LOCAL PERCEPTIONS AND MANAGEMENT OF DIABETES AND HYPERTENSION
IN SHAI-OSUDOKU DISTRICT OF GHANA

BY

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(10434935)

THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL
FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF PHD SOCIOLOGY
DEGREE.

2017
DECLARATION

I, Michael Kodom Amponsah, do hereby declare that except for references to other scholarly works which have been duly acknowledge, this work is the result of my own field investigation conducted under the supervision of Prof. Kodjo Amedjorteh Senah and Prof. Clara Korkor Fayorsey all of the Department of Sociology, University of Ghana. I also declare that as far as I am aware, this thesis has not been presented in whole or in part for another degree elsewhere. Finally, I declare also that, besides the assistance obtained from other works and my supervisors, I am responsible for any misrepresentation and or misinterpretation of facts that may occur in this thesis.

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Prof. Kodjo Amedjorteh Senah ........................................... ................................
(Supervisor)                     Signature                     Date

Prof. Clara Korkor Fayorsey ........................................... ................................
(Supervisor)                     Signature                     Date
DEDICATION

This research work is dedicated to my lovely wife – Juliet Frimpomaa for her unflinching support throughout my entire education.

I also dedicate this study to my late mother – Aunt Yaa Sekyiwaa who died from diabetes and hypertension while I was on the field collecting data for this study.
ACKNOWLEDGEMENT

My sincere gratitude goes to Almighty God for His guidance and protection throughout my life and without Him this work would have been impossible.

I extend my immeasurable thanks and appreciation to my supervisors: Prof. Kodjo Amedjorteh Senah and Prof. Clara Korkor Fayorsey for their professional guidance, encouragements, and support. Words cannot express my appreciation for their keen interest they showed in my research work.

I am grateful to all those who supported and enhanced my work during the data collection. In particular, I am grateful to the leadership and the entire members of the ‘God is love’ diabetic/hypertensive association at Shai-Osudoku district for allowing me to use them for the study. I am also indebted to the chiefs and elders and all the people of Ayikuma and Doryumu for giving me permission to do this research at their communities.

Financial assistance for this study was made possible through the kind contribution of Valley View University. I am grateful to the past and current leadership of the University for supporting me financially. My deepest gratitude also goes to the staff of Development Studies Department at Valley View University, Accra campus, especially Ernestina Yeboah, Rita Agyekum, Kelson Kwaku Sarfo, Dr. Ama Boafo-Arthur and Rev. Samuel Elvis Addo for their encouragement and support.

Lastly but not the least, my appreciation also goes to my family (Gabriel Kwame Kodom, Augustina Serwaah, Edith Gyau Frimpompong, Benjamin A. Kodom, Maame Sekyiwaa Kodom and my lovely wife – Juliet Frimpomaa) for their unflinching support and continuous encouragement throughout the study.
LIST OF ABBREVIATIONS

ADA: American Diabetes Association
AIDS: Acquire Immune Deficiency Syndrome
BGL: Blood Glucose Level
BP: Blood Pressure
CHPS: Community-based Health Planning Services
CHWs: Community Health Workers
CVD: Cardiovascular Diseases
DIC: Divestiture Implementation Committee
DM: Diabetes Mellitus
EMs: Explanatory Models
FDA: Food and Drug Administration
FDB: Food and Drugs Board
FPG: Fasting Plasma Glucose
FM: Frequency Modulation
GHS: Ghana Health Service
GSCD: General Susceptibility Causes of Disease
HIV: Human Immunodeficiency Virus
HBM: Health Belief Model
GSS: Ghana Statistical Service
ICMR: Indian Council of Medical Research
IDDM: Insulin Dependent Diabetes Mellitus
IDF: International Diabetes Federation
IFG: Impaired Fasting Glucose
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<td>IGT:</td>
<td>Impaired Glucose Tolerance</td>
</tr>
<tr>
<td>IHME:</td>
<td>Institute for Health Metrics and Evaluation</td>
</tr>
<tr>
<td>JHS:</td>
<td>Junior High School</td>
</tr>
<tr>
<td>JSS:</td>
<td>Junior Secondary School</td>
</tr>
<tr>
<td>KATH:</td>
<td>Komfo Anokye Teaching Hospital</td>
</tr>
<tr>
<td>MOH:</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MODY:</td>
<td>Maturity Onset Diabetes of the Young</td>
</tr>
<tr>
<td>MSLC:</td>
<td>Middle School Leaving Certificate</td>
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<tr>
<td>NCDs:</td>
<td>Non-Communicable Diseases</td>
</tr>
<tr>
<td>NCHS:</td>
<td>National Center for Health Statistics</td>
</tr>
<tr>
<td>NDAG:</td>
<td>National Diabetes Association of Ghana</td>
</tr>
<tr>
<td>NHIS:</td>
<td>National Health Interview Survey</td>
</tr>
<tr>
<td>NHIS:</td>
<td>National Health Insurance Scheme</td>
</tr>
<tr>
<td>NIDDM:</td>
<td>Non-Insulin Dependent Diabetes Mellitus</td>
</tr>
<tr>
<td>PNDC:</td>
<td>Provisional National Defense Council</td>
</tr>
<tr>
<td>RHN:</td>
<td>Regenerative Health and Nutrition</td>
</tr>
<tr>
<td>SDG:</td>
<td>Sustainable Development Goal</td>
</tr>
<tr>
<td>SHS:</td>
<td>Senior High School</td>
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<tr>
<td>SPSS:</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>SSA:</td>
<td>Sub-Saharan Africa</td>
</tr>
<tr>
<td>SSS:</td>
<td>Senior Secondary School</td>
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<tr>
<td>TV:</td>
<td>Television</td>
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<td>UG:</td>
<td>University of Ghana</td>
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**ABSTRACT**

The general objective of the study was to analyse people’s perceptions and management of diabetes and hypertension in some rural communities of Ghana. In conducting the research, qualitative method was mainly used to elicit information from the selected communities through semi-structured questionnaire from the selected communities (N340) and twenty (N20) diabetics/hypertensives patients from the diabetics and hypertensive association in the district for in-depth interviews. The study found that majority of the respondents and participants identified the media as the main source of their information about diabetes and hypertension. Further, the study revealed that the majority of the respondents use popular knowledge of tasting their urine and ants gathering around their urine as signs and symptoms of diabetes. The study also found that respondents’ understanding of diabetes and hypertension was mainly base on the local names of these diseases which is strongly tied to their perceived causes. The main challenges and problems of the diabetic and hypertensive include regular medications, change of lifestyle as well as stigmatization. Based on the findings, recommendations have been made to reduce the prevalence of diabetes and hypertension in the district and the country as a whole. It is recommended that Ghana Health Service (Shai-Osudoku district) in collaboration with National Media Commission to regulate all diabetes and hypertension programmes in the media, including advertisements on these diseases to ensure that the right information are given to the general public. Furthermore, it is recommended for the Ministry of Health to intensify its Regenerative Health and Nutrition (RHN) programme that aims to empower communities to adopt healthy lifestyles in Ghana. It is also recommended that, the health promotion efforts by the GHS on behavioural risk factors (smoking, excess consumption of alcohol, etc.) should not be limited to only urban centers but extended to the rural communities.
CHAPTER ONE

DIABETES AND HYPERTENSION: THE GLOBAL BURDEN

1.1 Background to the Study

This thesis is about local perceptions and management of diabetes and hypertension in some rural communities in Ghana. The co-morbidity of these conditions has had a heavy toll on the lives of Ghanaians. In medical context, they are referred to as ‘silent killers’. Most studies about chronic diseases (such as diabetes and hypertension) have been clinically oriented. However, medical-sociological truism suggests that, attitudes towards health and illnesses (chronic) such as hypertension and diabetes are socio-culturally determined (Aikins, 2007). In other words, the working and living conditions of a person, the definition and labeling of a condition and the appropriate therapeutic processes are all determined by society (Senah, 2004). Thus, understanding local perceptions and management of diabetes and hypertension is the remit of this study.

According to the World Health Organization (WHO, 2016a) diabetes mellitus and hypertension have emerged as major medical and public health issues worldwide, and both conditions are significant risk factors for stroke, heart attacks and other cardiovascular diseases. The prevalence of diabetes in adults worldwide was about 4.10% in 1995 and is estimated to increase to 5.0% by the year 2025 (WHO, 2016c). The International Diabetes Federation (IDF) estimated in 2009 that the number of adults with diabetes in the world is likely to increase by 54.10%, from 284.0
million in 2010 to 438.0 million by the year 2030 (IDF, 2009). Similarly, International Diabetes Federation reported in 2013 that about 382 million people, aged between 40 and 59 years globally have diabetes mellitus and that 80% of the affected individuals live in developing countries (IDF, 2014). It has also been estimated that by the year 2035, the number of individuals who were affected with diabetes mellitus in 2013 between 40 and 59 years as noted above, will rise to 592 million people with associated complications (IDF, 2014). According to the International Diabetes Federation, if this trend continues, by the year 2035 one in every 10 adults in the world will have diabetes.

World Health Organization in 2017 estimates that 17.5 million people die each year from cardiovascular disease, accounting for around 31% of all deaths worldwide and making this disease the world's biggest killer. Some 80% of these deaths are caused by heart attacks and stroke. High blood pressure, or hypertension, is the leading risk factor for heart disease and stroke, and accounts for more than 12% of total deaths from cardiovascular disease. A large proportion of heart attacks and strokes can be prevented by controlling major risk factors through lifestyle interventions and pharmacological treatment when indicated (WHO, 2017a).

In 2016, World Health Organization issued a global report on diabetes, underscoring the enormous scale of a crisis. The report estimated that the number of adults with diabetes mellitus has quadrupled since 1980s, moving from almost 108 million in 1980s to about 422 million by the year 2014. According to the report, the majority of the people who are affected with diabetes are not aware of their conditions. The prevalence of diabetes mellitus in the adult population of the world has risen sharply, nearly doubling from 4.7% in 1980 to 8.5% in 2014. Diabetes is
increasing most markedly in the urban centers of developing countries. Type 2 diabetes used to affect only adults in most cases, but today both adults and children are affected by type 2 diabetes mellitus (WHO, 2017b).

According to World Health Organization (WHO, 2017b) almost 1.5 million deaths each year in the world are directly caused by diabetes mellitus. Additionally, around 2.2 million deaths in the world each year are also indirectly caused by diabetes mellitus largely by increasing the risk of cardiovascular diseases. This implies that every year about 3.7 million deaths are caused due to diabetes mellitus and its related complications. Out of these deaths, 42.0% occur before the age of 70 years (WHO, 2017b). The Asia-Pacific countries are referred to as the most affected regions of diabetes mellitus in the world. In these Asian countries, it has been found that people develop the diabetes mellitus earlier as compare with other developed countries. Researchers are investigating to find out whether a genetic predisposition factors may be at work in these regions. Other researchers are also looking at environmental factors that could amplify a genetic risk or operate on their own to explain this unique epidemiological pattern in that part of the world (WHO, 2017a). Countries such as India, China, Pakistan, etc in Asia, which have experienced economic booming and improvement in the general standard of living, the majority of the population are now living in urban centers doing sedentary types of jobs, enjoying low-cost cars, and cheap foods loaded with calories. Partly as a result of these lifestyle changes in these countries, many people are lifted out of poverty to join the booming middle class economy, now find themselves trapped in the misery of diabetes and all its related complications such as cardiovascular diseases (WHO, 2017a). Sarah et al. (2004) examined the global prevalence of diabetes –Estimates for the year 2000 and projections for 2030”. They found that the prevalence of diabetes in men was higher than women, but according to their findings, there are more
women with diabetes than men. They also found that the most demographic change in diabetes prevalence across the globe is the percentage of people who are sixty years of age and above in the advanced countries while in the less developed countries it is forty five years plus (Wild et al., 2004).

Non-communicable diseases (NCDs), also known as chronic diseases, tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behavioural factors (Nikolic et al., 2011). The main types of non-communicable diseases includes diabetes and hypertension which are among the leading risk factors of cardiovascular diseases (CVDs) such as heart attacks and stroke. According to the World Health Organization (2017a), non-communicable diseases such as diabetes and hypertension affect more people in low- and middle-income countries and it is estimated that over three-quarters of the world’s non-communicable diseases deaths occur yearly (WHO, 2017a). People of all kinds in the world including the rich and the poor are affected by non-communicable diseases such as diabetes and hypertension. Diabetes and hypertension are used to be associated with old age but, evidence suggests that over 17 million of all deaths in the world are attributed to non-communicable diseases before the age of 70 which is commonly referred to as premature deaths (WHO, 2016a). Out of these "premature" deaths, it is estimated that about 87.0% occur in developing countries.

Today, all manner of persons being children, adults, men women are all vulnerable to the risk factors contributing to non-communicable diseases especially diabetes and hypertension, whether from unhealthy diets, physical inactivity, exposure to tobacco smoking or the harmful use of alcohol (WHO, 2016c). Diabetes and hypertension are perceived to be caused by factors such as rapid unplanned urbanization, globalization of unhealthy lifestyles, sedentary type of works and population ageing (WHO, 2017a).
Non-communicable diseases like heart attacks and stroke due to hypertension and diabetes have been described as a global 'epidemic' which need urgent action by all governments. In his concluding remarks to the forum on Global Health on 15 June 2009, the United Nations Secretary General, Ban Ki-Moon described non-communicable diseases as a public health emergency in slow motion. Cancer, diabetes, and heart diseases are no longer the diseases of the wealthy. Today, they hamper the people and the economies of the poorest populations even more than infectious diseases. This represents a public health emergency in slow motion” (WHO, 2016b).

In 2012, non-communicable diseases were estimated to be accounted for more than 38 million deaths per year which represents about 68.0% of all deaths in the world (WHO, 2014). Out of this number, the deaths under the age of 70 which is estimated to be around 52% were due to non-communicable diseases. In terms of mortality, the leading non-communicable diseases is cardiovascular diseases and its related risk factors such as diabetes and hypertension, which claimed 17.5 million lives in 2012 (this represent about 46.0% of all non-communicable diseases deaths) – 6 million of which were under age 70. Out of the 17.5 million deaths, 7.4 million were due to coronary heart disease, 6.7 million due to stroke, respiratory disease and diabetes mellitus accounted for 4.0 million and 1.5 million deaths, respectively (WHO, 2016b). Diabetes mellitus type 2 is estimated to account for between 85.0% and 95.0% of all diabetes cases in the world (IDF, 2014).

Hypertension, another significant chronic disease is said to be the leading risk factor for death in the world which has been identified as the most significant public health problem in both developed and developing countries (Zuleat, 2007). In 2003, 12.8% of global deaths and 12.1% of deaths in low and middle income countries were attributed to hypertension (WHO, 2003a).
Hypertension affected about one billion people worldwide in 2008 and it is estimated that by the year 2025, up to 1.56 billion adults worldwide will be hypertensive (WHO, 2016c). In sub-Saharan Africa (SSA), hypertension, often co-morbidity with diabetes is among the leading causes of end-stage renal disease (WHO, 2013). The high cases and prevalence makes hypertension the single most important cause of morbidity and mortality in the world (WHO, 2012). A study by Fuentes, et al (2000) indicated that in the lower and middle-income countries, there seems to be a sharp increase in the prevalence rate of hypertension. An epidemiological study conducted by Opie and Seedat (2005) in African found that, hypertension is one of the commonest cardiovascular ailments and it is associated with increasing age. In the sub-Saharan Africa, there is high prevalence of hypertension, although the awareness and treatment in African is still very low (WHO, 2012).

In Africa, non-communicable diseases are estimated to become the commonest cause of death by the year 2030. Africa has been identified as the region with the highest rate of non-communicable diseases in the world. According to Dalal et al. (2011) the number of persons living with diabetes aged between 20-79 years in Africa is estimated to rise by 98.1% from about 12 million in 2010 to 24 million by the year 2030, compared with the world average growth rate of about 54.1% over the same period.

Sub-Saharan Africa (SSA) has been identified by various researchers as the region with the highest prevalence rate of diabetes mellitus type 2 claiming over 3 million lives every year (WHO, 2013). There has been a dramatic increase in the prevalence of type2 diabetes mellitus in Africa (Opie and Seedat, 2005). Studies conducted in Africa from the early 1960s to 1980s, indicated a prevalence of type2 diabetes mellitus to be around 1.0%, but was found in the late 1990s to be rising in many African countries (McLarty et al., 1990). The prevalence in some
African countries such as Uganda and Kenya ranged from 1.0% in rural Uganda to 12.0% in urban Kenya (Hall et al., 2011). Studies conducted by Oladapo et al, (2010) in West Africa about the prevalence rate of diabetes mellitus found prevalence rates of between 2.5% and 8.0% in rural and urban communities, respectively.

In Ghana, there is growing evidence of a “double burden of diseases”- high number of communicable diseases such as malaria, diarrhoea, and non-communicable diseases like hypertension, diabetes, among others. The major causes of death in Ghana, according to Ghana Health Service, have shifted from mainly communicable diseases such as malaria to both communicable and non-communicable diseases such as diabetes and hypertension (Ghana Health Service (GHS), 2014). According to GHS (2014), hypertension and diabetes have become among the top ten causes of death in Ghana. Urbanization and changing lifestyles, ageing populations, globalization, smoking of cigarette, abuse of alcoholic beverages are all accounted for the chronic diseases risk factors in Ghana. Among people of about 50 years and above, hypertension and diabetes have become increasingly significant as a cause of outpatient attendance with hypertension alone accounting for about 2.9% of the total cases in all age groups and about 10.0% among the elderly people in all regional health facilities in the country (Bosu, 2012). The estimated adult prevalence of hypertension in Ghana ranges from 28.0% to 40.0%. Nationally, hypertension moved from the 9th and 10th commonest cause of new outpatient morbidity in all ages in 1985 and 2001 respectively to become the 5th since 2002 (Bosu, 2012).

Stroke and hypertension have regularly been among the leading causes of deaths in all the major hospitals in Ghana.

In Ghana, major non-communicable diseases include cardiovascular diseases, diabetes and hypertension. An estimated 86,000 non-communicable diseases deaths occur each year in Ghana.
with 55.5% of these deaths occurring in persons under age 70 years. The proportion of deaths occurring under 70 years is 69.0% among males and 59.0% among females. The age standardized non-communicable diseases death rate is 817 per 100,000 (GHS, 2014). In 2008, non-communicable diseases accounted for about 34.0% deaths and 31.0% of disease burden in Ghana (WHO, 2012).

Prevalence of hypertension and diabetes in Ghana marginally reduced between 2012 and 2014. This reduction according to Ghana Health Service (2014) was due to the expansion of diabetes and hypertension clinics at primary health care facilities and health centers across the country. However, this reduction, according to Ghana Health Service is not enough to achieve the target of the United Nations Sustainable Development Goal on non-communicable diseases. The goal is to reduce the prevalence of diabetes and hypertension by one-third by the year 2030 (WHO, 2016b). Table 1.1 and 1.2 below give an over view of the prevalence of hypertension and diabetes respectively in Ghana on the regional basis from 2011 to 2014.

