Mancia et al., 2013). Therefore, traditional and online media should be encouraged to run more health programmes especially issues on hypertension. In addition, journalists training institutions should have specialised courses on health communications so that,

journalists can undertake or encourage more health educations on different health conditions including hypertension.

Social support was also identified by the participants as a source of motivation for self-management of hypertension. Majority of participants had support from nuclear family, thus spouses and/or children in terms of regular serving of their medications, payment of hospital bills and bills of medications, accompanying them on regular clinic visits and advising them on regular exercise and healthy eating habits. Few participants also admitted receiving social support from their friends and churches. Researchers have previously shown that family, friends and churches support can have a powerful influence on patients' long-term hypertension control and associated decrease in morbidity and mortality (Botha & Du Plessis, 2009; Flynn et al., 2013; Osamor, 2015; Shen et al., 2013; Shen et al., 2016; Srichairattanakull, Kaewpan, Powattana, & Pichayapinyo, 2014; Vaccaro, Exebio, Zarini, & Huffman, 2014). Shen et al., (2016) in their study on supervision of patients with hypertension noted that family members' involvement in supervision of hypertensive patients improved patient's blood pressure, adherence to medication and also improved frequency of home blood pressure monitoring. Botha and Du Plessis (2009) also reported family support as a facilitator to self-management practices among South Africans with essential hypertension. In a study by Osamor (2015), 93% of the hypertensive participants reported receiving social support from families whilst 55% reported receiving social support from friends. Vaccaro (2014) identified family/friend support as an important factor having a major impact on critical health practices including self-management.

The findings in this study suggest that encouraging social support from family, friends and churches may aid patients' hypertension self-management. They also suggest that, for instance family members and friends may desire their own interventions. Family members and friends

may benefit from increased health knowledge about hypertension and its associated comorbidities. Future interventions could jointly engage patients and friends/family/church members to collaboratively identify ways by which these members can help patients sustain motivation for behaviour change and achieve their hypertension self-management aims. Interventions could also encourage these members to take a participatory role during patients' clinic visits while still respecting patients' autonomy to make decisions and guide patient-healthcare provider discussions.

In this current study, the participants reported their experiences with the complications of hypertension, and shared experiences of complications by other patients at clinic visits and also outside the hospital as a cue to adoption of self-management practices. This finding is supported by other studies (Bokhour et al., 2012; Viera et al., 2008a; Viera et al., 2008b). Viera et al., (2008b), for instance, reported that hypertensive patients who have suffered complications such as transient ischaemic attacks or stroke are likely to adopt and adhere to self-management practices. Bokhour et al., (2012), reported that patients' perception of the cause and the course of hypertension and their experiences with symptoms have an influence on hypertensive self-management behaviours.

Hypertensive patients adopt and adhere to self-management practices on account of previous experience of a complication so as to prevent the worsening of the complication or the development of new complications. This finding can be explored and used as a means of encouraging most hypertensive patients on proper self-management practices. Most hypertensive patients who have suffered these unfortunate complications can be encouraged to be involved in educating and sharing their experiences with their fellow hypertensive patients and therefore encourage compliance with lifestyle modification and treatment recommendations and hence avoid complications.

Almost all the participants desired to live a long life in spite of their diagnosis and this desire served as a motivating factor, assisting them to engage in self-management activities such as adherence to medication regime and taking seriously advice given them by their clinician. This finding is supported by the observation made by Newton et al., (2015) who reported that patients with chronic diseases desire to stay well and live long is a motive for self-management (Newton et al., 2015). Therefore, hypertensive patients need to be encouraged to effectively engage in self-management practices such as adherence to medication, lifestyle modification and self-monitoring of blood pressure in order to control blood pressure. This in effect will prolong one's life, thereby meeting the desire to live long.

5.3 The benefits of self-management practices

All the participants perceived self-management practices to be of a benefit in controlling their blood pressure. They argued that self-management practices have contributed to either normalize or reduce their blood pressure and has prevented development of complications associated with hypertension. This finding is supported by other studies (Maciejewski et al., 2014; Penaloza-Ramos et al., 2016). Maciejewski et al., (2014), found that self-management practices can improve hypertensive patients' systolic blood pressure. In their trial, hypertensive patients' blood pressure was improved and sustained up to 18 months after the completion of the trial. Penaloza-Ramos et al., (2016), also reported a blood pressure lowering effect by self-management practices which were sustained for not less than a year. These studies clearly demonstrate the benefits of self-management practices on blood pressure control which can be prolonged if the self-management practices are sustained.

The prevention of development of complications by self-management practices as reported by the patients is supported by other studies (McManus et al., 2010; McManus et al., 2014). Self-

management practices do not only improve the blood pressures of well controlled patients but also in patients with poorly controlled blood pressures and in those with higher cardiovascular risk. McManus et al., (2010) reported a reduction in poorly controlled hypertensive patients' systolic blood pressure at 6 and 12 months by self-management practices. McManus et al., (2014) noted a reduction in the development of cardiovascular complications and blood pressures on adoption of self-management practices in hypertensive patients.

This perception of the participants on self-management of hypertension is of importance as it serves as a fuel in involving them in their self-assessment, self-monitoring and self-titration of medication and therefore achievement of a better health outcome (Mancia et al., 2013; Uhlig et al., 2013; Writing Group of the Premier Collaborative Research Group, 2003; Xue et al., 2008). Also, hypertensive patients should be encouraged to get their personal blood pressure machine to assist with effective self-monitoring of blood pressure. Besides, hypertensive patients should be reminded of their appointment date by healthcare providers through mobile phone calls and text messages.

The participants perceived self-management practices to improve good health with the potential of prolonging their life. This perception was reported in various forms including absence of complications of hypertension, boosting their immune system, improving sexual performance and reduction in weight. This finding is supported by other studies (Burke et al., 2007; Elmer et al., 2006; Kaambwa et al., 2014). Kaambwa et al., (2014), for instance, noted that not only does self-management reduce patient's blood pressures but it also prevents cardiovascular complications in higher risk populations. Burke et al., (2007), also found that self-management practices can improve one's health by means of weight reduction, a decrease in waist circumference and a reduction in blood cholesterol. These factors can prolong one's life.

Most participants perceived a reduced financial burden as a benefit on adoption of self-management practices. They argued that this benefit is as a result of reduced spending of money on investigations and purchasing of drugs used in managing complications developed from hypertension. Self-management practices have long been known to have a long-lasting effect which can be translated into a reduction in healthcare cost and utilization (Carter et al., 2010; Green et al., 2013; Penaloza-Ramos et al., 2016; Wentzlaff et al., 2011). Penaloza-Ramos et al., (2016) in their study on cost effectiveness of self-management of blood pressure in hypertensive patients observed that self-management practices do not only improve patients' blood pressure control, but also serve as a means of reducing the cost on healthcare resources. The reduction in financial burden through self-management is of importance as resources can be channelled to other more important health interventions as well as to the very needy thereby reducing the financial burden on health insurance system as well as national budget for chronic healthcare. This reduction in financial burden on patients can also reduce stress and depression in hypertensive patients who are not financially sound and therefore can avoid exacerbation of erratic blood pressures with antecedent complications. Hence, hypertensive patients need to be adequately educated on self-management approaches and motivated to carry out those measures so as to improve hypertension control and prevent complications of hypertension. This will eventually reduce the cost of hypertension management.

5.4 The barriers of self-management practices

Adverse side effects of medication were identified by some of the participants as a barrier to adoption of self-management practices. Some of the side effects enumerated by the participants were erectile dysfunction, frequent urination, low blood pressure and dizziness. Almost all the men involved in the study reported erectile dysfunction as a barrier. This finding is consistent

with other previous research findings (Benson & Britten, 2006; Burnier, 2006; Chao et al., 2005; Huen & Goldfarb, 2007; Knight et al., 2001). Benson and Britten (2006), for instance, reported that most hypertensive patients attribute palpable effects to their anti-hypertensive medications. Some of these palpable effects are unwelcome by the patient. As a result of these unwelcome effects, some patients may modify their medication regimen, stop their medication altogether or even counter unwelcome side effects by other means.

Side effects of anti-hypertensive medication are a common barrier to adherence to medication (Huen & Goldfarb, 2007). This barrier usually has a serious consequence as patients may suffer from complications secondary to non-adherence. Most hypertensive patients are likely to have other chronic conditions such as diabetes and therefore may be on other several medications which predispose them to more side effects (Anthony et al., 2012; Boutin-Foster et al., 2007; Fort et al., 2013). Patients however, need to be well educated on these side effects and possible complications on stopping these medications (Oliveira et al., 2013). It is important for clinicians to also bear in mind these complications and if possible prescribe the barest minimum number of medications to avoid drug interactions and side effects. If possible patients should be given drugs and advised on how to counteract the unwelcome effects of drugs being given them.

The participants mentioned unhealthy lifestyles such as excessive smoking, drinking of alcohol and womanizing as a barrier to adoption of self-management practices. Though the participants accept the benefits that they could derive from self-management practices, they also noted that peer pressure was one factor that influenced them to participate in the above unhealthy lifestyles. Unhealthy lifestyle behaviours including peer pressure, negative emotions and stress have been identified as a common barrier to self-management of hypertension (Flynn et al., 2013; Khatib et al., 2014; Murphy et al., 2015). Some of the participants also mentioned

excessive thinking, stress, anger and lack of strong will as a barrier to self-management practices. As found in other studies, psychological barriers such as depression and emotional distress may pose a challenge to self-management (Kelly & Lynes, 2008; Pun et al., 2009; Riegel et al., 2011). Some of the participants in this study identified lack of strong will to practice self-management just as noted in a study by other studies (Flynn et al., 2013; Fort et al., 2013; Jolles, Padwal, Clark, & Braam, 2013). Therefore, behavioural counselling in these patients targeted at their lifestyle modification can be exploited in improving self-management practices (Haynes et al., 2008).