Table 1.1: Reported Outpatient Hypertension Cases by Region (2011 to 2014)

<table>
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<tr>
<th>Region</th>
<th>2011</th>
<th>%</th>
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<th>%</th>
<th>2014</th>
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<td>187698</td>
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<td>15.2</td>
<td>140947</td>
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<td>830620</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Extracted and modified from GHS Annual Report, 2014
Table 1.2: Reported Outpatient Diabetes Cases by Region (2011 to 2014)

<table>
<thead>
<tr>
<th>Region</th>
<th>2011</th>
<th>%</th>
<th>2012</th>
<th>%</th>
<th>2013</th>
<th>%</th>
<th>2014</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashanti</td>
<td>39583</td>
<td>20.9</td>
<td>46907</td>
<td>20.2</td>
<td>40753</td>
<td>18.5</td>
<td>44879</td>
<td>20.9</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>17758</td>
<td>9.4</td>
<td>21088</td>
<td>9.1</td>
<td>18489</td>
<td>8.4</td>
<td>18331</td>
<td>8.6</td>
</tr>
<tr>
<td>Central</td>
<td>19530</td>
<td>10.3</td>
<td>31978</td>
<td>13.6</td>
<td>35357</td>
<td>16.1</td>
<td>29541</td>
<td>13.8</td>
</tr>
<tr>
<td>Eastern</td>
<td>37381</td>
<td>19.7</td>
<td>39376</td>
<td>16.9</td>
<td>29772</td>
<td>13.5</td>
<td>31887</td>
<td>14.9</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>41780</td>
<td>22.0</td>
<td>54539</td>
<td>23.5</td>
<td>54482</td>
<td>24.8</td>
<td>50822</td>
<td>23.7</td>
</tr>
<tr>
<td>Northern</td>
<td>2780</td>
<td>1.5</td>
<td>1766</td>
<td>0.8</td>
<td>3084</td>
<td>1.4</td>
<td>3047</td>
<td>1.4</td>
</tr>
<tr>
<td>Upper East</td>
<td>1177</td>
<td>0.6</td>
<td>1213</td>
<td>0.5</td>
<td>2679</td>
<td>1.2</td>
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<tr>
<td>Upper West</td>
<td>397</td>
<td>0.2</td>
<td>552</td>
<td>0.2</td>
<td>681</td>
<td>0.3</td>
<td>761</td>
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<tr>
<td>Volta</td>
<td>16807</td>
<td>8.9</td>
<td>18288</td>
<td>7.9</td>
<td>16472</td>
<td>7.5</td>
<td>15667</td>
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<td>Western</td>
<td>12479</td>
<td>6.6</td>
<td>16828</td>
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<td>18329</td>
<td>8.3</td>
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<td><strong>Total</strong></td>
<td><strong>189672</strong></td>
<td><strong>100.0</strong></td>
<td><strong>232535</strong></td>
<td><strong>100.0</strong></td>
<td><strong>220098</strong></td>
<td><strong>100.0</strong></td>
<td><strong>214357</strong></td>
<td><strong>100.0</strong></td>
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</tbody>
</table>

Source: Extracted and modified from GHS 2014 Annual Report

According to the National Diabetes Association of Ghana (NDAG) (2012), the prevalence of diabetes mellitus has been on the rise and is among the leading non-communicable diseases of public health concern in Ghana today. Several people are knowingly and unknowingly living with the condition and its attendant complications (National Diabetes Association of Ghana (NDAG), 2012). In the early 1990s, diabetes screening by National Diabetes Association of Ghana suggested 2.0% to 3.0% prevalence in urban areas in Ghana, however, in the late 1990s a prevalence rate of 6.4% for diabetes was recorded in Accra. At Korle-Bu Teaching hospital, the percentage of medical admissions as a result of diabetes increased almost two-times from 3.5% in the1970s to 6.4% in the1980s (NDAG, 2012).

A study by Owusu-Sekyere et al. (2013) on the history of hypertension in Ghana found that in the late 1970s, the urban and rural prevalence of diabetes mellitus were 11.3% and 4.5%, respectively. However, in 2004, a study of the Greater Accra area found that, an urban
prevalence of hypertension was almost 33.0% and a rural prevalence was about 24.0%. Comparable results from a 2005 study in the Ashanti Region, found the prevalence of hypertension to be 33.4% in urban areas and 27.0% in rural areas (Owusu-Sekyere et al., 2013). This drastic increase in the prevalence of hypertension indicates a need for further study of the condition in Ghana.

In Ghana, few community-based researches on hypertension have been done. In 1973, Ministry of Health carried out blood pressure survey in rural communities of Ghana and found a prevalence of 2.0% to 5.0% across the country and concluded that hypertension was not a significant health problem in rural Ghana (GHS, 2010). A cross-sectional community-based prevalence study of hypertension in Greater Accra by Amoah (2003), however found that, hypertension prevalence was 28.4%. Hypertension has therefore, been identified as a significant risk factor in cardiovascular diseases (CVD) which is the world’s number one killer and the third killer disease in Ghana today (Agyeman, 2006; Nyarko et al., 2014).

According to the 2013 Annual Report of the Korle-Bu Teaching Hospital, in 2012, seventy percent of all adult deaths at the hospital were caused by hypertensive and its related conditions. The condition affects nearly one out of every five Ghanaian adults (Nyarko et al., 2014). Hypertension is said to be a ‘silent killer’ because a lot of people have it but due to lack of physiological signs and symptoms, they are not aware of it. Hypertension has been identified by the Ghana Health Service as the major cause of stroke, heart attack, heart failure and chronic renal failure in Ghana. These and other blood pressure-related diseases such as diabetes constitute more than half of all admission cases at all the regional hospitals across the country (GHS, 2014). Ghana Health Service (2012) reported that a non-communicable disease survey
conducted across the country in 1998 recorded a national prevalence of 27.8% for hypertension. Studies conducted after the national survey in 1998, however, showed an increased in prevalence rates across different regions. For instance, 28.7% was recorded in Kumasi; Bawku/Zebilla in the Upper East Region recorded 32.0%; 36.9% was recorded among the adult population of Keta-Dzelukope in the Volta Region; and 47.8% among women in Accra (GHS, 2012). From the above analysis, diabetes and hypertension could be said to be a global health burden and Ghana is no exception.

1.2 Statement of the Problem

As discussed in the background statement, several studies conducted in Ghana have particularly alluded to the rising trend of diabetes and hypertension which are major risk factors for most chronic diseases (Amoah, 2003; Biritwum, 2006; Aikins, 2002). Ghana Health Policy acknowledged that while Ghana’s disease profile is characterized by high levels of parasitic and infectious diseases such as malaria, cholera, tuberculosis etc., there is an increasing burden of chronic non-communicable diseases, including hypertension and diabetes (MOH (Ghana), 2014; Aikins, 2002).

Conceptual and practical responses to diabetes and hypertension in Ghana have been largely through biomedical and clinical studies (Aikins, 2007; NDAG, 2012; GHS, 2012; Owusu-Sekyere et al., 2013). Evidence suggests that due to lack of knowledge of the causes and management of diabetes and hypertension, many Ghanaians are living with them but are not aware that they have the conditions (KATH, 2012; Koram, 2006; Cappuccio et al., 2004).
Prevalence of hypertension and diabetes in Ghana has increased since the early 1970s partly due to rapid urbanization and change in lifestyle of Ghanaians (Owusu-Sekyere et al., 2013; NDAG, 2012; GHS, 2012; Amoah, 2003). The Ministry of Health (MOH) Ghana, in 2005 announced a paradigm shift from curative to preventive services of lifestyle diseases such as hypertension and diabetes.

Understanding how society perceives and interprets diabetes and hypertension can play an important role in enhancing communication between physicians and patients, thereby improving the likelihood of positive results, this goes beyond simple language translation to ensure compliance by the patient with the treatment regimen. Often, patients and clinicians are from different social, cultural and economic contexts which in most cases lead to a mutual lack of understanding and positive outcome in clinical encounters. This study will therefore bring to bear, the perspective of the section of the society outside the health profession, peoples‘ perceptions, knowledge, management and their interpretations of diabetes and hypertension.

Any successful strategies to improve people’s health must be based on a clear understanding of the peoples' beliefs, their perceptions, expectations and approaches how they interpret particular illness and their health care seeking behaviours, so that specific issues can be addressed (Leslie, 1992; Senah, 1994). Researchers continue to find risk factors associated with hypertension and diabetes. However, information on how local communities perceive the causes, or risk factors and manage and prevent of diabetes and hypertension in Ghana is scanty. It is known that most of the people living with either hypertension or diabetes or both are aware of what caused their sickness but there is knowledge gap on how the people without these non-communicable diseases especially the people in the rural communities of Ghana also perceived the causes of
diabetes and hypertension (Aikins, 2007). Many research works regarding the perception and management of diabetes and hypertension in Ghana have been focusing on urban centers and not the rural communities.

From the annual health report of the Shai-Osudoku District (2014) where the study site is located, diabetes and hypertension rank fourth and fifth respectively among the top 10 diseases since 2010. This research therefore seeks to explore the knowledge, the perceived causes, the health-seeking behaviour on how diabetes and hypertension are managed and the preventive mechanisms of hypertension and diabetes of the local communities at Shai-Osudoku district. The study is located in the rural communities because, demographically, the peri-urban and the rural population in Ghana is more than the urban population. Economically, the rural populace is the agricultural productive force whose shoulder the socio-economic development and advancement of the country rest. It is therefore imperative for such study to be undertaken in the rural communities so that any health intervention policies regarding diabetes and hypertension will take into consideration the rural populace.

The findings of the study will inform institutions where health policies are designed to target specific health problems related to hypertension and diabetes. The study will bring to the policy table, the knowledge, perceptions and societal understanding of diabetes and hypertension to ensure that any health intervention programs are culturally appropriate. Finally, this research will contribute to the body of knowledge of literature on the socio-cultural aspects of the perceptions and management of diabetes and hypertension and widen the opportunities for further research in Ghana.
1.3 Main Objectives of the Study

The general objective of the study is to analyse people’s perceptions and management of diabetes and hypertension in some rural communities of Ghana. Ultimately, the study will inform health policy makers the knowledge, perceptions and societal understanding of diabetes and hypertension to ensure that any health intervention policies and programs are culturally appropriate and do not violate social norms.

1.4 Specific Objectives

In furtherance of the major objective, the following specific objectives will guide the study:

1. To examine local communities' knowledge and understanding of hypertension and diabetes;
2. To examine how local communities perceive the ‘causes‘ of hypertension and diabetes;
3. To analyse diabetes/hypertension preventive behaviours and measures in local communities; and
4. To investigate the health-seeking behaviour and the challenges people with diabetes and or hypertension face.
1.5 Definition of key Concepts

Diabetes
World Health Organization (2017a), explained diabetes mellitus as a condition in which a person has a high blood sugar (glucose) level, either because the body does not produce enough insulin, or because body cells do not properly respond to the insulin that is produced. Insulin is a hormone produced in the pancreas which enables body cells to absorb glucose and to turn it into energy (WHO, 2017a). Glucose is the end product of carbohydrate (starches and sugary) foods. The pancreas, an organ near the stomach, makes a hormone called insulin to help glucose get into the body’s cells. The glucose transported into other organs in the body provides the body with energy. When the blood glucose elevates, insulin is released from the pancreas to normalize it. However, in this study diabetes is defined as ‘when one detects the taste of sugar in one’s urine’.

Hypertension
Hypertension, also known as high blood pressure is the force of blood against the arteries when the heart beats (systolic pressure) and rests (diastolic pressure) and measured in millimeters of mercury (mmHg), WHO (2016c). According to WHO, normal blood pressure at rest is within the range of 100 – 140 mmHg and 60 – 90 mmHg. High blood pressure is present if the resting blood pressure persistently at or above 140/90mmHg for most adults (WHO, 2016c). The definition of the World Health Organization (2016c) will be adopted in this study.
**Perception**

*Cambridge English Dictionary* (2015) defines perception as: a belief or opinion often held by many people and based on how things seem. In the context of this study, this definition will be applied in the usage of perceptions.

**Knowledge**

In this study, *knowledge* is defined as: a familiarity, awareness, or understanding of something such as facts, information, descriptions, or skills which is acquired through experience or education by perceiving or learning (Longman Dictionary of Contemporary English, 2016). Therefore, knowledge in this study will be determined by how respondents will exhibit their understanding of diabetes and hypertension through their experiences.

**Health-seeking behaviour**

In the context of this study, *health-seeking behaviour* is defined as: a sequence of remedial actions that individuals undertake to rectify perceived ill-health (WHO, 2017a).

**Management**

In this study, diabetes and hypertension *management* is defined as: a system of coordinated health care interventions and communications for diabetic/hypertensive patients in which self-care efforts are significant ((WHO, 2016b)
Preventive behaviour

*Preventive behaviour* in this study is explained as: any activity undertaken by an individual who believes himself to be healthy for the purpose of preventing illness in an asymptomatic state (WHO, 2014).

1.6 Organization of the Study

The study consists of eight chapters. The contents of each chapter are as follows:

**Chapter one:** The chapter covers the background of the study, Statement of the Problem, objectives of the study, definition of some key concepts, and the organization of the thesis.

**Chapter two:** The literature review and the theoretical frameworks used for the study were discussed in this chapter. Two theoretical frameworks were used for the study, these are: The Health Belief Model (HBM) and the General Susceptibility Causes of Disease (GSCD)

**Chapter three:** Method of data collection for the study was discussed in this chapter. The discussion centered on the following: Relationship between ontology, epistemology and methodology; design of research; visit to the selected communities; meeting with the diabetic/hypertensive association; target population; sample and sampling techniques; data collection techniques; method of data analysis; limitations of the study; and ethical consideration.

**Chapter four:** The profile of the study district and the selected communities were discussed. This covers: The political and administrative structure; traditional administration; economic and social characteristics; and the brief profile of the selected communities (Ayikuma and Doryumu)
Chapter five: This chapter concentrated on the analysis of the data collected on the knowledge and perceived causes of diabetes and hypertension of the respondents and participants.

Chapter six: The mode of prevention of diabetes and hypertension of the respondents were examined.

Chapter seven: This chapter examined the health-seeking behaviour and management of diabetes and hypertension by the diabetics and hypertensive patients.

Chapter eight: This is the conclusion part of the research. It covers summary of findings, conclusions, recommendations, policy implications of the study, and future goals for research.

In conclusion, from the background of the study and the problem statement, diabetes and hypertension has emerged as one of the world's number one non-communicable killer diseases in both developed and developing countries and Ghana is no exception. Other major issues which were discussed in the chapter included the objectives and definition of some key concepts. These issues discussed, served as a guide and basis for the literature review and the theoretical framework in the next chapter.
CHAPTER TWO
LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction
As discussed in the background and the problem statement, diabetes and hypertension has been identified by institutions such as World Health Organization, various governments and researchers as the leading cause of non-communicable diseases in both advanced and developing countries. This has attracted the interest of the scientific academic community into the two conditions throughout the world. This chapter therefore focused on the existing literatures which are relevant to the topic. Generally, the literature review was centered on studies associated with prevalence of diabetes and hypertension in the world, in Africa and in Ghana. It also focused on the literature associated with sociocultural and health-seeking behaviour of diabetic and hypertensive patients as well as people’s perceptions and management of diabetes and hypertension. The theoretical framework which informed the study has also been discussed in this chapter.
2.2 Literature Review

The incidence and prevalence of diabetes and hypertension are on the increase globally and are now considered the most significant source of death in the world.

Singh et al. (2011) examined the epidemiological data on diabetes mellitus amongst Geriatric population in an urban slum area in Nagpur, India. One of the findings of their study was that, the most common risk factors for diabetes were stress (64.79%), positive family history (63.38%), sedentary habit (43.66%), history of hypertension (36.62%), overweight (26.76%) and excessive alcohol intake (9.86%).

King et al. (1998) conducted a research on prevalence of diabetes in adults worldwide. One of their findings was that, people with diabetes mellitus on the globe will increase from 135 million in the year 1995 to 300 million in 2025. These figures represent 4.0% of the world population in 1995 which is expected to increase to 5.4% in 2025. The report revealed that the incidence of diabetes prevalence in the developed countries is more than in the developing countries. It was also revealed further that India, China and United States are the first three countries with the highest number of people with diabetes in the world (King et al., 1998).

Barcelo and Rajpathak (2001) undertook a study to estimate the prevalence rate of diabetes mellitus in the year 2000 and the projection of the year 2025 among Americans. The results were that, the number of people affected by diabetes mellitus is expected to rise from 35 million to 64 million by the year 2025. In the North America, it was estimated that the prevalence of diagnosed diabetes among adults (18 years and above) in Canada was 3.2%. According to their findings, in the United States the prevalence rate of diabetes increased from about 11.0% of the years 1976-1980 to 14.0% of the years 1988-1994. Diabetes mellitus prevalence rates among the
Mexican-Americans were almost two-times as high as for non-Hispanic whites. It was also found that about 20.0% of non-Hispanic blacks in the United States were affected by diabetes mellitus. The prevalence rate of the Hispanic blacks in the United States was the second highest after that of the Mexican-Americans. The report, however, concluded that the Indians have shown the highest prevalence of diabetes in the Americans and among one of the highest in the world (Barcelo and Rajpathak, 2001).

Ghaffar et al. (2004) researched into the prevalence of diabetes in South Asia. They found that diabetes prevalence has increased more in Southern Asian countries than any other region in the world. India was identified to have the highest number of people with diabetes mellitus than any other country in the world. This confirmed the findings of King et al. (1998). According to their findings, a projection for 2020 based on a model for estimation by World Health Organization shows an escalation related burden in these countries. The number of people with diabetes is expected to increase by 19.5% between 1995 and the year 2025 in India, representing about 57 million people. (Ghaffar et al., 2004).

Al-Moosa et al. (2006) analysed the prevalence of diabetes and hypertension among people from age 20 years and above in Oman. Among their findings was that, the overall prevalence of diabetes was about 12.0% across the country. This, according to their findings, varied in relation to the following variables: urban or rural residence, the age of the person, marital status, educational level, smoking status and blood pressure. The prevalence of hypertension was 21.1%. The report stated that among the urban residence, blood pressure as well as obesity were significantly associated with diabetes (Al-Moosa et al., 2006).
Oza-Frank et al. (2013) examined the prevalence of diabetes among United States immigrants. Data from 1997 to 2005 on 34,456 United States immigrants who were 18 years and above were analysed. The regions used for the survey includes the following: Mexico/Central America/Caribbean Islands; South America; Europe; Russia; Africa; the Middle East; Indian subcontinent; Central Asia and Southeast Asia. Among their findings was that, African men ranked second in the prevalence of diabetes while African women ranked third (Oza-Frank et al., 2013).

A study on the Management of diabetes and associated cardiovascular risk factors in seven countries was conducted by Institute for Health Metrics and Evaluation (IHME, 2010) researchers. Mexico was identified to have the highest prevalence of diagnosed diabetes among all the seven countries used for the survey, with 24.1% of males and 21.3% of females over the age of 35 years with diabetes. England and Scotland had the lowest prevalence rates. Prevalence was higher among men in Colombia, England, Mexico, and the US, but prevalence was higher among women in Iran and Thailand. The study found that in all prevalence rate was higher for women than for men. The prevalence of hypertension of people with diabetes was high in all surveys, and the rate of diagnosis was distinctly higher in England, Scotland, and the United States. Treatment rates for hypertension were higher in the more developed countries. The United States was the best performer, with over 38.0% of men and 25.0% of women with diabetes and hypertension meeting their treatment targets for hypertension.

Health Insurance status was identified as an effective means of managing diabetes and other chronic diseases such as hypertension. In the United States, health insurance holders were almost twice as likely to be effectively managed their chronic illness such as diabetes as compare with those without health insurance (Harris, 2012).
King et al. (2002) analysed the number of death due to diabetes across the world in the year 2000. According to their findings, the world mortality as a result of diabetes was over 2.9 million deaths which were 5.2% of the total mortality of the world in the year 2000. Regions such as Southeast Asia Region, Arabian Peninsula, Eastern Mediterranean Region and Western Pacific Region were identified to have rates of deaths due to diabetes. Their findings also indicated that individuals with diabetes below 35 years, 75.0% of all deaths were attributable to diabetes; in individuals with diabetes aged 35-64 years, 59.0% of deaths were found to be due to diabetes; while in individuals with diabetes and older than 64 years, 29.0% of all deaths were attributable to diabetes. They concluded that diabetes mellitus, if people do not change their lifestyle, is likely to be the fifth leading cause of death in the world (King et al., 2002).