Similarly, some participants identified financial constraints as a perceived barrier to self-management practices. They reiterated that financial limitations led to irregular clinic visits, inability to purchase medications, inability to afford healthy diet and inability to afford necessary investigations. Poor attendance to clinics and cost of medication were identified by some researchers as a barrier to hypertension self-management in other studies (Thalacker, 2011; Utz et al., 2006). Chronic conditions like hypertension often results in physical disability secondary to complication such as stroke which may decrease one's strength and ability to work. This can reduce the income level of the patient and therefore serve as a source of financial constraint and hence a barrier to hypertensive self-management (Nam et al., 2011; Oliver et al., 2010; Pun et al., 2009). According to Bayliss et al., 2007, resources are needed to support self-management and so a patient's socio-economic position is of essence. Therefore, the support offered through Ghana's national health insurance for continuous monitoring and treatment of chronically hypertensive patients may be inadequate for self- management.

Non-compliance to medication was identified in this study as a barrier to self-management practices. The reasons for this non-compliance were refusal of patients to accept their diagnosis, poor understanding of hypertension management (patients stopping their medication

when blood pressures are low, and taking it only when the blood pressures are high) and forgetfulness. Some researchers have reported failure of acceptance of diagnosis as a perceived barrier to hypertension self-management (Anthony et al., 2012; Fort et al., 2013). Patient denial and therefore non-adherence to anti-hypertensive has also been reported as a common issue reflecting a conscious effort made by the patient based on his perceptions and knowledge regarding hypertension and its treatment (Anthony et al., 2012).

However, hypertensive patients who perceive their blood pressure as uncontrolled may have intensions to make health enhancing changes but may lack the knowledge to do so (Gee et al., 2012). Some consider their disease to be at a manageable state and therefore do not adhere to medication (Fort et al., 2013). There is the need for healthcare providers, to orient their advice and counselling towards imparting information to patients at different stages of the condition. Even those who have had hypertension for so many years still need to have some form of strategic counselling and education about their disease condition instead of following the usual routines at clinic visits (Fort et al., 2013). Patients may also forget to take their medications (Chao et al., 2005), therefore it may be appropriate to involve families, close relatives, friends or even churches in the management of hypertensive patients so as to improve on their self-management (Gallant, Spitze, & Grove, 2010; Levy-Storms & Lubben, 2006; Miltiades & Wu, 2008; Truter, 2007).

Inadequate knowledge of hypertension and its management was mentioned by few of the participants as a barrier to self-management practices. The reasons given for this were poor understanding concerning their long term medication regimen and unawareness of their diagnosis. One's knowledge about a chronic condition is an influential factor in the person's ability to optimize self-management practices. Low health literacy can be a source of barrier to self-management practices (Macabasco-O'Connell et al., 2008; Riegel et al., 2011). Healthcare

providers must therefore make every effort to simplify, tailor and individualise patient care and education so as to reduce this barrier to self-management (Nath, 2007). As stated earlier, the participants either had poor understanding concerning their long term medication regimen or they were unaware of their diagnosis. This can stem from their physicians being a barrier themselves as a result of their failure to adhere to recommended treatment guidelines and also their failure to accept factors such as social, economic and lifestyle impediments as a barrier to self-management in hypertension and therefore not educating their patients accordingly (Hill & Sutton, 2000; Hyman & Pavlik, 2000; Oliveria et al., 2002).

5.5 Spiritual belief and disease management

This theme emerged from the findings of this study even though it was not originally part of the Health Belief Model. The theme describes the role of spirituality and disease management.

Spirituality is defined as a faith in a transcendent force; personal relationships with God, self and others; and transformation of and consolation from adversity (Lewis, Hankin, Reynolds, & Ogedegbe, 2007). Personal relationships with God, self and others can be explained as a feeling of linking, closeness and communion to God and inner self as well as interrelatedness with others (Banks-Wallace & Conn, 2002; Lewis et al., 2007). Previous research has reported that the feeling of relatedness with God, self and others increases social support in health among African Americans. This social support facilitates health by preserving a person's self-concept, promoting coping efforts, enhancing strategies of solving problems and avoiding environmental stressors exposure (Banks-Wallace & Conn, 2002). Transformation and consolation empowers an individual. This empowerment involves a sense of inner strength that enables an individual to overcome adherence barriers and adopt health promotion practices

(Lewis et al., 2007). This transformation and consolation has been identified as being very strong among Africans (Johnson, Elbert-Avila, & Tulsky, 2005).

Spirituality has been identified strongly in research as an important protective factor in prevention of and dealing with health related problems in African community (Lewis, 2004). Spirituality has been proposed to influence self-care and blood pressure control (Miller Jr, 2006). Faith in God is known to provide people with a way and leadership in decisions concerning health promotion activities and disease treatment. Spiritual activities such as fasting and praying have been observed to empower and assist people in making choices related to health practices (Drayton-Brooks & White, 2004).

It is therefore apparent from the above literature that spiritual belief plays a significant role in disease management especially by promoting healthy practices that improve diseases.

Some of the participants in this current study expressed their belief in a supernatural existence (God) as a coping mechanism with adherence to self-management practices. They further explained that their belief in God reinforces their lifestyle changes as in maintenance of cessation of smoking and abstinence from drinking of alcohol. The finding of influence of spirituality on hypertensive self-management practices in this study is supported by other studies (Kretchy, Owusu-Daaku, & Danquah, 2013; Lewis & Ogedegbe, 2008; Watkins, Quinn, Ruggiero, Quinn, & Choi, 2013). Yashika J. Watkins et al., (2013) demonstrated a significant relationship between spiritual and religious beliefs and self-care practices among diabetics and hypertensive patients. Lewis and Ogedegbe (2008) reported that spirituality is a significant part of hypertensive self-management practices which positively promotes medication adherence and blood pressure control among hypertensive patients. Kretchy, Owusu-Daaaku and Danquah (2013) observed that spiritual and religious beliefs form

important part of a hypertensive patient's lifestyle which may directly influence medication non-adherence.

The identification of spirituality in hypertensive self-management practices in this study is very crucial. This can be used by healthcare providers who care for hypertensive patients by making sure that individual's beliefs are incorporated into the patient's management plan as this can positively reinforce self-management practices. From the current study, the participants who identified spirituality as important in self-management of hypertension, mentioned avoidance of unhealthy lifestyles such as alcohol consumption and smoking as a means by which their spirituality reinforces their self-management practices. Healthcare providers may also win their patients trust when they incorporate their patients' spiritual and religious beliefs into their management plan. This can positively reinforce strict adherence to recommendations and clinical advice. Future interventions incorporating patients' self-identified supports for self-management such as religion or spirituality may also improve patients' self-management behaviours.

5.6 Relevance of the model

The Health Belief Model developed by social psychologists, Hochbaum, Rosenstock, Leventhal and Kegels in 1950 was employed in this study. The HBM originally had four main construct which are "perceived susceptibility to disease", "perceived seriousness or severity of disease", "perceived benefits" and "perceived barriers". This was later extended to include three other construct which are "cues to action", "modifying factors" and "self-efficacy". The main concept of this model is that health behaviour is stimulated by individual perceptions about a disease and the measures available to reduce its occurrences (Rosenstock, 1974). The HBM was relevant to this present study. The construct "perceived susceptibility to disease"

explains that people who are at risk to a disease are likely to do something to prevent it from happening and this portrays the participants' ability to determine the risk factors of hypertension. In line with the study findings, participants avoided alcohol consumption and smoking to prevent the occurrence of hypertension. Again "perceived seriousness or severity to disease" speaks to an individual's belief about the seriousness or severity of a disease and this was described by participants' knowledge of complications of hypertension in this study. In relation to the study findings, participants managed their hypertension to avoid stroke, heart attack, renal problems, diabetes mellitus and death.

Moreover, "the motivators (cues to actions)" are described as events, people, or things that move people to change their behaviour and these include illness of a family member, media reports, mass media campaigns, advice from others, reminder postcards from a health care provider, or health warning labels on a product (Chao, & Berman, 2013). Apart from the reminder post cards, all the others were explicitly mentioned by the participants in this present study which support the theoretical framework. Furthermore, the construct "perceived benefits" describes a person's opinion of the value or usefulness of a new behaviour in decreasing the risk of developing a disease. This was demonstrated by participants in the form of stating controlled blood pressure, good health and reduced financial burden as some benefits that may be generated from self- managing the disease which is consistent with the construct of HBM. In accordance with the present study findings, this was noted by participants as taking their antihypertensive medications and exercising to promote good health.

Another construct of the HBM is "perceived barriers" and this addresses an individual's own evaluation of the obstacles inhibiting new behaviour. Participants were able to identify some of the obstacles and this included adverse side effect of medications, unhealthy lifestyle, non-compliance to medication, financial constraints and inadequate knowledge as barriers to self-

managing the disease and this is congruent to the construct of the HBM. As an evidence from the study findings, participants mentioned that intake of antihypertensive medications could have effect on sexual performance.

In sum, apart from the construct of self-efficacy where there was no data to support this, the researcher can say that, the theoretical framework was able to address pertinent issues raised in this study. The model, however, falls short of addressing the finding on spiritual belief and disease management which describes the role of spirituality in managing a disease.

5.7 Conclusion

In conclusion, hypertensive patients in this study were aware of the risk factors and complications of hypertension. The risk factors identified in this study were excessive alcohol intake, smoking, bad eating habits, stress, ageing and familial predisposition. The complications identified in this study include stroke, heart attack, renal failure, diabetes mellitus and death.

Hypertensive patients in this study were aware of motivators of self-management practices and mentioned healthcare providers, support from family and friends, the mass media, shared experiences of other patients on complications and the wish to live a long life as a motivational source of self-management practices.

Hypertensive patients in this study acknowledged the benefits derived from self-management practices, including reduction in blood pressure, improvement of quality and prolongation of life, weight reduction, improving sexual function, boosting immune system, and reduction in financial burden.

The participants also admitted that self-management practices have barriers and mentioned adverse side effects of medication, unhealthy lifestyle from peer pressure, financial constraints, refusal to accept diagnosis, inadequate understanding of hypertension and its management and forgetfulness with regard to medication adherence as some of the barriers to self-management practices.