Africa is said to be the region with the fastest rate of increase of various non-communicable diseases with diabetes and hypertension as the leading cause (WHO, 2017a). Mohan et al (2013), in collaboration with Madras Diabetes Research Foundation and Dr. Mohan's Diabetes Specialties' Centre; WHO Collaborating Centre for Non-communicable Diseases Prevention and Control; International Diabetes Federation Centre for Education, India; and Nelson Mandela School of Medicine, South Africa, analyzed “The Rising Burden of Diabetes and Hypertension in South-east Asian and African Region: Need for Effective Strategies for Prevention and Control in Primary Health Care Settings”. The objective of their study was to review the available literature on burden of Diabetes Mellitus and Hypertension and its coexistence in Southeast Asian and the African regions. Review of the papers published on diabetes mellitus and in the study regions between 1980 and 2012 were analysed. From the report, in the year 2011, South-East Asian region had the second largest number of people with diabetes mellitus.
(71.4 million), while the African region had the smallest number (14.7 million). Their reviews showed that, more than 50.0% of individuals with previously undiagnosed hypertension and diabetes mellitus in both regions. They also found that, diabetes mellitus and hypertension coexist in type2 diabetes mellitus. In India about 50% of type 2 diabetic individuals have hypertension; Thailand 78.4%; Korea 55.5%; Nepal 36.7%; Cameroon 66.4%; Kenyan 50.0%; Nigeria 54.2%; Morocco 70.4% (Lee et al., 2012; Joshi et al., 2012; Ogunleye et al., 2012; Unadike et al., 2011; Berraho et al., 2012; Bunnag et al., 2006; Shrestha et al., 2006; Otieno et al., 2005; Ducors et al., 1996; Singh et al., 1996; Jain & Patel 1983;). Their findings also indicated that, by change of lifestyles both conditions (diabetes mellitus and hypertension) can be prevented in both regions. Among the WHO regions, the prevalence of hypertension was the highest in Africa, with prevalence rates of hypertension over 40% (Norman et al, 2007). They again indicated that, the prevalence of hypertension is increasing rapidly in sub-Saharan Africa across all age groups (Opie and Seedat, 2005). Finally, their findings revealed that significant number of individuals with hypertension is not aware of their condition and, among those diagnosed with hypertension; treatment is inadequate since a lot of people see hypertension as an old age condition but not disease (Lawes et al, 2006).

Abubakari et al. (2009) conducted a researchto determine the prevalence and distribution of, and trend in physical inactivity and diabetes in adult West African populations through literature review. One of their findings was that, the prevalence of diabetes in West Africa was approximately 4.0% in urban adults‘ population and 2.6% in rural adults‘ population. Their findings also revealed that, there is an association between physical inactivity and being older, being female and living in an urban area (Abubakari et al., 2009).
Lawrence et al. (2008) in their analysis of Trends in the prevalence of pre-existing diabetes among Africans reported that, rural or urban residence plays a major role in an individual’s diabetes status in sub-Saharan Africa. For instance, among the adults’ population living in rural areas, the prevalence rate of diabetes was 1.5% as compare with 4.0% for the adults’ population in the urban areas. This difference, according to their report is attributable to lifestyle changes associated with urbanization and Westernization lifestyles (Lawrence et al., 2008). Studies from Tanzania (Aspray, et al., 2000) found an urban-to-rural ratio of five to one; from Cameroon (Mbanya, et al., 1997) reported a ratio of two to one; and from Ghana, National Diabetes Association of Ghana (NDAG, 2012) reported a ratio of five to one. Some of the factors that have been associated with type 2 diabetes include rapid cultural changes, aging populations, increasing urbanization, dietary changes due to urbanization and Westernization, decreased physical activities due to busy schedules and sedentary type of works and other unhealthy lifestyles and behavioral patterns such as abuse of alcohol and excessive smoking of cigarette and other harmful substances. Their findings indicated that, the majority of the people with diabetes in Africa are undiagnosed. For instance, the prevalence of undiagnosed diabetes accounted for 60 percent of those with diabetes in Cameroon (Mbanya et al., 1997), 70 percent in Ghana (Amoah et al., 2002), and over 80 percent in Tanzania (Aspray, et al., 2000). It can therefore be deduced from the above that in sub-Saharan Africa, for every diagnosed person with diabetes, there are about one to three undiagnosed cases.

Osamor (2010) study about the health care seeking for hypertensive patients in South Western Nigeria. From the findings, 63.4% of the study population reported that they sought care for their conditions from health centers while 5.0% mentioned that they go to the patent medicine sellers.
It was found that 1 out of every 10 hypertensive who visit hospital also make use of traditional medicine. It was also revealed that, the preference of hypertensive patients for traditional health care providers is mainly because of easy accessibility of these herbal practitioners, time savings and less costly.

Godfrey et al. (2012) in their analysis of Health-Seeking Behavior of Rural Dwellers in Southern Nigeria, found that, the rural populace has cosmological notions that, all sicknesses are as a result of disturbances between man and his social environment and his spiritual world. The popular notion is that “people do not just suffer illness by chance” therefore, chronic illness like diabetes and hypertension are usually attributed to supernatural cause. Clinical explanations, therefore, are seen as secondary causes.

Chinenye and Ogbera (2013), reviewed various literature related to the sociocultural aspects of diabetes in Nigeria. The main objective of the study was to examine the health seeking behaviour of the Nigerians who suffer from diabetes from the sociocultural perspectives. From their review, it was found that in the advanced countries, diabetes care is sought in health care centers but in Nigeria, a combination of orthodox and traditional health care was the practice. According to their findings, many Nigerians often 'supplement' the care they receive in the various clinics and hospitals with treatment from ‘native doctors’ (traditional healers). Their finding also indicated that, in Nigeria there is a strong belief that every sickness has a cure. This belief however, contradicts with some traditional Ghanaian belief about some illness which are considered as incurability and chronic. In the context of these beliefs, the scientific description of diabetes as a chronic non-communicable disease exposes the limitations of biomedical medicine and encourages people to turn to traditional healers or what is popularly known as ‘native doctors’.
It is also a cultural belief in Nigeria that some sicknesses such as diabetes and hypertension are given to persons that have done wrong against others. This put some kind of stress to such people who are may display poor compliance to orthodox medication regimen because it is belief that such ailments can only be cured by ‘native doctors’. A commonly asked question when a person is told about his diabetic status is "Who have I done wrong against in this community?"

Their study also found that the relationships that diabetics and hypertensives have with their family members and friends, is an important factor in improving the management of diabetics and hypertensives health conditions. The study further revealed that in Nigeria, when it comes to individual health issues especially chronic diseases, the family members, community members, church members etc., all play active roles in deciding the method of health seeking. It can therefore be concluded that people without such networks of social support, especially those living alone, are not likely to manage their diabetes and hypertension effectively.

Yusuf et al. (2007) analysed the health-seeking behaviour among the Yoruba’s in Nigeria who suffer from diabetes and hypertension. Among their key findings was that, lack of knowledge, financial difficulties, non-compliance to orthodox medication regimen and cultural factors such as self-medication with local herbs were found to be associated with poor diabetes and hypertension management among diabetics and hypertensives in Nigeria (Yusuf et al., 2007). Non-compliance with orthodox medication regimen was found to be associated with financial difficulties, side effects of orthodox medications, and perceived inefficiency orthodox diabetic drugs (Yusuf et al., 2007).
Several studies conducted in Ghana have particularly alluded to the rising trend of diabetes and hypertension which are major risk factors for most chronic diseases. Addo et al. (2006) studied the changing patterns of hypertension in rural Ghana to determine the prevalence, distribution and risk factors of hypertension among rural residents in the Ga district. From their study, 25.4% of the sample size had their BP greater than or equal to 140/90 mmHg and 32.3% of this was aware of their condition. It was also found that prevalence of hypertension was higher among the illiterates. Their study however found that, having more than nine years of education carried a higher risk compared to no education at all. This finding according to the study, could be because those with more than nine years of education were, perhaps, relatively wealthier and could afford a more Westernized lifestyle. They probably also had easier access to the mass media, which could have influenced them to change their indigenous diet to more processed and fatty foods. Their study further indicated that, prevalence of hypertension was higher among the farmers (32.7%) than traders (25%) and the other occupational groups such as artisans. The study however failed to give reasons why hypertension was high among the farmers who are involved in more physical activities. The study revealed that, there was no significant association between hypertension prevalence and alcohol consumption and those with a history of diabetes had an increased risk of being hypertensive. From the study, there was no clinical test done for diabetes of the participants but it was concluded that those with a history of diabetes had an increased risk of being hypertensive as this was based on oral interview to find out from them whether they have diabetes or not. This might not be the true reflection of the results because not everybody could tell his or her diabetes status.
Nyarko et al. (2014), conducted a research to model the hypertensive and non-hypertensive diabetic patients at Komfo Anokye Teaching Hospital, Kumasi. According to their report, out of 260 diabetic patients studied, the females were more diabetic (73%) than the males (27%). Among these, 55.0% were hypertensive while 45.0% were non hypertensive. Out of 144 hypertensive/diabetic patients, 77.0% were females and the rest were males. It can, therefore, be concluded that females were more diabetic and more hypertensive than the male patients. The findings revealed that, the number of patients at 60 years plus diagnosed as hypertensive/diabetic outweighed those between 36 and 59 years and this range also outweighed 35 years and below. Further, there was positive relationship between age and blood pressure for both hypertensive and non-hypertensive diabetic patients. The patients suffering from diabetes with hypertension reported significantly higher levels of Body Mass Index compared with that of the patients suffering from only diabetes (Nyarko et al., 2014). A similar study on the characteristics of hypertensive and diabetic in Kumasi by Mensah et al., (2006) between 2000 and 2005 revealed that, about 67.0% of the hypertensive patients were above 60 years while 72.0% of the diabetic patients were above 60 years.

Micah and Agyenim (2003) conducted a study on hypertension and renal failure at Komfo Anokye Teaching Hospital, Kumasi. The rate of death among the admissions was 22.9% (758 among 3319 admissions); 28.5% of these were among those with hypertension and its complications, or renal failure. One hundred and ninety-three (193) representing 17.9% of 3317 who were on serious medical admissions were attributed to a cardiovascular cause (hypertension, heart failure, and stroke); 171 of these died (Micah and Agyenim, 2003).
Danquah et al. (2012) examined diabetes mellitus type 2 and hypertension in urban Ghana: characteristics and associated factors. The study was conducted from August 2007 to June 2008 at Komfo Anokye Teaching Hospital (KATH) in Kumasi, Ghana. The study aimed at examining factors associated with diabetes mellitus type 2 and hypertension among hospital attendants with diabetes mellitus type 2 and/or hypertension. From their results, 46.0% of the 1466 participants screened were diagnosed of diabetes, out of this, 75.0% were female, 97.0% were diabetes mellitus type 2 and aged 40-60 years. Again, 63.0% of the diabetic people were diagnosed of hypertension. Their study revealed that, lifestyle of the study population was mainly sedentary; low socio-economic status; overweight was frequent, particularly among women; alcohol and tobacco use were generally low, and recreational sports not very popular. The findings of their study showed that, associations of diabetes mellitus type 2 with outskirts residence and illiteracy point to the possibility of inadequate access to health information. Unemployment and expanded working hours, hard work, and overcrowded households were all associated with diabetes mellitus type 2 and may reflect stressful living conditions. Again obesity was identified as a prominent risk factor in diabetes mellitus type 2 in their study, particularly in women. In their conclusion, they suggested further research into diabetes mellitus type 2-related knowledge, attitudes and behaviour in order to implement socio-culturally appropriate lifestyle health promotion campaigns (Danquah, et al., 2012).

Francesco et al. (2004) researched into prevalence, detection, management, and control of hypertension in 12 villages in Ashanti Region, Ghana. According to their findings, participants in semi-urban areas had comparably higher blood pressure (BP) than rural dwellers. The semi-urban dwellers also had a significantly higher body mass index (BMI) compared to the rural
dwellers. It was also found that systolic blood pressure increased with age, while diastolic blood pressure peaked in the 55 to 60 year group. Hypertension was higher in the semi-urban participants and was also higher in men than in women. The overall prevalence of hypertension was 28.7% in both men and women, but higher in semi-urban than the villages and increased with age. Detection rates were suboptimal in both men and women, especially in rural areas. Adequate treatment of high blood pressure is at a very low level. The report remarked that there is urgent need for preventive strategies on hypertension control in Ghana (Francesco et al., 2004).

Aikins et al. (2011) evaluated cardiovascular disease prevention in Ghana: feasibility of a faith-based organizational approach. The objective of their study was to evaluate the feasibility of having Community Health Workers (CHWs) implement cardiovascular disease prevention programmes in faith-based organizations in Accra. From their study, church members were aware that cardiovascular disease, specifically diabetes and hypertension, were a major cause of morbidity and mortality in their congregations and in Ghana as a whole. They identified stress, an unhealthy diet, advanced age and lack of physical activity as risk factors for developing cardiovascular disease. Many life stressors such as not having the means to properly nourish oneself, marital conflicts, lack of rest etc. were mentioned as major factors contributing to the development of cardiovascular disease. Diets rich in fats and carbohydrates or both and the “westernization” of the Ghanaian diet were also identified as contributors. According to their findings, while most church leaders and health committee members identified being over 40 years as another risk factor for developing cardiovascular disease, they also expressed concern that an increasing number of people in their early 20s were being diagnosed with hypertension or
diabetes. Their study further revealed that, congregants and health committee members were found to know a lot about cardiovascular disease.

A limitation of this study is the sample for the study. Although the churches that they used in their study represent the various types of Christian churches existing in Accra, they do not represent the entire range of Christian churches in urban and rural Ghana. The 2008 Ghana Demographic and Health Survey report classified the Christian churches in Ghana as Anglican, Catholic, Methodist, Pentecostal/Charismatic, Presbyterian and “other” (e.g. Baptist, Jehovah’s Witnesses, Mormons). Again, their study did not cover Moslem or traditional/spiritualist organizations, and the findings may have been different if these other types of faith-based organizations had been included in their study.

Bindels (2006) undertook a study to analyse how Ghanaian, African-Surinamese and Dutch patients explain hypertension in Netherlands. They relied on the names and the physicians‘ experiences to identify Dutch, Ghanaian and Surinamese patients. Sixteen were Ghanaian (69% were Ashantis), 15 Dutch and 15 Surinamese. Their study revealed that, the three ethnic groups used for their study mentioned culturally specific nutritional habits as possible causes of hypertension (Dutch liquor ice; Ghanaians starchy food such as fufu; Surinamese salty diet). Several Ghanaians characterized hypertension as ‘too much blood in your body’. This seems to be the literal sense of the phrase Mogya Broso (‘excess of blood’) from Ghanaian Twi language. Their study revealed that explanatory models of hypertension in patients from the three ethnic groups differ from the common medical perspective (Bindels, 2006). Using the experiences of physicians and names to identify origins of patients were not very scientific since names are similar and also there is possibility of dual citizenship in Holland.
In conclusion, the major issues examined under the relevant literature reviewed were the prevalence of diabetes and hypertension from the global, African and the Ghanaian perspectives. Diabetes and hypertension have emerged as major cause of non-communicable diseases in the world and Ghana is no exception to this trend. The review also covered peoples’ perceptions about causes of diseases and health-seeking behaviour in general but emphasis was made on diabetes and hypertension. From the reviews, chronic disease researches in Ghana such as diabetes and hypertension had traditionally been dominated by biomedicine and has focused primarily on the clinical aspects and medical adherence. It was also observed that there is limited information about the challenges diabetic and hypertensive patients go through in their quest to seek health care for their conditions. Furthermore, almost all diabetes and hypertension research in Ghana seems to focus on the diabetic and hypertensive patients, but not much research has been done on how people without the conditions also perceive the risk factors and management of these two conditions. This study therefore seeks to close these gaps.
2.3 Theoretical Framework

2.3.0 Introduction

To conceptualize and elucidate peoples‘ perceptions and management of illness processes resulting in embodiment and its manifestation in communities, theoretical framework is needed. This is because theoretical framework helps to structure ideas so as to explain causal connections between specific phenomena within and across specified domains by using interrelated sets of ideas whose plausibility can be tested by human action and thought. Empirical evidence suggests that social, economic, cultural and political factors influence individuals‘ perceptions, behaviour and management of health and illness. Two theories of causes of disease conditions and their philosophical concepts that underpin them are considered and described below. These are: the Health Believe Model (HBM) and General Susceptibility Causes of Disease (GSCD). Each of them is critically examined in terms of merits and weaknesses to determine their appropriateness for the study.
2.3.1 The Health Belief Model

The Health Belief Model (HBM) is an intrapersonal (within the individual, knowledge, perception and beliefs) theory used in health promotion to design intervention and prevention of occurrence of diseases (Hochbaum 1958; Rosenstock 1974). It was designed in the 1950’s and continues to be one of the most popular and widely used theories in health promotions. The focus of the Health Belief Model is to assess health behavior of individuals through examination of perceptions and attitudes someone may have towards disease and outcomes of certain actions. The Health Belief Model assumes that behavior change occurs with the existence of three ideas at the same time:

1. An individual recognizes that there is enough reason to make a health concern relevant (perceived susceptibility and severity).

2. That person understands he or she may be vulnerable to a disease (perceived threat).

3. Lastly, the individual must realize that behavior change can be beneficial and the benefits of that change will outweigh any costs of doing so (perceived benefits and barriers).

Figure 2.1 below shows the health belief model including all of the factors necessary for behaviour change. There are three main categories provided in the model. These are (a) Individual Perceptions (b) Modifying Factors and (c) Likelihood of Action.
Individual Perceptions

Individual perceptions speak directly to the knowledge and beliefs that a person has about his behaviors and the outcomes he could have. There are two main factors to demonstrate the individual perceptions. These are Perceived Susceptibility and Perceived Severity.

Modifying Factors

While Individual Perceptions are internalized, in the Health Belief Model, Modifying Factors step outside the body to examine and use outside influences to affect how threatened a person feels by the outcomes of continuing the same behaviors that put him at risk. As demonstrated by the arrows in the diagram, perceived susceptibility and severity do have their own impacts on threat as well.

Perceived Threat

Susceptibility is about how someone acknowledges that his behavior could lead to a specific disease. Threat in the context of health believe model examines how likely it is that a particular disease could be developed due to his behaviour. To use diabetes and hypertension again, someone who has been drinking alcohol for a year may not feel threatened by potential disease because he has not been drinking for long and if he quits he can recover. On the other hand, another person who has been drinking for say 20 years may feel very threatened by diabetes and hypertension if he has developed a strong headache and blur vision. These symptoms could increases his level of threat and trigger his decision to stop drinking alcoholic beverages altogether.
Environmental Factors

Environmental factors can add to the threat of disease. Demographic background can cause one to be more at risk such as race, sex, age, ethnicity, and socioeconomic status. Someone living in poverty would be more threatened by a disease if they could not afford health care. Family lifestyle such as type of foods, time of eating and sleeping, smoking, etc. can have great influence on the individuals' susceptibility of contracting non-communicable diseases like diabetes and hypertension within the family (Rosenstock 1974). Also if an entire group of friends for example smoke cigarette or drink alcoholic beverages together, it is going to be more difficult for one person to stop.

Cues to Action

Lastly on figure 2.1 are cues to action. These are reasons why an individual realizes he could be threatened by serious disease. These could be media or concerned loved ones. Cues to action are anything that triggers a decision to change behavior. The previous two categories have built on each other and lead to Likelihood of Action.

Likelihood of Action

After becoming aware of the potential for developing a disease such as diabetes and hypertension after long period of drinking or smoking cigarette, if behavior does not change, it is important for such a person to weigh out the benefits and the barriers to taking action and determine if it worth it. The question one will ask is: What are the benefits to change from negative behaviour such as smoking of cigarette and drinking of alcoholic beverages? In the health belief model, the main objective is greater quality of life for an individual both mentally and physically. Clearly a
perceived benefit to change would be increased health but there could be other factors that exist on an individual level which can serve as barriers. Perceived Barriers are the reasons why an individual would find it difficult to change his negative behaviours. Barriers could be anything from losing friends to not having enough money or even self-efficacy problems such as not believing in one’s self. For change to take place the benefits must be stronger than the barriers.
Figure 2.1: Theoretical Propositions of the Health Belief Model

**Individual Perceptions**
- Perceived susceptibility of diseases
- Perceived seriousness (severity) of disease

**Modifying Factors**
- 1. Demographic Variables (age, sex)
- 2. Socio-psychological (Personality, social class)

**Likelihood of Action**
- Perceived benefits of preventive action minus perceived barriers to preventive action
- Likelihood of taking recommended preventive health action

**Cues to Action**
- Mass media campaigns
- Advice from others
- Illness of family member
- Health visitors/Physician’s
- Explanation

Source: Rosenstock (1974)
The appropriate theoretical framework to be integrated with the health belief model for this study therefore, is the General Susceptibility Causes of Disease propounded by David Locker (1989) and was reviewed by Graham Scambler (2008). This is because it takes into consideration the risk factors of socio-environmental and psychosocial causes of diseases in any population.