Spiritual belief and disease management emerged as an additional finding that is not related to the HBM. This was described by the participants as a spiritual belief in the existence of a supernatural being (God) that assisted them to cope with the disease.

CHAPTER SIX

6.0 SUMMARY, IMPLICATIONS, LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of the study, implications of the findings, the limitations, conclusion and recommendations.

6.1 Summary of the study

The study explored the factors that determined self-management practices amongst hypertensive individuals. The study was guided by the Health Belief Model. Data collection commenced following receipt of ethical clearance by Noguchi Ethical Review Board and approval by Korle-Bu Teaching Hospital. The semi-structured interview guide was pretested at Korle-Bu polyclinic to make sure that unclear questions were well restructured to ensure clarity and prevent ambiguity. It was also meant to ascertain responses of participants as per the set objectives. Concurrently, participants were recruited, interviewed and data transcribed verbatim. This began in December, 2015 and ended in March, 2016. The participants who consented to partake in the research were made to sign a consent form. The data collected was audio taped and transcribed verbatim after which data analysis was done based on the constructs of the Health Belief Model and other themes that emerged from content analysis.

The findings of the study revealed the determinants of self-management practices amongst hypertensive patients. Narration from the participants revealed the themes which included knowledge of risk factors and complications of hypertension, motivators to self-management practices, perceived benefits of self-management practices and perceived barriers to self-management practices. Spiritual belief and disease management was also evident as an additional finding which was not related to the Health Belief Model. Fifteen sub-themes

emerged through content analysis and this threw more light on exploring the factors that determined self-management practices among hypertensive patients. This was supported by using quotes to authenticate findings.

The findings of the study showed that majority of the participants had adequate knowledge of the risk factors and complications of hypertension. Motivators of self-management practices such as information from healthcare providers and mass media, experiences of others, socio-economic support and desire to live long were very influential determinants in self-management practices among hypertensive patients in this study.

In addition, perceived benefit in relation to controlled blood pressure, good health and reduced financial burden were the driving forces behind hypertension management among participants. Furthermore, perceived barriers with regards to adverse side effect of medication, unhealthy lifestyle, financial constraint, non-compliance to medication and inadequate knowledge of hypertension emerged as some of the findings that challenged participants in an attempt to practice self-management in this study.

6.2 Implications

From this present study, implications with respect to nursing education, nursing practice, nursing research and policy formulation were indicated as follows:

6.2.1 Nursing education

The positive attitude of nurses and other health professionals was seen as a motivator that enhanced engagement of self-management practices amongst participants. This needs to be encouraged so as to lift the image of the nursing profession as well as other health professions. Therefore, the curriculum of all categories of nurses as well as other health professionals in the training institutions should be reviewed and upgraded to reflect the changing health needs of society. Also, communication skills should be properly taught and guidance and counselling should be infused into the curriculum as a course on its own. This will enhance the knowledge and skills of nurses and other health professionals so as to enable them provide tailor-made services to hypertensive patients or clients. In addition, Continuous Professional Development (CPD) and or in-service training should be organized on regular basis for the nurses especially those at Medical OPD taking care of hypertensive patients or clients, in order for them to be abreast with current policies on hypertension management. Lastly, ethics of nursing should be adequately taught in order to equip the trainee nurses with the knowledge and skills of handling ethical issues of patients.

6.2.2 Nursing practice

From the study, the findings revealed that actively involving hypertensive patients in care giving, promotes good health and stimulates self-management practices. Hence there is the need to use standardize assessment and monitoring tools in the clinical setting so as to objectively assess and monitor hypertensive individuals' blood pressure levels. Moreover, the professional nurse should be well oriented with current hypertension management guidelines in order to identify hypertensive patients who are likely to default and have defaulted hypertension management (medication adherence, recommended healthy lifestyle and

monitoring of blood pressure) so as to put strategic measures in place to mitigate such occurrences. The use of social media such as WhatsApp®, Viber®, Imo®, Twitter®, Facebook® among others and phone calls and emails to remind them of their medical appointments will be a very good initiative. Again, the professional nurse should be well informed on self-management support approaches so as to be able to educate and provide the necessary support to clients to stimulate self-management practices. Also, as part of the CPD programs and in-service training, sessions should be held for basic computer literacy to equip the professional nurse in order to enhance nursing practice.

6.2.3 Nursing research

Further studies need to be conducted on the various main themes that emerged from this study. That is to say that, in-depth studies on each of the themes of this study, such as "The motivating factors of self-management practices among hypertensive patients", "The perceived benefits of self-management practices among hypertensive patients." and "The perceived barriers to self-management practices among hypertensive patients." Conducting separate research on each of these themes will yield detailed and rich information that will assist in managing hypertension effectively, thereby reducing morbidity and mortality rate. Another area of research interest is the development of determinants of self-management practices monitoring tools to effectively measure self-management practices amongst hypertensive patients. This will also provide a more detailed knowledge of measures to be employed in all health institutions to ensure that self-management practices are measured in a fair, unbiased and objective way within the Ghanaian context.

6.2.4 Policy formulation

Findings from the study revealed that side effect of medications was one of the inhibiting factors to the participants' adherence to medications, calling for more education on how to manage side effects of medications. Policies could be put in place to facilitate the development of comprehensive health programmes to assist patients in managing side effects of many chronic diseases including hypertension.

The findings also showed that information or counselling received from health workers and other sources helped most of the patients to manage hypertension. This therefore, emphasise the importance of designing adequate health communication policies to encourage disease information dissemination through various media including traditional and social media channels, so as to provide more information and guidelines on self-management practices of various diseases including hypertension.

6.3 Avenues for future research

This study explored the factors that determined self-management practices among hypertensive patients. Future research should focus on exploring determinants of self-management practices from the perspective of the health professionals. Furthermore, the challenges experienced by hypertensive patients in the management of hypertension may also be further explored to derive more in-depth knowledge. In addition, the challenges faced by healthcare providers in hypertension management may also be explored. Again exploring the role of spiritual belief and disease management among hypertensive patients is of essence since most participant believed that the belief in a supernatural being (God) played a vital role in the management of their disease. These researches will provide a rich knowledge from both patients and health professionals of the care giving processes, which will enhance hypertension management.

6.4 Field experiences

In an effort to conduct this study, the researcher had revelation into qualitative approach of doing research. During the period of study, the researcher gained much experiences which could be described as very insightful. Also, the researcher had the opportunity to establish new friends and relationships. Again, the researcher was exposed to how hypertensive patients managed their condition by describing their live experience. Though, it was difficult for some participants to share their experiences with the disease due to time constraints, the researcher managed to convince and establish good rapport with the participants in order to obtain adequate information. Almost all the male participants in this study, confided in the researcher and shared their sexual life with her during the interview sessions. Participants' questions in relation to the condition were addressed after the interview sessions so as not to interfere with the interview. Extreme emotional reactions were not encountered during the interview sessions. Hence, the services of a psychologist or counsellor were not employed. On a whole, the study was very insightful and inspirational.

6.5 Limitations of the study

Participants for this study were recruited from hypertension clinic of Korle-Bu Teaching Hospital where they had reported for follow-ups. These participants are more likely to implement self-management practices than those who do not keep their follow up appointments.

Some participants, though assured of confidentiality, were still very cautious of coming out with their experiences. As a result, there is the possibility of participants withholding some vital information for fear of disclosure of identity.

6.6 Conclusion

Most of the findings of this study were consistent with the constructs of the Health Belief Model. Determinants such as knowledge of risk factors and complications of hypertension, motivators (cues to action), perceived benefits and perceived barriers all influenced self-management practices among hypertensive patients. However spiritual belief and disease management was identified as a main theme which was not consistent with the constructs of the model.

The findings revealed several factors that determined self-management practices among hypertensive patients. Some of these factors that determined self-management practices were knowledge of risk factors and complications of hypertension. Furthermore, determinants such as information from healthcare providers and mass media, socio-economic support, experiences of others, and desire to live long stimulated self-management practice. In addition, factors like controlled blood pressure, good health and reduced financial burden also determined self-management practices among hypertensive patients. However, adverse effects of medication (erectile dysfunction, frequent urination), unhealthy lifestyle (alcohol intake, anger, lack of strong will), financial constraint, non-compliance to medication (forgetfulness, lack of desire to take medicine) and inadequate knowledge of the condition were some of the determinants that prevented self-management practices among hypertensive patients. Hence, the need for perpetual education on the perceived benefits of self-management practices and how to deal with the perceived barriers of self-management practices among hypertensive patients. More so, policy should be formulated on monitoring and guidelines on self-management practices among hypertensive patients. Therefore, the Health Belief Model was relevant for conducting this study and for that matter.

6.7 Recommendations

With respect to the findings of the study, recommendations are made to the Ministry of Health, Ghana Health Service, Korle-Bu Teaching Hospital, the Mass Media Agencies and Training Institutions of Journalists, and the client.

6.7.1 Ministry of Health (MOH)

The MOH should:

a. Collaborate with other stakeholders to ensure early reimbursement of National Health Insurance Scheme (NHIS) claims. This is to ensure regular supply of anti-hypertensive medications to clients, more especially to those who cannot afford, as some of the study participants indicated financial constraint as a barrier to adopting self-management practices.
b. Collaborate with other stakeholders to ensure that authenticated anti-hypertensive medicines are brought to the country for effective hypertension control. This could minimise side effects of some medications, as reported by the study participants.
c. Formulate policies on guidelines regarding anti-hypertensive adherence and recommended healthy lifestyle, so as to improve self-management practices.
d. Facilitate the creation of more hypertension clinic centres at the various teaching, regional and district hospitals for effective management of hypertension, as the findings of this study indicated the support of these clinics in helping patients in managing hypertension.

6.7.2 Ghana Health Service (GHS)

The GHS should:

a. Ensure that hypertension clinic centers are well-equipped with relevant logistics including human resources at the various regional and district hospitals for effective management of hypertension. This is because the findings of the study emphasized the benefits of having such well-resourced centers, particularly in providing care and in increasing knowledge on the disease.
b. Ensure that patients are educated on self-management approaches at the various hypertension clinics for effective management of high blood pressure control, as knowledge on the disease was reported in this study as one of the motivating factors to adopting self-management practices.
c. Ensure that effective self-management practices assessment and monitoring tools are developed and used at the various hypertension clinics to aid hypertension management.
d. Incorporate individuals' or patients' belief in the component of hypertension management so as to ensure effective self-management practices thereby controlling blood pressure.