2.3.2 General Susceptibility Causes of Disease (GSCD)

According to Locker (1989), there are three main theories which characterize epidemiological studies. These are mono-causal, multi-causal, and general susceptibility theories of disease etiology (Locker, 1989). According to the mono-causal theory which was developed by Koch in 1882, there is one specific cause of every disease. This refers to one-to-one relationship between the causative agent and disease (Najman 1980). Multi-causal theory of diseases also known as epidemiological triangle approach was developed by Najman (1980) as a result of the limitations of the mono-causal theory.

The theory of general susceptibility has emerged over the past 30 years and departs in important ways from mono-causal and multi-causal models of disease. It is not concerned with identifying single or multiple risk factors associated with specific disorders, but seeks to understand why some social groups seem to be more susceptible to particular disease and death in general. Many contemporary medical problems today are better understood in terms of a web of causation (figure 2.2). According to this concept, disorders such as heart disease, hypertension, diabetes, etc. develop through complex interactions of many factors which form a hierarchical causal web of events. These factors may be biophysical, social or psychological and may promote or inhibit
the disease at more than one point in the causal process and they determine the level of disease in
a community (Locker, 1989). Numerous studies have shown that social class, measured by
occupation, education, income, area of residence, etc. are closely related to health (Scambler,
2008). Against this backdrop, and for the purpose of this study, the theory of General
Susceptibility Causes of Diseases which is an improvement on the mono-causal and multi-causal
theories was used. In theorizing causes of diseases, Locker (1989) categorized causes of diseases
into socio-environmental approach and psychosocial approach.

Regarding socio-environmental approach, Locker identified some factors concerning the
determinants of health that can be targeted in order to improve populations’ health. These factors
include: social and economic environment; the physical environment; personal health practices;
individual capacity and coping skills and health services as demonstrated in figure 2.2 (Locker,
1989). Thus, comparing these socio-environmental factors to a study done by Owusu-Sekyere et
al (2013), hypertension was more profound in low-income suburbs of Kumasi than the high
income communities.

Studies done on social and cultural change have revealed that some populations isolated from
western culture have low blood pressure and this does not rise with age. However, blood-
pressure levels and coronary heart disease rates increase when these populations move to urban
settings. Studies conducted during the 1960s and early 1970s in the United States found higher
rates of disease among people who changed jobs, place of residence or life circumstances
(Locker, 1989). This observation can be seen in the prevalence of hypertension and diabetes in
Ghana. Even though prevalence of hypertension and diabetes in Ghana generally has increased,
the prevalence in the urban areas is higher than in the rural areas with a ratio of 5:1 (GHS, 2012;
NDAG, 2012; Amoah, 2003).
Social support refers to a fairly broad category of events which include practical assistance, financial help, the provision of information and advice and psychological support (Locker, 1989). Locker examines Durkheim’s analysis on suicide and how he used statistical methods to explore and explain differences in suicide rates across different social groups. From his analysis, although suicide is an individual act, the differences in rates have persisted over time and across cultures. Durkheim explained suicide in terms of the social organization of these groups, particularly the extent to which individuals were integrated into the group, and the way in which this encouraged or deterred individuals from suicide. High rates of suicide were associated with groups that had very low levels of integration (Durkheim, 1951). Comparing this analysis to other studies, in a society where marriage and family life are a central value, being married gives meaning and significance to daily life, promotes a sense of well-being and is a source of social and emotional support (Morgan, 1980; Vogt et al, 1992; Kawachi et al 1996; Williams et al 1992). Owusu-Sekyere et al (2013) found that, hypertensive and diabetic patients who have financial and social supports are able to manage their situations better than those who do not have financial and social support.

Figure 2.2 below provides diagrammatical demonstration of the General Susceptibility Causes of Disease.
Fig 2.2 Socio-environmental and psychosocial causes of diseases

**RISK CONDITIONS**
- Poverty (Vulnerability)
- Low Educational Level
- Low health education
- Unemployment
- Poor diet
- Polluted Environment
- Dangerous and stressful Works
- Poor Housing

**PHYSIOLOGICAL RISK FACTORS**
- Diabetes
- Hypertension
- Weak Immune System (Genetic)
- Coronary heart Diseases

**BEHAVIOURAL RISK FACTORS**
- Smoking
- Poor Diet
- Excessive intake of Alcohol
- High consumption of Fatty Foods
- Late Eating of Heavy foods
- No Exercise

**PSYCHOSOCIAL RISK FACTORS**
- Isolation
- Lack of Social Support
- Low Self - Esteem
- Self-Blame
- Hopelessness

**HEALTH STATUS**

Source: Labonte (1993)
From figure 2.2, there is a close association between income and health so that health improves at each step up the income and social hierarchy. Societies with majority of the population living below the poverty line (vulnerability) are more susceptible to contract diseases as compare with societies with a high standard of living in which wealth is more equally distributed. Higher levels of education are associated with better health. Education increases opportunities for income and job security and equips people with the means to exert control over their life circumstances. Unemployment, particularly if long term, has an influence on one's income which to some extent determines the kind of diets one eats and hence is associated with poorer health.

Hazardous physical working environments and the injuries they induce are important causes of health problems. The quality of air and water influences the health of any population. Again, features of the constructed physical environment, such as housing, roads and community design all have influence on the susceptibility of contracting diseases. Moreover, those with more control over their work and jobs which involve fewer stress-inducing demands are healthier as compare with those who always work under stressful conditions.

Social environments which encourage healthy choices and healthy lifestyles are key influences on health as are the knowledge, behaviours and skills which influence how people cope with challenging life issues and circumstances. Societies with proper health institutions accompany by well-structured public health education and health services can, if appropriately organized and delivered, prevent disease and help promote and maintain health in such societies.

From figure 2.2, modifiable behavioural risk factors such as smoking of cigarette, physical inactivity, unhealthy diet and the harmful use of alcohol, late eating of heavy foods, high consumption of fatty foods, excess intake of salt, etc. all increase the risk of non-communicable
diseases such as diabetes and hypertension. For instance, according to WHO (2016), tobacco accounts for 7.2 million deaths every year (including from the effects of exposure to second-hand smoke), and is projected to increase markedly over the coming years if nothing is done about the rate at which people smoke. 4.1 million Annual deaths in the world have been attributed to excess salt/sodium intake and more than half of the 3.3 million annual deaths attributable to alcohol use are from non-communicable diseases such as diabetes and hypertension. 1.6 million deaths annually can be attributed to insufficient physical activity of the individual (WHO, 2016). Psychosocial risk factors such as hopelessness, support from family, friends and social organizations are associated with better health status. Moreover, People living in communities with higher levels of social cohesion tend to be healthier.

2.3.3 Limitations of the Theories

There are some limitations of the theories used for the study. For instance, the Health Belief Model does not account for a person’s attitudes, beliefs, or individual determinants that dictate a person’s acceptance of health behaviour. It does not also account for environmental or economic factors that may prohibit or promote the recommended action. It assumes that cues to action are widely prevalent in encouraging people to act and that ‘health’ action is the main goal in the decision-making process. And finally, it assumes that everyone has access to equal amount of information on the illness or disease.

From the study results as well as African and Ghanaian perspectives, one could acquire diabetes and or hypertension through spiritual means. This spiritual means of contracting diabetes and
hypertension is however difficult to interpret in relation to the constructs of the theory of General Susceptibility Causes of Disease and the Health Belief Model. One possible explanation offered by participants was that, since in most cases physicians describe diabetes and hypertension as chronic diseases which could only be managed but not completely cured (Aikins, 2005), it means that, the spiritual means of acquiring these diseases cannot be ignored from the perceived risk factors of causing diabetes and hypertension. In spite of all these limitations, in combining the two theories provides the appropriate theoretical frameworks for this study since they complement each other.

In conclusion, the two theories are used as the conceptual framework for the study because they complement each other. While General Susceptibility Causes of Disease emphasizes on social and environmental factors which have a direct effect on health and also affect health through the numerous psychosocial, behavioural and physiological risk factors which they engender, the Health Belief Model is a simultaneous process used to encourage healthy behavior among individuals who put themselves at risk of developing negative health outcomes. The gaps identified in the literature review and the key issues in the theoretical framework are used to guide in the designing of the research tools for data collections.
CHAPTER THREE

METHOD OF DATA COLLECTION

3.1 Introduction

The phenomenon of ‘diabetes and hypertension and the related distress as well as health-seeking behaviour of patients within the cultural context of Africa and Ghana were discussed in chapter two. The theoretical framework, which reflects the literature and conceptualizes a model for understanding peoples’ perceptions, behaviour and management of diabetes and hypertension, namely the General Susceptibility Causes of Disease and Health Belief Models were extensively analysed. The aim of this chapter is to explore methods appropriate and capable of addressing the research objectives pertaining to this thesis. To arrive at the appropriate methods for data collection for this study, ontological and epistemological issues regarding the thesis have been briefly explained.

3.2 The Ontological, Epistemological and Methodological Nexus

The two major assumptions which underpin social investigation are epistemological and ontological assumptions which view the world from different perspectives (Krayer, 2003). In simple terms, ontology is the way we see the world and epistemology is the way we investigate the world. Creswell (2009) explains that ontology is about the “nature of things which exist”. In other words, it is about the nature of what is in the world that can be studied. It answers the question about what is there in the world or universe to be researched. The question of ontology
in the current study is to examine the nature of the social world in the context of how people perceive disorders such as diabetes and hypertension in order to understand this social phenomenon and the entities within it. In brief, ontology explains people’s views on the reality of diabetes and hypertension as objective realities that must be confronted.

The other issue confronting the social scientists is how the nature of reality may be studied or measured. In simple terms, how can the researcher discover knowledge about the social world or “nature of reality”? Closely related to “what constitutes nature of reality” or “ontology” is the concept of “epistemology”. Epistemology considers how people are able to study “what is out there” in the social world (Creswell, 2009). This is about the suitable approaches of researching into the nature of the social world (Easterby-Smith et al, 2008). However, Eriksson and Kovalainen (2008) mentioned that epistemology considers “what is knowledge, sources of knowledge and limits of knowledge”. In other words, epistemology considers the processes or appropriate approaches of making enquiries or investigations into the nature of the social world (Easterby-Smith, Thorpe and Jackson, 2008). As a methodological process, epistemology defines the structure of knowledge, possibilities of what knowledge is likely to be known, the scope of the knowledge generated and how it spans and its general basis. Method of data collection is about how a researcher or an inquirer moves out to explore what exist in the social world (Furlong and Marsh, 2010). Methodology, is therefore, concerned with the research design, target population, sampling approach, data collection approach and the processes of analysis of data.
3.3 Design of Research

Qualitative or quantitative approach to research presents reality from a different perspective and suggests alternative course or pathway to our understanding of reality. In this study, both quantitative and qualitative approaches were used. However, according to Chan, Fung and Chien (2013), qualitative data are gathered through narratives of research participants through in-depth interviews, in which the responses from participants are presented using verbatim quotations or exemplars (Chan, Fung and Chien, 2013). Similarly, Letts, et al (2007), explain qualitative research as, investigations concerned with exploring and understanding human experiences, behaviours, perceptions, feelings as well as intentions and illustrate them in a vivid fashion.

From the various definitions of qualitative research, all the three studies Anderson (2010), Chan, Fung and Chien, (2013) as well as Letts et al., (2007) are with the view that qualitative research is not about quantification of numbers but is concerned with exploring and understanding human experiences, behaviours, perceptions, feelings through interactions between the researcher and the research participant. From Chan, Fung and Chien (2013) definition of qualitative research, qualitative data is obtained through in-depth interviews. However, Anderson (2010) did not show the source of data in qualitative research. Similarly, Letts et al. (2007), looked at what constitutes qualitative data such as human experiences, behaviours, perceptions, feelings and motives without considering their sources. There are varieties of forms of qualitative research approaches which are available to researchers. These are ethnography, phenomenology and grounded theory (Letts et al., 2007).

Cross-sectional simple random sampling method was used in the selected communities for the study, specifically face-to-face conversational interviews was used. An in-depth interview was however used to collect data from participants who had either diabetes or hypertension or both.
Generally, the qualitative design dominated the research process because qualitative research methods allow the study population the opportunity for greater personal explanation than quantitative methods. It is also believed that qualitative research is an effective way to do a culturally sensitive research (Neuman, 2007). This enabled people with diabetes and hypertension to describe their illness experiences and beliefs. In qualitative method, concepts, data collection tools, and data collection methods can be adjusted as the research progresses (Vidich et al, 2000).

The quantitative approach was mainly used for the community survey especially for the closed-ended questions while the qualitative was used for the in-depth interviews with the members of the ‘God is Love Association‘. The application of both qualitative and quantitative techniques yielded a mixed method that had a complimentary strength.

### 3.4 Entering the Selected Communities

As mentioned earlier on, two communities in the Shai-Osudoku district were selected for the community survey. These are Ayikuma and Doryumu. Brief profile of these two communities is provided in the next chapter within the profile of the district.

My first visit to the selected communities was on Sunday 16\textsuperscript{th} April 2016. I was accompanied by a friend who works at the Shai-Osudoku district assembly as a community development officer. As a community development officer, almost all the opinion leaders such as chiefs and assembly members in the various villages and towns in the district know her. As a result of her accompaniment to these communities, I was warmly welcomed by the leaders of the communities. Our first point of contact was the assemblymen in each of the communities. At Ayikuma, one of the selected communities, I explained the purpose and objectives of my
research to the assemblyman who quickly asked –What benefits would the community derive from your research?” I further explained to him that it is purely for academic purpose and therefore the communities will not directly benefit from my research. He (the assemblyman) promised to have discussions with the chiefs and elders in the town and get back to me later. He then linked me to the assemblyman at Doryumu which is just about 3 kilometers from Ayikuma. At Doryumu, the assemblyman was very critical of the study because he claimed a lot of people have been to that community to undertake various researches but they have not seen any benefits from such researches. However, upon series of explanations and the presence of my friend who was known by almost all the opinion leaders in both communities, he agreed to discuss it with the chiefs and elders and give me feedback.

On the following Sunday (23rd April, 2016), arrangement was made at Ayikuma by the assemblyman for me to meet the chiefs and elders. In my own wisdom, I bought bottles of schnapps to be presented to them as it is done in most Ghanaian communities when a visitor is meeting traditional authorities for the first time. At the meeting, I introduced myself and told them the purpose of my visit. To my surprise, I was not asked series of questions which were asked by the assemblyman for the first time. I was asked to give some token of money for them to do announcement on the local ‘information service’ in the town about my presence before I would be allowed to visit various homes to conduct the interviews.

Similarly, a meeting was scheduled by the assemblyman at Doryumu upon series of phone calls to meet the chiefs and elders. At Doryumu however, series of questions were asked about my research. However, upon further explanations and the introductory letter from the head of sociology department, University of Ghana was read to them to confirm my student status, they
were happy to allow me to conduct my research in the community. I also presented schnapps and token of money to them to be used for local ‘information service’ announcement.

3.5 Encounter with ‘God is Love Association’

I was introduced to the leaders of the diabetic/hypertensive association called ‘God is Love Association’ by the same friend of mine who works in the district as community development officer. On 22nd May, 2016 an arrangement was made by the leaders of the association to meet the association members. After introducing myself, a question of ‘how the members of the association were going to benefit from my research was asked?‘ Again, I explained to them the purpose and objectives of the study as purely for academic purpose. After reading my introductory letter from the Sociology Department to them by the president of the association, they were happy to have me in their mist. As at the time of the field work in May 2016, their total membership was 97, comprising 57 females and 40 males. Initially only 16 members agreed to voluntary take part in the research project. However, after interviewing some of them in their various communities, four members of the Association called to express their willingness to be part of the research participants. This could be probably due to some token of gifts given to those initial participants after visiting their homes.

Initially, the researcher thought of conducting focus group discussion with the members of the Association since it provides natural forum that is, captive audience for focus group discussion. However, it was realized that they meet every three months which was not favourable for the researcher due to limited time available for the research. In spite of this, the researcher managed
to meet them during one of their meetings, but when the meeting came to an end, none of them was prepared to wait for the focus group discussion.

3.6 Target Population

The target population for this research includes people with or without hypertension and or diabetes and are 18 years and above and who live within the district. The 18 years lower age limit was chosen because from the literature reviewed, about 90% of people who suffer from diabetes and hypertension are 18 years and above and over 95% of these are above 35 years (NDAG, 2012).

3.7 Sample and Sampling Techniques

In order to examine community perspective in relation to perceptions of diabetes and hypertension, two communities in the district were purposively selected for community survey. These communities are Doryumu and Ayikuma. The two communities were selected because they are typical farming communities. Considering the large population size of the selected communities, the limited time available for the study, and financial constraints, 10% of the population who were 18 years and above in each community were interviewed. The proportion of the sample size for each of the two communities has been estimated in the table below using the 2010 Population and Housing Census of the various communities.
Table 3.1: Sample Size for the Selected Communities

<table>
<thead>
<tr>
<th>Community</th>
<th>Population 18 years and above</th>
<th>10% of the population 18 years and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doryumu</td>
<td>2254</td>
<td>225.40</td>
</tr>
<tr>
<td>Ayikuma</td>
<td>1150</td>
<td>115.0</td>
</tr>
<tr>
<td>Total</td>
<td>3404</td>
<td>340.40</td>
</tr>
</tbody>
</table>

Source: Extracted from 2010 PHC of Shai-Osudoko District

From the District Health Directorate, diabetic and hypertensive group (Association) called ‘God is Love’ have been formed in the district. The association was formed in 2010 through the initiative of the Community Development Department of Shai-Osudoku district with the assistance from the District Health Directorate. The main objective is to assist the members to manage their conditions well. The total membership of the association as at the time of the field work was 97 people made up of 57 females and 40 males. Out of this, 38 have both diabetes and hypertension, 47 have only hypertension and 12 have only diabetes. Twenty (20) of these people representing approximately 20% of the membership was interviewed (7 males and 13 females). Twelve of those who voluntary took part in the research were only hypertensive while the remaining eight were diabetic and hypertensive. Unfortunately, none of the people who have only diabetes were ready to be part of the study.

From the 2010 Population and Housing Census of Shai-Osudoku District, the two communities selected have the following population: Doryumu – 2254 and Ayikuma – 1,150 peoples who are 18 years and above. There were two groups of participants who were interviewed in the study. The first group was the general public in the selected communities who were 18 years and above.
and do not have hypertension or diabetes. Cross-sectional quantitative and qualitative community survey was used on the first group. Participants were selected randomly within each of the communities.

The second group were those who have been diagnosed with either hypertension or diabetes or both and belong to the association. The convenient sampling technique was used to select twenty of them who have been diagnosed with either diabetes or hypertension or both at the hospital. The procedure for the selection was based on who was willing to be part of the study and this was done during one of their meetings. In-depth interview was used to interview the twenty (20) representing approximately 20% of the membership. The inclusion criterion was that only those who have been diagnosed at a hospital to have either diabetes or hypertension or both and belong to the association were included in the in-depth interview. Some of the issues explored in the study include: How did you know that you have diabetes/ hypertension?; How did you feel when you were told that you have gotten diabetes/hypertension?; What is your understanding of hypertension? Etc. as can be found on appendix B.

3.8 Data Collection Techniques

Data collection is the process of gathering and measuring information on variables of interest in an established systematic fashion that enables one to answer stated research questions and evaluate outcomes (Neuman, 2011). Face-to-face semi-structured interviews were used. The utilization of a semi-structured format allowed the investigator to focus interview questions on each participant’s knowledge of diabetes and hypertension. The flexibility of this style of interview also allowed participants to discuss their opinions and intentions freely. According to
Neuman (1999), semi-structured interviews are most effective technique in conducting culturally relevant research which allows an investigator to ascertain what the basic issues or problems are, how sensitive or controversial the topic is, how easy it is to secure respondents‘ cooperation in discussing the issues, how individuals conceptualize and talk about the problems, and what range of opinions or behaviors exist that are relevant to the problem. Field notes on peoples‘ gestures during interviews, activities within the communities were also recorded.