6.7.3 Korle-Bu Teaching Hospital (KBTH)

The management of KBTH should:

a. Set-up a hypertension clinic centre and run it separately from other medical conditions for effective hypertension management and control. This is to help encourage many more patients to derive the benefits of visiting the health facility as indicated by the study participants.

b. Organize continuous in-service training for nurses and other health personnel especially at the medical OPD so as to equip them to be abreast with the pattern of the changing health needs of patients and trends of hypertension management. This will help augment patients' knowledge on the disease and care.
c. Reward nurses who exhibit good behaviour to motivate them and also establish complaints unit to address grievances and complaints of patients or clients and relatives who visit the facility. The behaviour of health practitioners, as revealed by the findings of the study, impacts patients' knowledge and willingness to manage hypertension.

6.7.4 Mass Media Agencies and Training Institutions of Journalists

The management of mass media production should:

a. Encourage continuous running of health programmes especially on hypertension and its management and recommended healthy lifestyle to encourage self-management practices among hypertensive patients and the general public at large. This will help control blood pressure and prevent complications from occurring, as indicated by the study participants. It may also prevent development of hypertension among non-hypertensive individuals.
b. Have training on health information as a specialized course for journalists who are interested in broadening their knowledge and enhancing their skills in health programmes to facilitate the smooth running of the health programmes.

6.7.5 The Client

Hypertensive patients should:

a. Make conscious effort to learn the names of the anti-hypertensive medications they are taking. This will help health practitioners to easily provide advice on issues bordering on side effects of medications, in order to deal with the challenge of patients refusing to take medications, as reported in the study.
b. Make conscious effort to comply with recommended healthy lifestyle, to promote hypertension management and control.
c. Self-monitor blood pressure levels for effective management and control of hypertension.
d. Be actively involved in the health decision making process, so as to improve hypertension management and blood pressure control.

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APPENDIX

Appendix A: Ethical clearance letter

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH
Established 1979
A Constituent of the College of Health Sciences
University of Ghana

INSTITUTIONAL REVIEW BOARD

Phone: +233-302-916438 (Direct)
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Telex No: 2556 UGL GH

Post Office Box LG 581
Legon, Accra
Ghana

My Ref. No: DF.22
Your Ref. No:

13th November, 2015

ETHICAL CLEARANCE

FEDERALWIDE ASSURANCE FWA 00001824 **IRB 00001276**

NMIMR-IRB CPN 041/15-16 **IORG 0000908**

On 13th November 2015, the Noguchi Memorial Institute for Medical Research (NMIMR) Institutional Review Board (IRB) at a full board meeting reviewed and approved your protocol titled:

TITLE OF PROTOCOL : **Determinant of self-management practices among hypertensive patient in the Accra Metropolis**

PRINCIPAL INVESTIGATOR : **Irene Owusu Darkwa, Mphil Cand.**

Please note that a final review report must be submitted to the Board at the completion of the study. Your rsearch records may be audited at any time during or after the implementation.

Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

Please report all serious adverse events related to this study to NMIMR-IRB within seven days verbally and fourteen days in writing.

This certificate is valid till 12th November, 2016. You are to submit annual reports for continuing review.

Signature of Chair: .....
Mrs. Chris Dadzie
(NMIMR – IRB, Chair)

cc: Professor Kwadwo Koram
Director, Noguchi Memorial Institute
for Medical Research, University of Ghana, Legon

Appendix B: Introductory letter to Korle-Bu Teaching Hospital

SCHOOL OF NURSING
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA
LEGON

Telephone: 0302-513255 (Dean)
Ext. 6206
0302-513250 } Secretary
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P. O. Box LG 43
LEGON, GHANA

Our Ref: SON/F.11
Your Ref:

December 15, 2016

The DNS
Korle -Bu Teaching Hospital
Accra.

Dear Madam,

INTRODUCTORY LETTER

I write to introduce to you Irene Owusu Darkwa, an M.Phil Year II student of the School of Nursing, University of Ghana, Legon. She is conducting a research on **"Determinant of Self-Management Practices among Hypertensive Patient in the Accra Metropolis".**

I should be most grateful if you could kindly assist her with the information that she may require.

Thank you.

Yours faithfully,

Patricia Avadu (Ms)
SUPERVISOR

Appendix C: Informed consent form

NMIMR-IRB CONSENT FORM TEMPLATE

Title: **DETERMINANT OF SELF-MANAGEMENT PRACTICES AMONG HYPERTENSIVE PATIENTS IN THE ACCRA METROPOLIS**

Principal Investigator: Irene Owusu Darkwa
Address: Department of Adult Health
School of Nursing
College of Health Sciences
University of Ghana
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Email: iowusudarkwa@yahoo.com

General Information about Research

Self-management is an important aspect to hypertension control. This is because most hypertensive patient have to manage their condition at home on their own or with the help of their family. Therefore, this study seeks to explore the factors that influence individuals to self-manage their hypertension. Individuals who are 35 years or more and have been diagnosed of hypertension for a year or more will be included in this study. **As a participant, you will be interviewed for a period of 45-60 minutes in either English, Twi or Ga.** This interview requires that you give a detailed description of how you manage your condition outside the hospital environment. Before the interview begins the purpose of the study will be explained to you. After which you will be required to either sign or thumb print a consent form which indicates your agreement to partake in the study. The interview will be recorded by the researcher. You are encouraged to freely share your views as there are no right or wrong answers. The information you will share will not be linked to your name in the report of this study.

Possible Risks and Discomforts

You will not be exposed to any risks as you partake in this study. However, if you experience any discomfort during the interview session, you can request for a 5 to 10 minute break. During the

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interview, should you experience any emotional distress, the services of a psychologist or counsellor will be employed to counsel you at no cost. Furthermore, at your request the interview session can be stopped.

Possible Benefits

Though you will not benefit directly from this study at this time, the results will help health care professionals to better understand the challenges faced by hypertensive individuals in managing their own condition. It will also enable them to provide care that best meet their needs. It will also guide policy makers in formulating standard guidelines for managing hypertension.

Confidentiality

The researcher will not disclose your identity by making sure that your name is not recorded during the interview session. Again, any information about you that will identify you will not be disclosed in this study. Also, all the information you will provide will be accessible to my research supervisor and me only and will be used solely for research purposes.

Compensation

At the end of the interview, you will be given a token of GH 10 cedi's for transportation and snack. This is to show appreciation of your time.

Voluntary Participation and Right to Leave the Research

Your participation in this study is voluntary. As such you can at any point in time decide to withdraw from the study. Your action will not be at a penalty and will not in any way affect the quality of care rendered to you by the hospital. .

Contacts for Additional Information

In case of any questions or further clarification please contact any of the following persons:

Irene Owusu Darkwa

Address: Department of Adult Health

2

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College of Health Sciences
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Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of Noguchi Memorial Institute for Medical Research (NMIMR-IRB). If you have any questions about your rights as a research participant you can contact the IRB Office between the hours of 8am-5pm through the landline 0302916438 or email addresses: nirb@noguchi.mimcom.org

VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title ***(Determinant of self-management practices among hypertensive patients in the Accra Metropolis)*** has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Date Name and signature or mark of volunteer

3

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Date Name and signature of witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Date Name Signature of Person Who Obtained Consent

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Appendix D: Interview Guide

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH (NMIMR)
COLLEGE OF HEALTH SCIENCES, UNIVERSITY OF GHANA, LEGON

INSTITUTIONAL REVIEW BOARD

Data Collection Instruments

Interview Guide

Section A: Socio-demographic Data

1. Sex:

   Male: ( )

   Female: ( )

2. Age

   35-44: ( )

   45-54: ( )

   55-64: ( )

   65 years and above: ( )

3. What is your marital status?

   Single: ( )

   Married: ( )

   Divorced: ( )

   Widow: ( )

   Widower: ( )

4. How many children do you have? .....

5. What is your level of education?

   No formal education: ( )

   Primary: ( )

   Secondary: ( )

   Tertiary: ( )

6. Employment status

   Unemployed: ( )

   Self- employed: ( )

   Employed to the private sector: ( )

   Employed to the government sector: ( )

7. **Ethnicity** .....

Guiding questions

1. How will you describe your current state of health?

   Probe:

   - General wellbeing

2. Please tell me what you know about high blood pressure

   Probe:

   - Causes
   - Signs and symptoms
   - Prevention
   - Management

3. Please tell me what to do to manage your condition.

   Probe:

   Medication adherence

   Lifestyle modification (diet, exercise, smoking, alcohol intake)

   Self-monitoring of blood pressure

4. Tell me where you got the information to manage your condition

   Probe:

   - Healthcare provider
   - Mass media
   - Family member, friends, colleagues etc.

5. Kindly share with me why you manage yourself

   Probe:

   - Fear of complications
   - Obey medical instructions

- Encouragement from others

6. Tell me some of the things that you believe you will gain from managing your condition.

Probe:

- Less visits to the clinic/hospital
- Reduction in financial burden
- No complications

7. What have you gained from the things you have being doing to manage your condition.

Probe:

- Gains from medication adherence
- Gains from lifestyle modification (diet, exercise, smoking, alcohol intake)
- Gains from self-monitoring of blood pressure

8. Kindly tell me some of the things that you think will prevent you from managing your own condition.

Probe:

- Access to healthcare system and provider
- Relationship with the healthcare provider
- Financial challenge
- Side effect of treatment
- Family support
- Personal attitude

9. Please describe if any, some of the things that has actually prevented you from doing what you are supposed to do to manage your own condition.

Probes:

- Lack of family support
- Laziness
- Inadequate knowledge

10. What are some of the effects of not managing your own disease condition?

Probe:

- Disruption in economic activities (loss of job, poor work output)
- Financial constraints
- Marital problem
- Complications like stroke, other heart diseases