The language that was used to solicit information was varied; this depended on the language the participant was most comfortable with. The native language of the selected communities is Ga-Dangme. However, the majority of them speak Twi and English. The interviews were conducted by the principal investigator and two research assistants. At the beginning of the study the research assistants were trained on data collection and were oriented on the tools used for data collection. The tools were also pre-tested on small group of people within the communities to determine the clarity of the questions and also provided window into respondents‘ thinking to ensure they were understandable and were collecting the intended data.

All the participants were assured of confidentiality and that none of their details like names and health status would be disclosed. This was done to ensure that the participants would answer the questions without fear. In order to ensure the completion of data collection, appointments were arranged with some of the participants, especially those who were diagnosed with either diabetes or hypertension or both.
3.9 Field/Observational Notes

Field notes were documented during the interviews. The field notes were written as observational and personal notes of events around the interviewing processes throughout the thesis. For instance, one day just after interviewing one participant, he indirectly complained of lack of money to buy his medication, because he had no money on that day. Even though I had earlier on explained to the participants that the research was for academic purpose and that participating in it was voluntary and would not attract any compensation. However, considering the peculiar problem of the participant at that particular moment, a token amount of money was given to him to buy the prescribed drugs. He was happy, however his request was after the interview so this did not influenced his responses to the interview questions.

Similarly, observational notes were also made during the field work. These were descriptions of events observed and experienced during the interviews and were written in a personal diary. This includes interruptions encountered during some of my visits to participants in their homes. For example, one day when I went to one of them to interview her after booking an appointment with her, when we were about to start the interview, two of the participant’s children started fighting. I have to halt the interview and separate them and even sustained small injury during the process. This created some noise in the home environment but did not affect the quality of the interviews. I also made notes during interviews, which were used to remind myself to stay on track and also note down areas I needed to revisit to ask questions as probes. This was the methodological style I used to remind myself for follow up questions in the interviewing process. Field notes were subsequently kept and constantly compared throughout the process of data analysis.
3.10 Method of Data Analysis

The quantitative aspect of the data was analyzed using Statistical Package for Social Sciences (SPSS) version 20. Following coding of the data, it was then entered into a computer and analysed using Statistical Package for Social Sciences. Data cleaning was done by running frequencies and all inconsistencies and errors in data entry were corrected. Descriptive statistics such as frequency tables, means and percentages were used to analyze, describe and summarize the data or represent findings from the data.

With regard to the qualitative data, content analysis was used with coding of the information collected from the field. According to Neuman (2011), there are three levels of coding; these are the open coding, axial coding and selective coding. Open coding is a process aimed at identifying concepts or key ideas that are hidden within the textual data and which are potentially related to the phenomena under study. The raw textual data was examined line by line to identify events, ideas, actions, perceptions and other issues of relevance to the theme of study. Once some basic concepts have been identified, these concepts or issues and themes were then used to code the remaining data, while at the same time looking for new concepts as well as refine old ones. At the second stage, an axial coding was performed which involves a kind of “second pass” through the data. Though new codes emerged at this level, the emphasis here was on reviewing and examining the initial codes for the purpose of organizing key ideas or themes and also identify any axils of key concepts. At this stage linkages were built among concepts and also in-depth analysis of relationships among the various issues that emerged were made. At the third stage and final stage, selective coding was done which involves scanning through the data and previous codes to look for cases that illustrated themes and comparisons and contrasts were
made. At this stage the entire categories of data were scanned through to look for generalizable
trends and conclusions were drawn from the study.

3.11 Field Difficulties

In every research there are some limitations and one of such potential threat to the internal
validity of the study could be the language barrier. The main local language spoken by the
selected communities for the study is Ga-Adangme, but most of the study participants could
speak the Akan language (Twi) which the lead researcher was more comfortable with. However,
there were few instances that some of the study participants could neither speak the Akan nor the
English language. Interpreters from the communities assisted in such situations to do the
translations from Ga-Adangme to either Akan or English. From personal observations, there
were some difficulties with such translations. This could affect the verbatim transcription of the
interview process and the findings. However, this was minimized as more than one interpreter
assisted the research team to do such interpretations anytime there was the need to do translation.

Other field problems encountered during the interview process includes disappointment of
scheduled dates for interviews with participants and respondents. Some respondents also
demanded gifts from the research team before availed themselves to be interviewed. There were
several instances when appointments have been scheduled to meet participants in their homes to
interview them but when I got there they were not around. Even in some instances I will called
them few hours before setting off to their towns but due to sometimes social events such as
funerals, church activities, etc. they would not be available to be interviewed. These problems
encountered prolonged the days for the interviews.
3.12 Limitations of the Study

The selection of just one district to undertake this research may limit the generalization of the findings to populations with different demographics and socio-economic conditions. Again, diabetic and hypertensive participants selected for this study may differ from the general diabetic and hypertensive population in the country in terms of access to medical care, socio-economic status, and other factors. However, based on the comprehensiveness of the semi-structured interview, this anticipated defect was drastically minimized.

3.13 Ethical Consideration

Observing ethical guidelines was core to the success of the study, particularly in field research. Accordingly, this study was preceded by the acquisition of ethical approval from the University of Ghana Ethics Review Board to undertake the thesis. Letters of introduction were then written by researcher’s Head of Department to all the assembly members and the traditional authorities of the selected communities. Similar letter was addressed to the leaders of the Diabetes/Hypertension Association in the District. In addition, the researcher booked separate appointments for meetings with the assembly members and the unit committee members as well as the chiefs and elders in each of the communities to brief them further on the research. Following these meetings, announcements were made by the chiefs and elders on the local information service stations in the communities to sensitize the people about the researcher’s presence in the communities. Participants/respondents were informed that any identifying information which is not directly related to the research would not be included in the written transcript or any presentation of the thesis findings. All these ethical values were adherent to in
the cause of the study by safeguarding respondents’ confidentiality. The study ensured the maximum respect for the privacy of all the study participants/respondents.

In conclusion, this chapter has described the two major assumptions which underpin social investigation, that is, epistemological and ontological assumptions which view the world from different perspectives. Ethnographical data collection procedures were also briefly explained. Data collection methods which included Design of research, target population, sample and sampling techniques, data collection techniques were detailed. This was followed by methods employed in data analysis, which included a detailed account of Neuman’s (2011) content analysis for qualitative data and Statistical Package for Social Sciences (SPSS) version 20 for the quantitative data. Ethical issues pertinent to this study were also discussed. The following chapter presents the profile of Shai-Osudoku District and which is the study area.
CHAPTER FOUR

PROFILE OF THE STUDY DISTRICT

4.1 Introduction
Shai-Osudoku District was chosen as the study area because from the 2010 Population and Housing Census in Ghana, over 76 percent of the district population resides in the rural communities (GSS, 2014). From the annual health report of the Shai-Osudoku District (2014), diabetes and hypertension rank fourth and fifth, respectively among the top 10 diseases. Since the focus of the study is on the local peoples’ perceptions and management of diabetes and hypertension, it is therefore appropriate to choose a district with such rural characteristics. The chapter presents the location of the district, political administrative structure, traditional administration, and the economic and social characteristics of the district.

4.2 Location and size
The Shai-Osudoku District is situated in the south-eastern part of Ghana in the Greater Accra Region. The district occupies a total land area of about 968.361 square km. Dodowa is its capital.
Based on Legislative Instrument (LI) 2137, Dangme West District was divided into two in June 2012 to have Ningo-Prampram District and Shai-Osudoku District which shares boundaries with North Tongu District to the north-east, Yilo Manya Krobo and Lower Manya Krobo Districts to the north-west, Akwapim North District to the west, Kpone Kantamanso District to the south-west, Ningo Prampram District to the south and Ada West District to the east. The Volta River washes the north-eastern portions of the district.
4.3 Political and Administrative Structure

The Shai-Osudoku District has 4 Town/Area Councils and secretaries have been appointed for the 4 Area Councils to assist the respective Assembly members in revenue collection and Community mobilization. The four Town/Area Councils are; Dodowa Town Council, Ayikuma Area Council; Asutsuare Area Council, and Osuwem Area Council. Unit committees constitute the base of the District Assembly structure. Doryumu and Ayikuma which are the selected communities for the study are found within the Ayikuma Area Council.

4.4 Traditional Administration

The oral traditions of the Ga-Dangme in general hold that, the communities, which now constitute the Ga-Dangme once lived together in an area called Same in Western Nigeria, having migrated from Egypt and Southern Sudan. From Nigeria the Ga moved by sea to their present location, while the Dangme moved by land through Togo crossing the River Volta at various points to a place called Lolovor, where they lived for quite some time until they broke up into the composite tribes, namely Shai, Osudoku, (who remained inland), Ningo, Ada who moved to the coast and were later joined by Gbugbla (Prampram). The people of the Dangme-West District are predominantly Ga-Dangme. There are two principal linguistic groups, the Ga and the Dangme. The indigenous people of the District are organized into two traditional areas - Shai Traditional Area headquartered at Kordiabe and the Osudoku Traditional Area with the seat at Osuwem. It is evident from historical studies that the Ga and Dangme had similar political and social system. For example, they both had theocratic systems based on the importance of river or lagoon fetishes, the Laloe in Prampram and the Korle in Accra (Ga). They also share similar circumcision and child naming ceremonies.
4.5 Economic and Social Characteristics

The main economic activities in the district are mainly farming, trading and services. Among the crops the people grow are fruits like mangoes, pineapples, etc. A few commercial farms have been established in the district. This includes the Golden Exotic farms (3,000 hectares banana plantation of which close to 800 hectares has been planted), the Tropo farms (a 5 hectare fish farm) and the Volta Estates. Although agriculture dominates the district, the leading sectors in terms of provision of revenue to the District are the quarries.

The District has ten health facilities to increase accessibility to health care facilities and services. These comprise one District Hospital located at Dodowa, five CHPS Zones located at Agomeda, Ayikuma, Agortor, Osuwem and Tokpo. There are also 2 Health Centers located at Osuwem and Asutsuare. In addition, the District also has 1 Private Maternity Home at Dodowa as well as a Quasi-Government Institutions located at Kordiabe. The district has police stations in three of its communities namely Dodowa, Doryumu and Asutsuare.

Houses in the district are mainly consist of Sandcrete walls with aluminum or asbestos or zinc roofs (34 percent) and the rest are made up of Landcrete or mud walls with aluminum or asbestos or zinc roofs and Wattle and daub with thatched roofs or landcrete with thatched roofs. According to the baseline survey carried out in 2000, most households in the district had a bath and kitchen (97.8 percent and 74 percent respectively). However, toilet facilities either privately or publicly owned were found to be generally inadequate. Only 26 percent of the households had toilet facilities. The lack of proper toilet facilities poses serious health problems for the District especially in overcrowded settlements. From the 2010 Population and Housing Census results,
23.7% of household members in the Shai-Osudoku District are heads of households, with 28.4% being male heads and 19.3% being female heads.

The results of the 2010 Population and Housing Census of Shai-Osudoku district shows that the household with the highest proportion is the nuclear household made up of head, spouse(s) and children only (27.3%) with almost same proportions reported in male and female headed households. The extended household which includes head, spouse(s), children and head's relatives follows with 20.0 percent. Significant proportions of the structure consist of single parent nuclear 18.4% and single parent extended 10.4%. The household with the least composition is single parent extended plus non relative. This means that the normal extended family system/communal way of living is gradually phasing out in the Shai-Osudoku District. Male household heads dominate in all the types of households in the district except in three types, that is, single parent nuclear, single parent extended and single parent extended and non-relative.

Marriage may be defined as a social institution which establishes the legitimacy of children (Asiedu and Arku, 2009). The proportion of the Shai-Osudoku population married is 39.8% whilst those who have never married represent 40.7%. The never married population outweighs the married because most of the never married can be found in the 12 - 14 years and 15 - 19 years groups who are not permitted by law to marry because they are below 18 years and are considered as minors. However, there are 6.7% and 8.5% of the population in the 12-14 years and 15-19 years groups respectively who are married. This may be children who have been forced into marriage. The widowed, divorced and separated are also represented with 6.1%, 3.3% and 2.9% respectively whilst the informal/consensual union/living together category constitute
7.2%, the highest among the districts in the Greater Accra Region. The significant number of the informal/consensual union/living together is dominant in the 25-29 years age group (13.7%). This may be as a result of unemployment on the part of the specific age group. They may not have a decent employment to be able to afford a marriage ceremony and therefore resort to the informal/consensual union/living together union.

According to 2010 Population and Housing Census of Shai-Osudoku district, majority (85.3%) of the population is affiliated with Christianity. Muslims constitute 7.6% and Traditionalists (2.0%). Among the Christians, the Pentecostal /Charismatic dominate with 50.1% of the entire population of the district. This is probably due to the high spread of these churches in the District. However, 4.0% of the population indicated they have no affiliation to any religion. All the various Christian groups have more females than males except for the non-Christian that is, no religion, Islam and traditionalist that have more males than females.

According to the district’s 2010 Population and Housing Census results, the level of education among the population 3years and older by school attendance are also presented. Of the 73,123 persons aged 3years and older in the district who were either in school or have ever attended school in the district, 1,290 representing 7.2% are in the Nursery, 15.6% in Kindergarten, 49.8% in primary and 17.8% in JSS/JHS/M SLC. SSS/SHS has about 6.6% whilst Tertiary has a proportion of 2.1%.
4.6 Brief Profile of the Selected Communities (Ayikuma and Doryumu)

Shai-Osudoku District politically has four Area Councils. Ayikuma is one of the head offices of the Area Council with Doryumu as one of the towns under the Area Council of Ayikuma. Ayikuma is located at the northern part of Dodowa along the Dodowa – Somanya high way, approximately 4 kilometers from Dodowa. Doryumu on the other hand is located on the eastern part of Ayikuma, approximately 3 kilometers from Ayikuma as can be seen on the map above (Figure 4.1).

Ayikuma has a total population of 2241 and Doryumu has a population of 3997 (GSS, 2010). The main economic activities in both communities are farming and trading. Traditionally, they are all Ga-adangme. The two communities have no hospital, but at Doryumu, there is a clinic at a military camp which serves the community as well. There are three chemical sellers at Doryumu which provide first aid services to the people. At Ayikuma, there is one Community-based Health Planning Services (CHIPS) compound which provides basic health services to the people. There are also two chemical sellers at Ayikuma. A visit to the various chemical sellers in the two communities revealed that they do not have any equipment to check for diabetes and hypertension. Doryumu has two public schools – from primary to Junior High School. It also has one private school which was at the primary level. There was one Senior High School at Doryumu which was yet to take-off as the time of the field work. Ayikuma has one public school – from primary to Junior High School and one private school which was at the primary level. Both communities do have electricity through the national grid. The main sources of drinking water for the two communities are pipe-borne outside dwelling and pipe-borne inside dwelling. Other sources of drinking water in the two communities include tanker supply / vendor provided and rivers / streams.
In conclusion, the major issues discussed in the chapter included the location and size of the study district; political and administrative structures and the traditional administration were detailed. Economic and social characteristics relevant to the study have also been discussed. Brief profiles of the two communities used for the survey were also discussed. The following chapters (chapter 5, 6 and 7) present the findings of the thesis.
CHAPTER FIVE

KNOWLEDGE OF DIABETES AND HYPERTENSION

“Today in Ghana it seems the only diseases we have are diabetes and hypertension, because almost every advert about sicknesses on FMs and televisions will mention diabetes and hypertension” said by a male respondent.

5.1 Introduction

This thesis aims to explore the people's perceptions and management of diabetes and hypertension in some rural communities of Ghana. In furtherance of this objective, one of the specific objectives is to examine the local communities’ knowledge and understanding of hypertension and diabetes. Knowledge in this study is measured by how respondents will exhibit their understanding of diabetes and hypertension through their experiences. The data analysis begins with the socio-demographic characteristics of respondents in the community survey.

5.2 Socio-Demographic Characteristics of Respondents

The underlying assumption is that health-seeking behaviour is best understood in terms of an individual’s perception of his social environment which is influenced by his socio-demographic characteristics (Assimeng, 2010). These variables include sex, age, educational level, marital
status, religion, ethnicity and employment status. For instance, the incidence of chronic non-communicable diseases such as diabetes and hypertension increase rapidly with advancement in age (Danqua et al, 2012; Aikins, 2007; kiawi et al, 2006). The decision to engage with a particular medical channel by any person in most African societies is influenced by factors such as marital status and level of education (Assimeng, 1978). It is, therefore, imperative to analyse these socio-demographic characteristics of the respondents to ascertain their practical relevance for the study. General socio-demographic information collected by the respondents' semi-structured interview included: gender, age, marital status, level of education, religion, ethnicity, current employment, and how long participants have stayed in the community. Descriptive frequencies for these socio-demographic variables are presented below:

5.2.0 Sex of Respondents

According to World Health Organization (2016a), sex-disaggregated statistics are needed for many of the health and health-related Sustainable Development Goals indicators. Major differences between males and females may exist in mortality and causes of death, morbidity, overage of interventions, risk factors and determinants (WHO, 2016). The majority of the respondents were females representing 56.8% and the males representing 43.2%. Even though this to some extent reflects the sex composition of the district (51.3% female and 48.7% males (GSS, 2014)), in most cases it was the females who were met in the houses during the interview which might have accounted for this wide disparity. Further, since the two communities are not far from Accra and Tema (approximately 10 kilometers), observations indicate that some men leave early in the morning to come to Accra and Tema to work and return late in the evening. This might have also accounted for more males than the females.
5.2.1 Age of Respondents

Generally, the incidence of chronic non-communicable diseases such as diabetes and hypertension increase rapidly with advancement in age (WHO, 2017). Young people have very low knowledge of chronic illnesses and do not usually consider themselves at risk to such diseases (Atobrah, 2012). In collecting data on the ages of the respondents, the researcher accepted the ages of the respondents based on what they mentioned as their ages and assumed that they are correct. The analyses were therefore based on these assumptions. Table 5.1 therefore presents the age distributions of the respondents.

Table 5.1: Age of Respondents

<table>
<thead>
<tr>
<th>Age (in Years)</th>
<th>Absolute</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 24</td>
<td>31</td>
<td>9.1</td>
</tr>
<tr>
<td>25 – 29</td>
<td>92</td>
<td>27.1</td>
</tr>
<tr>
<td>30 - 34</td>
<td>39</td>
<td>11.5</td>
</tr>
<tr>
<td>35 – 39</td>
<td>45</td>
<td>13.2</td>
</tr>
<tr>
<td>40 – 44</td>
<td>30</td>
<td>8.8</td>
</tr>
<tr>
<td>45 – 49</td>
<td>34</td>
<td>10.0</td>
</tr>
<tr>
<td>50 – 54</td>
<td>11</td>
<td>3.2</td>
</tr>
<tr>
<td>55 – 59</td>
<td>10</td>
<td>2.9</td>
</tr>
<tr>
<td>60 – 64</td>
<td>9</td>
<td>2.6</td>
</tr>
<tr>
<td>65 – 69</td>
<td>17</td>
<td>5.0</td>
</tr>
<tr>
<td>70 and above</td>
<td>22</td>
<td>6.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016
From the table 5.1 above, the majority of the respondents were the youth who were between the ages of 20 – 45 years representing almost 70%. This was very good for the study in the sense that, findings of the research reflect the perceptions and opinions of the youth who are the most economically active population of the country. This will go a long way to assist policy makers within the health sector to be aware of these perceptions and opinions and incorporate them in their educational campaign on diabetes and hypertension in the country.

5.2.2 Marital Status
Several studies have shown the impact of marital status on health. According to Assimeng (2010), unmarried individuals have a considerable excess mortality from lifestyle related disorders such as diabetes and hypertension than their counterparts. Differences in treatments received and adherence to treatment regimens are likely of importance, with married individuals perhaps having a higher chance of satisfactorily carrying out a course of therapy compared to their counterparts (Goldman, 2010). It is therefore imperative to examine the marital status of the respondents to ascertain its relevance on the study. Table 5.2 below presents the marital status of the respondents from the selected communities.
Table 5.2: Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Absolute</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>160</td>
<td>47.1</td>
</tr>
<tr>
<td>Not Married</td>
<td>120</td>
<td>35.3</td>
</tr>
<tr>
<td>Widow/widower</td>
<td>28</td>
<td>8.2</td>
</tr>
<tr>
<td>Separate</td>
<td>20</td>
<td>5.9</td>
</tr>
<tr>
<td>Divorced</td>
<td>12</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016

From table 5.2, both married and unmarried (47.1% and 35.3% respectively) were well represented. However, comparing to the Shai-Osudoku district profile statistics on married and unmarried (39.8% and 40.7% respectively) population of the 2010 Population and Housing Census, it can be said that the study results is not consistent with that of the district (GSS, 2014). The reason could be the fact that the district statistics included all the females who were twelve years and above while the study took into consideration only those who were eighteen years and above.

5.2.3 Educational and Employment Status of Respondents

Studies have found that people with very low education and those who are unemployed have most sleep complaints in every society (Karolyn, 2012). It is also an established fact that lack of sleep can weaken the immune system, increase obesity, and put individuals at risk of developing diabetes and heart diseases such as coronary disease and hypertension. According to Karolyn (2012), ignoring socio-economic status in coronary heart disease risk assessment, under-estimates the risks in lower socio-economic status persons, and may, in turn, through relative
under-treatment, contribute to widening socio-economic disparities in coronary heart disease”. She contends that socio-economic factors should be considered in assessing chronic diseases such as diabetes and hypertension.

The study therefore examined the educational and employment status of the respondents as seen in tables 5.3 and 5.4 respectively.

Table 5.3: Educational Level of Respondents

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Absolute</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>195</td>
<td>57.4</td>
</tr>
<tr>
<td>Secondary</td>
<td>62</td>
<td>18.2</td>
</tr>
<tr>
<td>Tertiary</td>
<td>41</td>
<td>12.1</td>
</tr>
<tr>
<td>No Formal Education</td>
<td>23</td>
<td>6.8</td>
</tr>
<tr>
<td>Vocational/Technical</td>
<td>19</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016

Educational level of the respondents showed that only 6.8% of them did not attend any formal education. Over 57.0% of them had had basic education, that is, either he/she attended primary school, junior high school or middle school. However, observations indicated that most of them who claimed to have basic education could not read or write.
Table 5.4: Current Employment of Respondents

<table>
<thead>
<tr>
<th>Current Employment</th>
<th>Absolute</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming</td>
<td>118</td>
<td>34.7</td>
</tr>
<tr>
<td>Trading</td>
<td>70</td>
<td>20.6</td>
</tr>
<tr>
<td>Formal Sector</td>
<td>65</td>
<td>19.1</td>
</tr>
<tr>
<td>Artisan</td>
<td>47</td>
<td>13.8</td>
</tr>
<tr>
<td>Driving</td>
<td>38</td>
<td>11.2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016

In collecting data on their current employment, the researcher only concentrated on the main occupation of the respondents, that is, the one that provides the major income to the individual. Almost all the respondents of the study were employed (99.8%), even though some of the youth claimed to be unemployed simply because they do not see farming activity as employment. From table 5.4, 80.9% of the respondents were engaged in the informal sector (farming, trading, artisan, and driving). It was also observed that, even those who were working in the formal sector (e.g. teachers, secretaries, office workers, etc.) majority of them also do farming activities aside their formal works in the communities.
5.2.4 Religion

Religious and spiritual beliefs and practices are important in the lives of many patients. Research has shown that religion and spirituality are associated positively with better health and psychological well-being of patients (Assimeng, 2010; Pargament et al., 2004). Religion and spirituality beliefs play an important role for many patients, when illness threatens the health and the life of an individual, such a person goes to the physician with both physical symptoms and spiritual issues in mind (Vanderpool and Levin, 2010). Although pharmacologic treatment of diseases such as diabetes and hypertension can save lives, concerns persist about the potential side-effects of such treatments. As a result of these concerns, there is increasing interest in non-pharmacologic approaches to the treatment of these conditions (Smith, 2014). Among non-pharmacologic methods are psychosocial approaches such as increasing social supports and reducing stress (Smith, 2014). There is growing evidence that involvement in organized religion cannot only provide individuals with greater social supports but also enhance their sense of self-esteem and help reduce the negative consequences of stress on blood pressure (Smith, 2014; Assimeng, 2010). It is therefore necessary to analyse the religion of the respondents/participants of the study. Christianity dominated the religion of the respondents representing 82.9% while Muslim represented 17.1%. This reflects the district’s composition which is 85.3% Christian according to 2010 Population and Housing Census of Shai-Osudoku district (GSS, 2014).
5.2.5 Ethnic Background

Mounting evidence indicate that certain diseases are commonly found with particular group of people. For instance, deaths from diabetes and hypertension have been found to be higher among the Hispanics and black Americans than whites in United States (Hahn, 2010). According to Harris et al., (2012), the prevalence of diabetes was 14 percent among Mexican-Americans, 12 percent among blacks and 7 percent among whites. Similarly, measurement of behavioural risk factors such as smoking habits has been linked with social class as well as ethnicity (Cooper et al., (2015). It is therefore important to examine the ethnic background of the study participants and respondents.

Shai-Osudoku District is dominated by the Ga-Dangme people; therefore as many as 43.8% of the respondents were made up of Ga-Dangme. The three main ethnic groups in the district are Ga-Dangme, Akan and Ewe (GSS, 2014). These three groups together constitute 81.8% of the respondents of the study which reflects the district‘s ethnic composition.

On the issue of the residential status of participants, over 65.0% of them have stayed in the various communities for more than eleven years. This is good for the research because, supposedly, the majority of them know the culture and the traditions of the people relating to diabetes and hypertension.
5.3 Knowledge about Diabetes and Hypertension

One’s knowledge and perceptions about any particular disease have an influence on his/her decisions regarding the management of such conditions. Therefore, in an effort to analyse the communities’ knowledge about diabetes and hypertension, they were asked to share their views and opinions on the following:

- Source of knowledge about diabetes and hypertension;
- Explaining what diabetes/hypertension is;
- Symptoms of diabetes/hypertension;

5.3.0 Sources of Knowledge about Diabetes and Hypertension

Source of any information concerning a particular disease in every community has a great influence on the peoples’ perceptions about that particular disorder (Assimeng, 2007). Similarly, according to Senah (2004), one’s knowledge and perceptions about any particular disease has an influence on his/her decisions regarding the health-seeking behaviour and the management of such conditions. Knowledge of diabetes and hypertension as diseases was confirmed by all respondents/participants. The main sources identified by all respondents/participants were the media (56.0%), the family/friends (28.1%), and healthcare providers (15.9%). Each coding category consistently identified respondent/participant reference to the media as his/her source of information regarding how he/she got to know of diabetes and hypertension. During the interview process, they talked about the radio and television programmes concerning diabetes and hypertension. They made reference to the various advertisements on radios and televisions...
concerning medicines and health care facilities which deal with treatment of diabetes and hypertension.

Table 5.5: Sources of knowledge about diabetes and hypertension

<table>
<thead>
<tr>
<th>Source of knowledge</th>
<th>Absolute (multiple responses)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio/Television</td>
<td>360</td>
<td>56.0</td>
</tr>
<tr>
<td>In the community (family and friends)</td>
<td>181</td>
<td>28.1</td>
</tr>
<tr>
<td>Hospital</td>
<td>102</td>
<td>15.9</td>
</tr>
<tr>
<td>Total</td>
<td>643</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016

Table 5.5 indicates that, the most common source of their knowledge about diabetes and hypertension is the media. Since 1992 when the liberalization of radio and television was effected in Ghana, the number of electronic and print media has dramatically increased in the country. This to a large extent, has improved the dissemination of information to every corner of the country. For instance, farmers in rural communities have the opportunity of listening to radio discussions while in their farms. From table 5.5, the most common responses were advertisement on the radio and television about diabetes and hypertension medicines and health care facilities that claim to cure these conditions. A woman captured the most common explanations from the respondents thus:
“Every day you hear all kinds of advertisement about medicines that people claim can cure diabetes and hypertension……as for diabetes and hypertension, it seems these are the only diseases in Ghana now”.

From table 5.5, other sources of knowledge about diabetes and hypertension were that, people also talk about diabetes and hypertension in the communities (friends and family members). Three of the participants who had diabetes/hypertension explained that some of their colleagues at their various work places had diabetes or hypertension or both and they always discussed their conditions at their work place. One retired public servant summed up the various explanations as follows:

“I know about four people in the Police Service at my station who were battling with both diabetes and hypertension, so I knew of diabetes and hypertension before I was told by the doctor. They were not eating a lot of things, especially anything made of sugar and salt… and even their eating habits were regulated by their doctors. I was therefore worried when I was told that I had diabetes because, I know diabetes and hypertension are chronic diseases that one has to manage till one dies. What I was even worried about more was the fact that am going to stop eating a lot of things….like anything containing sugar…..so I was really worried.”

Other source of knowledge was at the hospital. From table 5.5, 15.9% of the responses about sources of knowledge about diabetes and hypertension were from hospital. From the responses, the majority of them received information about hypertension from the health care providers as compared with diabetes. In Ghana, as a conventional practice at the various health facilities, whenever an adult (18 years and above) visits the hospital, the first thing nurses at the out-patient department do is to check the blood pressure of the patient before they are asked about the
problem that brings them to the hospital. This explains why the majority of them had their source of knowledge about hypertension from the hospital as against diabetes. One man put it as:

“Anytime I go to hospital, the nurses will check my BP first before they ask me to tell what is wrong with me”.

Ndiaye (2009), conducted a research about how the French-speaking West Africans from Senegal and the Republic of Guinea gather information on diabetes and hypertension. The study revealed that the main sources of diabetes and hypertension information for most of the participants were from the electronic and print media as well as anecdotal information from friends and family but received limited information from health care providers (Ndiaye, 2009). However, in this study sizeable number of respondents/participants received diabetes and hypertension information from health care providers. From the analysis above, it can be deduced that, the media (radio and television), community members, and health care providers are the main sources of knowledge about diabetes and hypertension for most Ghanaians.

5.3.1 Understanding Diabetes and Hypertension

Lack of information about most chronic diseases such as diabetes and hypertension has resulted in poor management and treatment of such conditions (McGuigan, 2010; Aikins, 2007; Kiawi, 2006; Famuyiwa, 1990). Respondents/participants were, therefore, asked to share their understanding of diabetes and hypertension. Understanding in this context meant, what the respondents and participants know about diabetes and hypertension based on their experiences. The purpose of this question was to gain an understanding of respondents' knowledge and perception about diabetes and hypertension. The main theme apparent both within and across
coding categories of the study results was the knowledge most participants possessed concerning their understanding of diabetes and hypertension. Majority of the study participants demonstrated their understanding of diabetes and hypertension by how the diseases are called in the local languages (specifically, the Akan, Ewe and Ga-Dangme languages). Initially, some of them would say he/she does not understand diabetes or hypertension, but as the interviews progressed, he/she either explained diabetes/hypertension with reference to the local name or using the symptoms. This same idea was used by participants when they were sharing their opinions on the causes and prevention of diabetes and hypertension. For example the Akan name for diabetes is (asikyire yare), the Ewe called it ‘sukli dɔ’, and the Ga-dangme called it ‘siklɔhela‘. All these names literally mean ‘sugar disease‘ because they usually used the sugar content in one urine to determine whether one has diabetes or not. For diabetes, the following excerpts depict how some respondents/participants demonstrated their understanding:

“I think diabetes is when one is having more sugar in his/her body system such that the sugar is more than what the body needs to function well” a male respondent.

Another woman with both diabetes and hypertension also explains diabetes as:

“After I was told that I had diabetes in addition to my hypertension, I decided to read about it and also listen to health programmes on television and radios about this diabetes. The little I have learnt about it is that, your body is supposed to produce something called insulin which will help your body to use up the glucose you get from the food you eat. Now if your body is unable to produce this insulin, which I said will help your body to utilize the glucose which is the sugar you produce, then the sugar remains in your system, which is not good for your body of which you have to urinate it more frequently.”
Similarly, hypertension for example in Akan language is called ‘Mo gy a bor oso’, Ewe called it ‘wusɔgbɔ dɔ’, and Ga-Dangme called it ‘lantiteken‘, that is ‘excess blood in one’s body’. Based on the local name and meaning given to hypertension, most of the respondents’/participants’ explanations were centered on ‘having more blood than the body needs’. Two of the most frequent responses from the community survey were:

“Therefore, I know it to be having more blood in your body than you need….especially those who eat a lot of rich-meat foods……like eating better meats and better foods….not this starchy-starchy foods here that we eat” a female respondent.

Another common explanation was:

“My understanding of hypertension is that, as you grow, you get more blood in your system…and your heart which pumps the blood will find it difficult to pump it and you get hypertension”.

Contrary to the above, one gentleman explains it as:

“When you work in the hot sun all the time, it will make your blood melt and pump fast-fast and you can get hypertension”.

Unlike how the majority in the community survey explained hypertension using the local name translations, majority (12) of the study participants relatively understood hypertension. They explained hypertension using medical terms as ‘the blood pressure in the body system becoming so high above the normal due to the fact that the holes of the veins in the body have reduced in size’. This could probably due to the education they receive from their association concerning diabetes and hypertension. One retired teacher summarized these explanations as:
“Hypertension is a disease related to how your blood pumps through your veins. The veins, I understand are like pipes through which the blood passes through to various parts of the body. Therefore, when the holes of the pipes are reducing, due mainly to deposit of fats and things like that, the blood will now be passing through smaller holes which will increase the pressure on the walls of your veins leading to high blood pressure.”

From the perspectives of respondents/participants, the meanings ascribed to diabetes and hypertension was strongly tied to cultural and social beliefs. Social meanings of diabetes and hypertension ascribed by the respondents/participants in this study centered around words or phrases such as ‘chronic disease, family disease and sugar disease, excess blood, heart disease’. Each of these meanings ascribed to diabetes and hypertension to a large extent tells the nature of these conditions, their source and what a diagnosis of them means to the affected individuals and therefore how it is perceived to label an affected person in different ways. In most cases in Ghana, names are given to situations and events based on how that situation or event is perceived and this seems to run through all facets of life of a Ghanaian. For instance, unique names and connotations or social names are given to disease conditions depending on how individuals, both the sick and healthy perceive the disease condition. Therefore, participants with diabetes/hypertension experiences were asked to share their experience on how they felt when they were first informed that they have gotten diabetes/hypertension and how they got to know that they have diabetes/hypertension. This was asked to determine if the diagnosis of diabetes/hypertension triggered a significant emotional reaction of the study participants. The most common response regarding how they first felt when they were informed that they have gotten diabetes/hypertension was fear of the diagnosis. The primary reason indicated as the cause
of this fear was the lifestyle changes that would become necessary to care for their diabetes/hypertension.

From the above analysis, these findings are in line with a research done by Bindels et al (2006), to analysis how Ghanaians, African-Surinamese and Dutch patients explain diabetes and hypertension in Netherlands using the local names to depict their understandings of diabetes and hypertension. It can, therefore, be said that most Ghanaian associate diabetes with the excessive intake of sugary foods, while hypertension is associated with excess blood in one‘s body.

Comparing the respondents‘ general understanding of diabetes and hypertension to Rother, (2007) and the American Heart Association (2008) explanations of diabetes and hypertension, it can be said that they have fair idea as what diabetes or hypertension is. For instance, Rother explains diabetes mellitus as a condition in which a person has a high blood sugar (glucose) level, either because the body does not produce enough insulin, or because body cells do not properly respond to the insulin that is produced (Rother, K.I., 2007). However, as to how high the blood sugar level should be was not explained by Rother. Similarly, according to the American Heart Association, the more blood the heart pumps and the smaller the arteries (veins) of the body, the higher the blood pressure which is called hypertension (American Heart Association, 2008). It can therefore be concluded that, the study results are not significantly different from the perspectives of the professional explanations of diabetes and hypertension from the literature reviewed.
5.3.2 Signs and Symptoms of Diabetes and Hypertension

“The taste of your urine should be like salty-water but they say if you taste it and is sweet like there is sugar in it, then you are gradually developing diabetes” by one respondent.

Knowing signs and symptoms of particular diseases serve as preventive mechanism and safeguard against such diseases which contributes to the management and treatment of such diseases (Addo, 2006; Danqua, et al, 2012; Aikins, 2010). In this regard, respondents were asked if they know some of the signs and symptoms of developing diabetes and hypertension. The purpose of this question was to determine if they would be able to realize on their own if they are developing diabetes or hypertension.

Table 5.6a: Signs and Symptoms of Diabetes

<table>
<thead>
<tr>
<th>Sign/Symptom</th>
<th>Absolute (multiple response)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweet urine</td>
<td>312</td>
<td>48.0</td>
</tr>
<tr>
<td>Other (Ants visit urine)</td>
<td>252</td>
<td>38.8</td>
</tr>
<tr>
<td>Frequent urination</td>
<td>80</td>
<td>12.3</td>
</tr>
<tr>
<td>No idea</td>
<td>6</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>650</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016

Table 5.6b: Signs and Symptoms of Hypertension

<table>
<thead>
<tr>
<th>Sign/Symptom</th>
<th>Absolute (multiple response)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only at hospital</td>
<td>150</td>
<td>32.4</td>
</tr>
<tr>
<td>No idea</td>
<td>149</td>
<td>32.2</td>
</tr>
<tr>
<td>When heart beats faster</td>
<td>80</td>
<td>17.3</td>
</tr>
<tr>
<td>Too much sweat</td>
<td>71</td>
<td>15.3</td>
</tr>
</tbody>
</table>
For diabetes, the main theme that emerged was the participants’ knowledge of using ants and taste of urine as sign and symptoms to check their diabetes status. This theme was apparent throughout the interview beginning from the respondents'/participants' understanding of diabetes, symptoms, and how often they go for checkups to know their diabetes status. When they were asked to explain diabetes, most of them frequently referred to sweet urine in their local languages as mentioned earlier on, as diabetes. The majority explained that, diabetes is when one tastes one’s urine and it tastes sweet like sugar. Others also explained it to be when one urinates on the ground and ants usually gather around one’s urine, it indicates that one is developing diabetes. From table 5.6a, 48.0% and 38.8% of the responses indicated that if one tastes one’s urine and it is sweet or if ants usually gather around one’s urine after one urinates on the ground, it is an indication that one is likely to develop diabetes. The most common explanation was given by one respondent as:

“*My mother who died from both diabetes and hypertension told us that we should taste our urine occasionally to check if it tastes sweet like sugar and also if after urinating on the ground and one comes back to see that ants have gathered around where one urinated, is an indication that one is developing diabetes.*”

Some respondents (12.3 %,) also indicated that if one frequently urinates all the time, that is a sign of getting diabetes.

From the explanations, it can be inferred that tasting of urine and behaviour of ants towards urine is an indication for local knowledge of diabetic status. According to the literature literature, if the

<table>
<thead>
<tr>
<th>Other (tiredness, headache)</th>
<th>13</th>
<th>2.8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>463</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016
body fails to utilize the glucose which is in the form of sugar, it passes through the urine making it tastes sweet (WHO, 2017; Pickup & Williams 2003). Lay knowledge is always different from professional knowledge. However, the local means of checking diabetes status and professional knowledge are not significantly different.

Following these explanations respondents were asked if they sometimes taste their urine and how often they do that. This was asked to determine how conscious they are of their diabetes status. In all, 45.0% of them reported that they sometimes taste their urine. The rest (55.0%) said they do not taste their urine. From the data, the majority did not taste their urine to detect whether it tastes sweet or not. This implies that it would be difficult for them to detect any early signs of developing diabetes. This confirms the reason why medical professionals refer to these conditions as ‘silent killers’. It can also be deduced that, the people used this crude method of detecting their diabetes status because there are limited modern facilities available in their vicinity. As mentioned in the brief profile of the two selected communities, there are no hospitals in any of these communities. The chemical shops available do not even have basic equipment to check diabetes and hypertension statuses.

The American Diabetes Association (ADA, 2008), has reported on signs and symptoms such as increased or extreme thirst, frequent urinations, increase fatigue, and unusual weight loss as signs of diabetes. Compared to this study, it can be said that, the 17.6% of the respondents who mentioned frequent urination as a sign of developing diabetes is consistent with the American Diabetes Association (ADA, 2008) report. However, there is limited literature on how the respondents check their sugar level by using the ants and tasting of their urine.
For hypertension, almost all the respondents initially explained that they are not hypertensive and therefore do not know the symptoms. However, they went ahead to discuss some of the symptoms of hypertension they have heard elsewhere. The majority of the respondents (32.4%) (from table 5.6b) were of the view that, it is difficult for anyone to know that he/she is developing hypertension unless the person goes to hospital while 32.2% reported that they have no idea of any signs and symptoms of developing hypertension. The following excerpts were some of the frequent explanations:

“Unlike diabetes, I learnt hypertension has no signs when your BP is going up.....but for diabetes one can use one’s urine to check it oneself, so I think unless one falls sick and go to hospital one cannot know one’s status”.

A young man also put it as:

“All what I know is that, if one’s BP goes up more than a certain number, one is developing it, apart from that, I don’t have any idea of symptoms of developing hypertension.”

From table 5.6b, 17.3% and 15.4% of the responses indicates that, when your heart starts beating faster than the usual beats of the heart as one experience all the time and when you sweat too much all the time respectively, it means you are developing hypertension. The following were some of the frequent explanations:

“For me, I think if one’s heart starts beating fast-fast.....I think it will be a sign of getting hypertension.....because if the blood in one’s body is increasing more than what one needs, one’s heart will be over working.....and that will be a sign that one is getting BP” a male respondent.

Another lady also explained as:
“My mother used to sweat too much and when we sent her to hospital we were told that she had hypertension...so I think one of the signs is when one starts sweating all the time without doing any serious work.”

The rest of the respondents (2.8%) mentioned symptoms such as getting tired without doing any serious work all the time; having severe headache and feeling dizziness all the time as other symptoms of developing hypertension.

“I have heard that if one feels dizziness all the time, it could be a sign of getting hypertension...and even if one complain of severe headache which one have not experienced before, then one have to be careful....because that could be a sign of developing hypertension” a male respondent.

Participants (diabetics and hypertensives) also share their experiences as to how they got to know that they were diabetic/hypertensive. The majority of them said they fell sick and when they went to the hospital, they were told that they have gotten diabetes/hypertension. One man who had both conditions explains:

“I fell sick....experiencing severe headache all the time and when I went to the hospital I was told that I had diabetes in addition to my hypertension....that was all. But I must say that I was not much surprise when I was told about the diabetes because I knew a lot of people who had both diabetes and hypertension at the same time.”

Two persons said they already suspected by themselves that they had diabetes before they were told by a doctor:
“I was urinating too much all the time, especially in the night and my wife advised me to see a doctor...but before then I detected that ants used to gather around my urine sometimes....so I was suspecting it myself, however, when I went to the hospital, it was confirmed” a male participant.

Three women who had only hypertension also shared their experiences that, they got to know they were hypertensive when they first became pregnant and it was diagnosed at the hospital and since then it has remained with them. One of them comments:

“When I became pregnant for the first time, one day I went to the hospital and when the nurse took my BP, she told me my BP was too high. When I went to the doctor, he told me it”s normal with some pregnancies and he assured me that, when I give birth it will go, but unfortunately for me after given birth, I still experience it up to now”. 

From the data, more than half of the respondents as well as the diabetics/hypertensive had no idea of any symptoms of developing hypertension as against 0.9% who indicated that they had no idea of the symptoms of developing diabetes. This probably explains why hypertension is referred to as the „silent killer‘ because many have it for years without realizing it (GHS, 2013). Again, Addo et al. (2006) and Aikins (2007) have all reported of low level of awareness of hypertension in rural Ghana because of lack of physiological symptoms of the condition. However, Aikins et al. (2011); Bindels et al. (2006) and Amoah et al. (2003), have reported of painful headache as one symptom of developing hypertension. This affirms the views of few respondents (2.8%) who indicated severe headache as one of the symptoms of developing hypertension.
5.3.3 Relationship between diabetes and hypertension

To determine the respondents' awareness of the relationship between diabetes and hypertension, each of them was asked to demonstrate his/her understanding of the relationship between diabetes and hypertension. All the participants expressed their understanding of the relationship between diabetes and hypertension, except two of them who indicated that they do not really know the relationship between diabetes and hypertension. The following excerpts demonstrate the most common explanations given by participants:

“My understanding is that, the two diseases are caused by our lifestyles and one leads to the other” a female respondent.

Finally, the respondents were also asked to explain any relationship between diabetes and hypertension to further determine their knowledge and understanding regarding diabetes and hypertension. The following excerpt by one of them summarizes their explanations:

“If one gets hypertension and is not well managed, one is likely to get diabetes....my father first had hypertension and recently he has been diagnosed of diabetes too....so one leads to the other.”

From the various explanations offered, it could be said that most of respondents as well as the diabetics/hypertensive have a clear idea about close relationship between diabetes and hypertension. That is why the two conditions are usually referred to as co-morbidities.

Comparing the above explanations to the findings of Institute for Health Metrics and Evaluation Researchers (IHMER, 2010) and Mohan et al (2013), it can be said that respondents’ perceptions
about diabetes and hypertension are consistent with the literature. For instance, Mohan et al. (2013) indicated that, diabetes mellitus and hypertension coexist; in India about 50% of type 2 diabetic individuals have hypertension; Thailand 78.4%; Korea 55.5%; Nepal 36.7%; Cameroon 66.4%; Kenyan 50.0%; Nigeria 54.2% and Morocco 70.4%

5.4 Perceived Predisposition Factors of Diabetes and Hypertension

Type of foods one eats, time of eating and sleeping are among the risk factors of developing diabetes and hypertension (WHO, 2010; Seedat, 2005; Al-Mosa et al, 2006). Similarly, old age, sedentary type of work, lack of physical activity due to urbanization and stressful type of works are among the risk factors of developing some chronic diseases like heart disorders, diabetes and hypertension (Danqua et al, 2012; Singh, 2011; Addo et al, 2006). The General Susceptibility Causes of Diseases which is one of the theoretical frameworks for this study stress on risk factors such as stressful and dangerous works for developing all kinds of diseases including diabetes and hypertension (Locker, 1989). The Health Belief Model on the other hand also make emphasis on behavioural risk factors such as late eating of heavy foods, smoking of cigarette, excessive consumption of alcohol, poor diet, excessive consumption of fatty foods and Westernization lifestyles are all risk factors for developing chronic diseases such as diabetes and hypertension (Rosenstock, 1974; Becker et al., 1977; Locker, 1989; Sobngwi, 2002).

In an effort to determine if respondents were aware of the risk factors for developing diabetes or hypertension, they were asked to mention some of the means through which a person could get diabetes or hypertension. For diabetes, respondents mentioned one or some combination of the following causes: from parents to children (hereditary), excessive alcohol intake, eating fatty
foods, drinking excessive soft drinks, excessive eating of sugary foods, too much intake of starchy foods, lack of exercise and physical activities, spiritual means, pregnancy, and an old age. Similarly, respondents perceived the causes of hypertension to include all the factors mentioned as causes of diabetes. However, in addition to the above, they mentioned other factors such as too much intake of salt, excessive smoking, and too much intake of red meat as risk factors of developing hypertension. The main themes that emerged from the perceived causes of diabetes and hypertension by the study respondents as well as diabetics and hypertensive are:

- Age
- Diet (eating habits)
- Behavioural factors (smoking and alcoholic and non-alcoholic drinks)
- Physical activities (exercise)
- Family history (genetic) and
- Spiritual

5.4.0 Likely Age to be Diabetic or Hypertensive

Age is one of the risk factors related to the causes of diabetes and hypertension (WHO, 2016; Kiawi et al, 2006; Addo et al, 2006; Agyeman, et al, 2006; Zimmet, P., 2002). In discussing the risk factors for developing diabetes and hypertension, one of the themes that emerged from the data was each respondent’s/participant’s assessment of age for a person to get diabetes or hypertension. From the community survey data some of the respondents (38.2%) were of the view that one could be diabetic at any age. The most frequent reasons for this indication were that they know some people who have had diabetes since their infancy. One woman comments:
“One nurse told us at the weighing center that, if one has diabetes and one gives birth, one should let them check the diabetes status of the baby because one can give it to one’s child at birth.”

There were others who were of the opinion that witches and wizards could give diabetes to any person regardless of your age. Other respondents were also on the view that diabetes could only be gotten as a person grows. From the community survey, 20.6% of the respondents believed that a person could acquire diabetes from age 1 to 19 years while 41.1% were of the opinion that a person could acquire diabetes from age 20 years and above. The most common reasons cited by them were that, diabetes is an old age disease and for that reason as a person grows the likelihood that he/she could get it is high.

Another common explanation was that, some women acquire diabetes or hypertension through pregnancy. They were therefore of the view that, a lot of women start child bearing from age 21 years and above and hence, that is the age diabetes could be acquired by some people.

“My elder sister told me that she was not having diabetes, but when she became pregnant at age twenty five she got it and since then she has become diabetic….even though according to her the nurses said that, that type of diabetes is not dangerous as compare with the one you get when you grow.”

Another man also shared his wife’s experience as:

“My wife used to have blood pressure of over 140/90 mmHg whenever she becomes pregnant……and even after delivery, in most cases it remained high until she was no more given birth……but even after she stopped giving birth, her BP still remain a bit high.”
Contrary to diabetes where 41.1% of the respondents believed that one could only acquire diabetes from age 20 years and above, 91.5% of them believed that hypertension could be acquired from age 20 years and above. They were of the opinion that, hypertension is more of an old age condition as compared with diabetes. Similarly, while 38.2% thought that diabetes could be acquired at any age, only 8.5% believed that hypertension could be acquired at any age. The following excerpts demonstrate their explanations:

“People struggle in life for money and is like most people succeed in life around age forty going and start chopping their money without thinking of the side effects of what they eat or drink.....like this hypertension and diabetes issues and finally they get hypertension. This is because the more they chop these better foods, the more they get more blood leading to high blood pressure” a man of about forty-five years comments.

There were others (8.5%) who also thought that hypertension could be acquired at any age, the common reason provided by these people was that, hypertension is a family disease and therefore one could acquire it at any age if the disease is in your family.

When compare those who believed that diabetes could be acquired at any age (38.2%) and those who believed hypertension could be acquired at any age (8.5%), it can be deduced that most of them believed that hypertension is more of old-age disease than diabetes. The findings of this study are not very different from the findings of (Kiawi et al, 2006; Addo et al, 2006; Aikins, 2007; Al-Mosa et al, 2006; and Agyeman, 2006). For instance, Addo et al (2006) studied the changing patterns of hypertension in four rural communities in the Ga District. One of their findings was that hypertension prevalence was 60% among respondents of 65 years of age, while it was 6% in those between 18–24 years. Comparing the views of the respondents to the different
types of diabetes, it can be concluded that all the explanations fit into one type of diabetes or the other. Therefore, the results of this study are not significantly different. According to the National Diabetes Association of Ghana, over 90% of people who suffer from diabetes in Ghana are 35 years old and above (NDAG, 2012). However, comparing this to the results of this study where 61.8% were of the opinion that the minimum age for which one could develop diabetes is 1 year and above, it could be said that, the findings of this study are significantly different.

5.4.1 Diet

Another theme that emerged was how respondents perceived the causes of diabetes and hypertension through eating habits. Specifically, participants discussed eating habits in the context of the type of foods one eats and the late supper. Diet was the most frequent risk factor mentioned by all. Specifically, respondents mentioned high carbohydrates diets (cassava and yam), fats and oil, animal protein and sugary foods.

“In the olden days it was only occasions like funerals and Easter or Christmas that a goat or fowls would be slaughtered. Apart from these special occasions, the rest of the year one will eat only fish and occasionally some bush meat.....but these days people eat fatty foods too much and am not surprise that young-young peoples these days are getting hypertension and other diseases which used to be old age diseases” a man commented.

Similarly, when participants were asked to share their opinions on the type of work one does and incidence of diabetes and hypertension, 48.2% and 77.4% of the participants mentioned that the type of work one does could have an influence on one’s chances of developing diabetes and hypertension respectively. Their explanations were however linked to eating habits of the
individual and sedentary type of works. The most common explanation was that, if one always closes from work late, he/she is likely to eat late in the night which could lead to the development of diabetes and or hypertension. Most of these respondents were those with secondary and tertiary educational background.

“If one”’s work is so demanding such that there is no time to even rest, such a person will develop bad eating habits such as excessive intake of soft drinks and meat-pie because that”’s one of the easiest foods one can eat and work at the same time. If this continues for long time, such a person will gradually develop diabetes/hypertension in future.”

One retired civil servant also explained as:

“If one does not exercise and sit in an office all day without doing any physical kind of work, one is prone to hypertension. This is more serious for those kinds of works like banking, and other office workers…..and these are the people who have the money to buy all kinds of rich foods to eat”.

Contrary to the above views, there were others who also thought that the type of work one does could not determine his or her chances of getting diabetes or hypertension, the most frequent explanations were:

“I know diabetes or hypertension is mainly caused by what one eats but not the type of work one does”; “diabetes or hypertension is more of a family disease….and has nothing to do with one”’s work”.

Again, over 90.0% of the respondents and majority of the participants were of the view that, type of foods one eats could lead to the development of diabetes and hypertension. They constantly made references to the fact that, if one usually eats foods such as oily foods, fatty foods, too
much animal protein and sugary foods he/she is likely to develop diabetes and or hypertension. The following excerpts demonstrate the most common explanations:

“As I have indicated earlier on, diabetes is more of what we eat. From the little education I have gotten from the hospital about these diseases, I think we should be mindful of what we eat. I can say that over ninety of us got these diabetes and hypertension from what we were eating.....even though we were made to understand that, one can inherit the diabetes from his/her parents, majority of the people with diabetes/hypertension got it through our lifestyle such as what we eat......... we eat and sleep immediately due to stressful works we do or tiredness, we don”t do any form of exercise or most of us don”t even do physical works....all these things put together cause diabetes and this hypertension”.

For the few of them who were on the opinion that the type of foods one eats does not influence one’s chances of getting diabetes or hypertension explained that diabetes and hypertension are family diseases and therefore hereditary.

Furthermore, in determining whether respondents were aware of the risk involve in eating late in the night, they were asked to share their thoughts on whether the time of eating their supper and the time they go to bed has anything to do with their diabetes or hypertension status. As many as over 82.0% of them mentioned late eating of heavy foods such as fufu, ampese, and kenkey could lead to the development of diabetes and hypertension. The most common explanation was that, when one eats late in the night, he/she is likely to go to bed immediately which could lead to the development of these conditions. The rest were of the opinion that late eating in the night has nothing to do with the development of diabetes or hypertension because these conditions are old age and family diseases.
5.4.2 Behavioural Factors

Within the health field, susceptibility refers to the risk a person has to a particular disease or health outcome. Within the context of the Health Belief Model, perceived susceptibility examines the individual's opinions about how likely the behaviours they find themselves are going to lead to a negative or positive health outcome (Rosenstock, 1974). For instance, an individual who drinks excessive alcohol is prone to have many complications such as diabetes and hypertension and other health complications. Threat in the context of Health Believe Model examines how likely it is that a particular disease could be developed due to his behaviour.

Throughout the interview processes, one of the emerging themes that respondents and participants perceived as causes of diabetes and hypertension was behavioural risk factors such as excessive intake of alcoholic and non-alcoholic drinks as well as excessive smoking. Respondents mentioned all kinds of soft drinks such as coke, Fanta, mirinda, etc. These are perceived to contain a lot of sugar which induces diabetes. Here, some of them were of the view that smoking has nothing to do with hypertension and the most frequent explanations were summed up by one man who admitted that he smokes cigarette:

“If one smokes cigarette moderately, and top up with some hard drink, one can work well and one”s blood will flow well too…..even the smoke will kill the germs in one”s body”.

However, others were of the opinion that smoking and drinking alcohol are perceived risk factors for one to become diabetic and or hypertensive.

“The little I know about smoking is that, if one smoke too much, one will develop some holes in one”s heart and it will not make one”s heart work well to pump blood in one”s body, this could
lead to hypertension……but my father used to smoke cigarette and even drink alcoho, but he never died of hypertension or diabetes……he was involved in a car accident.”

Some of them also explained that, if one works at insanitary environments such as refuse dumpsite, one is likely to involve in risk behaviours such as excessive smoking and alcoholic drinking which are risk factors for developing diabetes and hypertension.

5.4.3 Physical Activities

Participants in all the discussions of the eating habits, frequently made mentioned of lack of physical activities/exercise as one of the main perceived causes and preventions of diabetes and hypertension. Similarly, throughout the interview concerning the type of work one does and incidence of diabetes and hypertension, respondents made references to physical activities and exercising. Their explanations centered on sedentary type of works.

“If one”s work does not involve much exercise, like some of us who work in the farms after school and weekends, and especially if one does not intentionally do any form of exercise, one is likely to get diabetes and hypertension ……..through exercise the body is able to burn all fat in the body”, one teacher explained.

There were some participants who stressed on the fact that, diabetes/hypertension is a family disease, but throughout the interview, they kept on mentioning lifestyle and lack of exercise even though they were initially of the opinion that diabetes is a family disease. One of such participants expressed her views as:
“As I have told you already, these diseases are family diseases...so if it is in one’s family no matter what type of foods one eats, if it is in one’s blood, one is likely to get it. But, I think from the little things I have learnt from the hospital, if it’s not in one’s blood, then that’s where I will say one’s lifestyle will also influence on one’s chances of getting diabetes, of which much depends on what kinds of foods one eats and how frequent one even exercise. One of the nurses always stressed on the time we eat and sleep, she has been advising us not to eat and go to bed immediately.....we should all the time wait for at least two to three hours before we go to bed after eating. However, from what I have learnt about these conditions, even if it’s in one’s blood and one takes good care of oneself, regarding what one eats and do physical works regularly, one can avoid it, but one must be aware of it first from infancy before one can consciously do all these things.”

5.4.4 Family history

Family history was frequently mentioned by both respondents and participants in the discussions of causes and preventions of diabetes and hypertension. In the discussion of causes and prevention of diabetes and hypertension, study participants more often than not made reference to family history of the individual as one of the perceived risk factors for one to develop diabetes or hypertension. They explained that, children could get diabetes and hypertension from their parents if one or both parents are diabetics or hypertensive. This was revealed when participants were asked to express their views on the likely age one could acquire diabetes or hypertension. As many as 38.2% and 8.5% of the study participants were of the view that one could get diabetes or hypertension at any age respectively. The most common explanation was that, diabetes and hypertension are hereditary, therefore if one belongs to a family with a history of
diabetics and hypertensive one is prone to have any of the diseases at any age. From the data it could be inferred that respondents/participants perceived diabetes to be more of genetic than hypertension.

Again, in the discussion of type of foods one eats and type of work one does and incidence of diabetes and hypertension, one of the common explanations offered by those who indicated that type of foods one eats and type of work one does has nothing to do with ones chances of getting diabetes or hypertension was that; diabetes or hypertension is hereditary and therefore the development of diabetes or hypertension has nothing to do with type of work or type of foods one does or eat respectively. The following excerpts demonstrate how some of the respondents consistently made reference to family history in the various discussions of the interviews:

“There are certain people I know from the same family who have hypertension in their early ages……so I don”t think it is only lifestyle disease….if it is in one”s family no matter how one lives one can get it.”

Three of the participants who had only hypertension also centered their explanations of the perceived causes of hypertension on pregnancy and inheritance. According to each of them, they became hypertensive when they were pregnant. One of them explained that she realized during her second pregnancy that her blood pressure had gone up when she went to hospital on the third months of her pregnancy. The other two also explained that they became hypertensive during their first pregnancy when they were informed at their respective hospitals when they attended antenatal. One woman shared her experiences on how she became hypertensive.

“Before I got married, I was not hypertensive, I became aware when one day during my usual antenatal care, the nurse took my BP and she asked me whether I am hypertensive. I told her no,
but the doctor assured me that it will reduce to normal after given birth, but unfortunately for me, it has remained with me since my first pregnancy. But I wasn’t much surprise because my mother told me she also became hypertensive when she started giving birth. My elder sister is also hypertensive and she first realized it during her first pregnancy, so I think is a family disease.”

5.4.5 Marital status and incidence of diabetes/hypertension

In addition to the above themes that emerged as perceived causes of diabetes and hypertension, the study sought to find out from the participants who were diabetic/hypertensive whether one’s marital status has any influence on one’s chances of getting diabetes/hypertension. All participants were of the opinion that, marital status could play a major role in determining one’s diabetes/hypertension status. The most common explanations centered on preparation of healthy foods and the time of eating. One woman said:

“If a man delays his marriage, it is likely that he will be eating from the street which is not good because whether we like it or not, street foods are not hygienic as the one prepared at home. The reason is that, the moment one leaves one’s parents to start working, one has no option than to buy foods outside. Throughout our discussions we have seen that, diabetes and hypertension are perceived to be caused by what we eat. Now, since one is not eating relatively good foods because one is not married, it means one is preparing oneself for diabetes and hypertension in future.”

Another man also explained:
“My son, if one marries early, one avoids a lot of things, not only even diabetes or this hypertension we have been talking about, if one marries early, especially as a man, he avoids eating from chop bars, he will avoid eating late....anyway depending on the type of work he does. What I mean is that, marriage is very good when it comes to these chronic diseases, because, even managing these disease is not easy at all, one needs a partner to help one eats the right foods.”

There are some researches and publications on the causes of diabetes and hypertension as discussed earlier. Some of the findings from this study are consistent with the literature while others contradict the literature. Various studies have reported correlations between diabetes and hypertension and an aging. In comparison with the findings of previous studies from Wild et al. (2004), Mohan et al. (2006), Opie and Seedat (2005), Lawes et al. (2006), have shown direct correlation between aging and diabetes and or hypertension. In Ghana, findings from Addo et al. (2006), Sarah et al. (2004), Aikins et al. (2011), Amoah et al. (2003), Mensah et al (2006), and Nyarko, (2014) have all shown that aging is one of the risks factors for developing diabetes and or hypotension. Comparing the findings of this study and the literature reviewed, it can be said that, the majority view that diabetes and hypertension are aging conditions is consistent with the literature.

Diet and work habits are perceived as causes of diabetes and hypertension. Eating habits was discussed in the context of type of foods one eats, time of eating supper and sleeping and excessive drinking of alcoholic beverages and soft drinks. Comparing the findings of this study to some previously published research work on the causes of diabetes and hypertension, the findings are consistent with the literature. For example, Aikins et al, (2011) indicated that diets rich in fats and carbohydrates or both and the “Westernization” of the Ghanaian diet are the main
contributors to the development of diabetes and hypertension in Ghana. In 2013, Ghana Health Service reported that more people in Ghana were becoming hypertensive due to unhealthy lifestyles (unhealthy eating habits) and that the disease affected nearly one out of every five Ghanaian adults (GHS, 2013). Warburton et al (2007), Bassuk and Manson (2005), and Katzmarzyk and Janssen (2004) have all reported on a positive correlation between the development of diabetes and hypertension and lack of exercise/physical activities. Comparing the findings of this study to the above literature reviewed, these findings are significantly consistent with the literature reviewed.

Addo et al. (2006) reported that, there are no significant association between hypertension prevalence and alcohol consumption. However, from the findings of this study, some respondents were of the strong opinion that excessive consumption of alcohol could play a major role in the development of diabetes and or hypertension. This is because they knew a lot of people who developed diabetes and or hypertension due to their drinking habits. This therefore contradicts Addo et al (2006) finding but confirms the findings of Singh et al (2011).

Another means perceived by some respondents as causes of diabetes and hypertension is the type of work one does. Some participants emphasized on stressful and sedentary type of works as causes of diabetes and hypertension. Comparing these findings to the literature reviewed, it can be said that, the findings are not significantly different from the literature reviewed. For example, Danquah et al (2012) examined diabetes mellitus type2 and hypertension in urban Ghana, their study revealed that one of the main risk factors for developing diabetes and hypertension was sedentary lifestyles and stressful living conditions. Aikins et al (2011), Bindels et al (2006), and Singh et al (2011) identified stressful types of work as one of the main risks factors for
developing diabetes and hypertension. Bindels et al (2006) perceived stress as the main cause of hypertension. According to Mechanic (1978), the way people come to terms with the demands of living, particularly those that threatens distress and disruption and disorganized behaviour is termed as stress. However, the preparation of an individual to deal with stress is linked to the functional adaptability of social systems. This social system according to Coelho et al. (2014) includes lack of material resources, which has been linked to general vulnerability to diseases resulting in increased mortality.

Family history and pregnancy were also perceived by respondents as one of the causes of diabetes and hypertension. One of the findings from Bindels et al (2006), participants attributed hypertension to 'natural' causes (hereditary factors) and pregnancy. It can therefore be said that, the result of this study is not significantly different.

Comparing the analysis of the perceived causes of diabetes and hypertension by the respondents to the theoretical framework used for this study, all these explanations are said to be within the construct of social and cultural changes as well as the social and economic changes of the General Susceptibility Causes of Disease Theory and the Health Belief Model. According to Rosenstock (1974), in his analysis of the health belief model, family lifestyle such as type of foods, time of eating and sleeping, smoking, etc. can have great influence on the individuals‘ susceptibility of contracting non-communicable diseases like diabetes and hypertension within the family. For instance, most respondents (over 90.0%) believed that the kind of foods one eats, the extent to which one drinks alcoholic and non-alcoholic beverages as well as smoking, are perceived as the main causes of diabetes and hypertension, which they believed are due to social and cultural influence of Ghanaian lifestyles and Westernization.
5.4.6 Contracting Diabetes or Hypertension: The Spiritual Dimension

Patients’ health beliefs can have a profound impact on health-seeking behaviour. They can impede preventive efforts, delay or complicate medical care and result in the use of folk remedies that can be beneficial or toxic (Sarpong, 2002). Culturally-based attitudes about seeking treatment and trusting traditional medicines and folk remedies are rooted in core belief systems about illness causation (Senah, 1995). The understanding people have about what causes illness ranges from witchcraft and soul loss to germs and weak immunity.

Life in African traditional religion is based on maintaining the balance between the visible and invisible world. The maintenance of this balance and harmony is humanity's greatest ethical obligation and determines the quality of life (Magesa 1997). In African culture, it is believed that "nobody becomes sick without sufficient reason (Truter, 2007). Traditional practitioners look at the ultimate "who" rather than the "what" when locating the cause and cure of an illness, and the answers given come from the cosmological beliefs of the people (Truter, 2007). Rather than looking to the medical or physical reasons behind an illness, traditional healers attempt to determine the root causes underlying it, which is believed to stem from a lack of balance between the patient and his or her social environment or the spiritual world, not by natural causes (Truter, 2007). Many traditional healers and practitioners are of the opinion that disobeying taboos is one of the ways people could become sick (Gyekye 1995). There are several taboos in the African traditional religion; in Ghana for example, there are several religious taboos in various traditional areas. These includes; there are particular days in certain communities that people do not go to farm, there are certain rivers in some communities that the people there do
not eat fish from the river, it is forbidden to have sex in the bush in almost all traditional areas in Ghana, etc. In Ghana, spirits such as witchcrafts are essential in the explanation of so many social actions including disease causations (Assimeng, 2010).

In most traditional settings in Ghana, misfortune are interpreted, cosmologically, in this sense – witches or wizards battling good, innocent people to visit all kinds of troubles on them for varied reasons, some as weird as looking good or being intelligent (Twumasi, 2005). In Ghana, health is considered holistically, every illness is a product of physical, spiritual, emotional, and cosmological forces (Asamoah-Gyadu, 2014). Illnesses manifest themselves in the body, but unlike the biomedical view of health, it is not the bodily affliction that is the root of the problem. In order to cure a disease, the true cause must be discovered and resolved. Although many of the traditional beliefs have been pushed out or reduced by the growing use of biomedicine, western pharmaceuticals, as well as by outside religions such as Christianity and Islam, many of the traditional ideas of medicine and health still operate in Ghanaian society (Assimeng, 2010).

On the basis of the above analysis, respondents were asked whether it is possible for one to contract diabetes or hypertension through spiritual means. This question was asked in order to find out if respondents believed that regardless of how one lives his/her life, witches and wizards could give diabetes or hypertension him/her. Majority of them (56.6%) believed that witches and wizards could give diabetes or hypertension to any person of their choice while 43.4% thought it is not possible. The most common explanations provided by the majority (56.6%) of the respondents include:
“My brother, in Africa, the devil is capable of doing anything including causing any sickness to come to anyone....whether one believes it or not am telling the truth.... it is very-very possible” a woman explained.

Chinenye and Ogbera (2013) reviewed various literature related to the sociocultural aspects of diabetes in Nigeria. It was revealed in their findings that in Nigeria there is a popular belief that some ailments especially chronic diseases like diabetes and hypertension are inflicted on others by persons who have been offended. This puts some kind of stress on such persons who are most likely to display poor adherence to medications because it is belief that such ailments can only be cured by native doctors. According to their findings, a commonly asked question when the diagnosis of diabetes or hypertension is made is "Whom have I offended?".

Ndiaye (2009) conducted a research to investigate how the people of Senegal and the Republic of Guinea manage their diabetes. One of his findings was that, most of the participants believed that God controls their health and that ‘He’ has the final word on whether they stay healthy or not and this belief was found to impede their biomedical health care seeking. Therefore comparing the perceptions of the majority of the respondents of this study, it can be said that spiritual means of getting diabetes and hypertension is recognized as a risk factor in the African context. It can, therefore, be concluded that the findings of this study are significantly consistent with the literature.

In conclusion, this chapter has presented the findings in relation to the knowledge and perceived causes of diabetes and hypertension. It is important to note that, the demographic characteristics of the respondents in the selected communities in some cases reflected that of the district while others do not. The analysis revealed that, the main sources of information of the respondents about diabetes and hypertension was the media. The analysis identified a number of perceptions
and firmly held beliefs about causes of diabetes and hypertension. These include spiritual means, the type of work one does, the kind of foods one eats, the age of a person, from parents to children, eating habits, and lack of exercise/physical activities. Generally, respondents as well as the participants who have either diabetes/hypertension or both perceived both conditions as an aging disease, but they perceived hypertension as more of an aging disease than diabetes. The analysis further showed that, respondents have traditional means of checking their diabetes status but had little knowledge about symptoms of hypertension.

In the next chapter, the modes of prevention of diabetes and hypertension by the respondents are investigated so as to deepen insight into the causes and treatment of the conditions.
CHAPTER SIX

MODE OF PREVENTION OF DIABETES AND HYPERTENSION

6.1 Introduction

Non-Communicable Diseases (NCDs) are the leading cause of death in the world. The four main non-communicable diseases - cardiovascular disease, cancer, chronic lung diseases and diabetes - kill three in five people worldwide. Premature deaths from NCDs, however, can be prevented by changed policies and active engagement not only in health but also at the community levels and in other sectors. Effective preventive actions will save millions of lives and avoid suffering (Ban Ki-moon, UN general secretary, 2012).

Following the United Nations declaration on the prevention of non-communicable diseases by member countries in 2011, Ministry of Health (MOH), also developed a comprehensive National Policy for the Prevention and Control of Chronic Non-Communicable Diseases in Ghana in 2012. The strategies adopted by ministry of health in the prevention of non-communicable diseases include primary prevention and research and development. Primary prevention includes policies relating to tobacco and alcohol control, diet, physical activity, and immunization. In line with World Health Organization resolutions, Ministry of Health will give high priority to promoting healthy lifestyles among in- and out-of-school youth. Health promotion policy will promote intake of fruits and vegetables; high fiber diet, moderate physical activity; reducing
intake of energy dense foods, salt, fatty foods, sugar; avoiding tobacco; reducing excessive alcohol intake; and undergoing periodic medical check-ups (MOH, 2012).

The tobacco control measures provided by the Ministry of Health as preventive mechanism cover public education, protection of people from tobacco smoke, tobacco cessation, warning about the dangers of tobacco and enforcing bans on tobacco promotion and advertising. Ministry of health, led by the Food and Drugs Board (FDB), has developed a non-commercial influenced draft policy with the overall aim of helping to minimize alcohol-related harm to individuals, families and society. The policy addresses levels, patterns and context of alcohol consumption through a combination of measures that target the general population, vulnerable groups, such as young people and pregnant women, affected individuals and particular problems such as drink-driving and alcohol-related violence (MOH, 2012).

In the national policy for the prevention and control of chronic non-communicable diseases, Ghana endorses the World Health Organization recommendation for moderate-intensity physical activity such as brisk walking for at least thirty minutes on most days of the week. According to the framework of the policy, the general public will be encouraged to engage in normal physical activities at home, at work and during recreation with incremental vigor (MOH, 2012). The policy specifically targeted persons who are typically sedentary such as secretaries, drivers and market women who may be at high-risk of non-communicable diseases. According to the policy, adults can combine moderate and vigorous-intensity activities to meet the weekly physical activity recommendation. Every adult should also perform activities that maintain or increase muscular strength and endurance a minimum of two days each week. The public will be educated
to appreciate that even minimal physical activity is more beneficial than little or no physical activity.

From the above analysis, the study sought to analyse the respondents’ preventive behaviours of hypertension and diabetes as presented in table 6.1.

Table 6.1: Preventive Behaviours

<table>
<thead>
<tr>
<th>Variable</th>
<th>Absolute</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often Participants Eat Heavy Food After 6 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>24</td>
<td>7.1</td>
</tr>
<tr>
<td>1 -2 Times a week</td>
<td>81</td>
<td>23.8</td>
</tr>
<tr>
<td>3 or more times in a week</td>
<td>198</td>
<td>58.2</td>
</tr>
<tr>
<td>Occasionally</td>
<td>37</td>
<td>10.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>When do Participants go to Bed After Supper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 hour</td>
<td>51</td>
<td>15.0</td>
</tr>
<tr>
<td>1 to 2 hours</td>
<td>136</td>
<td>40.0</td>
</tr>
<tr>
<td>After 2 hours</td>
<td>153</td>
<td>45.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Do you Add Table Salt to Your Food?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>185</td>
<td>54.5</td>
</tr>
<tr>
<td>No</td>
<td>155</td>
<td>45.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Do You Sometimes Work Under Stress?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>38</td>
<td>11.2</td>
</tr>
<tr>
<td>No</td>
<td>302</td>
<td>88.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>340</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>How Often Participants work Under Stress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td>6</td>
<td>15.5</td>
</tr>
<tr>
<td>2 or more times in a week</td>
<td>8</td>
<td>20.3</td>
</tr>
<tr>
<td>Occasionally</td>
<td>24</td>
<td>64.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Do you Smoke?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>42</td>
<td>12.4</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>298</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>340</td>
</tr>
<tr>
<td><strong>How Often Participants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>smoke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everyday</td>
<td>18</td>
<td>42.9</td>
</tr>
<tr>
<td>Occasionally</td>
<td>24</td>
<td>57.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100.0</td>
</tr>
<tr>
<td><strong>Do you Drink Alcoholic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverages?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>130</td>
<td>38.2</td>
</tr>
<tr>
<td>No</td>
<td>210</td>
<td>61.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>340</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>How Often Participants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drink Alcoholic Beverages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everyday</td>
<td>21</td>
<td>16.2</td>
</tr>
<tr>
<td>Once a week</td>
<td>42</td>
<td>32.3</td>
</tr>
<tr>
<td>2 or more times a week</td>
<td>19</td>
<td>14.6</td>
</tr>
<tr>
<td>Occasionally</td>
<td>48</td>
<td>36.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>130</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Do You Take Soft Drinks?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Non-Alcoholic drinks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>326</td>
<td>95.9</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100.0</td>
</tr>
<tr>
<td><strong>How Often Participants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take soft Drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everyday</td>
<td>37</td>
<td>10.9</td>
</tr>
<tr>
<td>Once a week</td>
<td>87</td>
<td>25.6</td>
</tr>
<tr>
<td>2 or more times a week</td>
<td>112</td>
<td>32.9</td>
</tr>
<tr>
<td>Occasionally</td>
<td>104</td>
<td>30.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>340</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Have You Ever Checked</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Diabetes Status?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47</td>
<td>13.8</td>
</tr>
<tr>
<td>No</td>
<td>293</td>
<td>86.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100.0</td>
</tr>
<tr>
<td><strong>Have You Ever Checked</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Blood Pressure?</td>
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<td>52.6</td>
</tr>
<tr>
<td>No</td>
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<td>47.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>340</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016
6.2 Physical Activity

“Because I do hard work in my farm, I walk long distance to my farm throughout the week - over four kilometers. It is only Sundays and when there is funeral in the community that I don”t go to my farm or when am not well.....I do not even fall sick often .....I don”t even remember the last time I fell sick” (a male respondent).

As mentioned earlier on, lack of exercise and physical activities as well as sedentary type of works have great influence of determining one's chances of developing diabetes and hypertension. However, in the rural communities where the people are engaged in vigorous activities on daily basis, all respondents explained that their daily normal works are more than doing exercise. Almost all the young guys interviewed concerning how often they do physical activities, they explained that in addition to their hard works in the farm, they usually engage in football games in the evenings and during weekends. One of them explained as follows:

“As for here, the most common entertainment which is also in the form of exercise is football. Anytime we come from our farms in the evening, we gather on the school football field and play football......we have two teams in the town .....but not in any of the divisions of the national leagues”.

6.3 Eating habits

Dietary habits such as eating heavy foods in the night, going to bed immediately after eating, adding table salt to already prepared foods etc., have all been linked to the development of diabetes and hypertension (Lawes et al., 2006). Respondents were therefore asked how often
they eat heavy food such as fufu, banku, kenkey, etc. after six pm and the time they go to bed. The majority of them (58.2%) indicated that, they most of the time (3 or more days in a week) eat their supper after six pm. The reason for asking this question was to find out from them whether they were aware of the risks involved in eating heavy foods and go to bed immediately. From the data, 23.8% of them indicated that they eat heavy foods after six pm once or twice in a week. This means that, about 82.0% of them eat heavy foods at least once in a week after six pm. During the interview, observations revealed that most of the people start preparing their supper between 5 to 6 pm. This means that they will eat their supper at least after six pm. In most cases the researcher remained in the communities till 7 pm due to scheduled interviews with some of the respondents who do not come from their farms early. Observations on their dietary habits was that, most of them eat late in the evening. The most common explanations were centered on the fact that they do come home late from their work and the majority of them were farmers. One woman explained as:

“Most of the time we come from farm late, that is why we eat late….but sometimes too we eat in the farm in the evening before coming home, in that case we don”t eat again in the house. But Sundays and other days that we don”t go to farm, we don”t eat in the night”.

There were other respondents (7.1%) who mentioned that, they do eat their supper before six pm while others (10.9%) also said they occasionally eat their supper after six pm.

They were further asked how long they wait after eating their supper before they go to bed. From the data, 45.0% of them responded that they usually stay over two hours after eating their supper before they go to bed while 40.0% indicated that they stay between one to two hours before they go to bed. This means that, even though most of them eat late in the evening, the
majority of them (85.0%) stay for over one hour after eating their supper before they go to bed. As mentioned earlier on, in most rural communities in Ghana, people stay outside deep into the night before they go to bed and this was not different from the study communities. In the process of the interviews, it was realized that even though some of them responded that they do not go to bed immediately after eating their supper, occasionally some of them go to bed immediately after eating their supper especially when they eat beyond eight pm.

Responses regarding salt consumption indicated that, the majority (54.5%) of them do add salt to their food after preparation while 45.5% do not. For those who used to add salt to their diet after preparation, the common reasons were that anytime they feel the salt is not up to their taste and when the soup does not taste ‘sweet‘ they add more.

“My father used to add salt to his food anytime he is eating, and I always take the left-over of my father’s food….so sometimes too I also add some to my food even before I will find out whether the taste of the salt is ok or not.”

The most frequent explanations for those who indicated that they do not add table salt to their food after preparation was that, they have heard it is not healthy to add it after the meal have been prepared.

“I don’t add additional salt to my food because too much intake of salt is also a cause of hypertension….my father used to have hypertension and he was asked by a doctor not to eat salt……so he stopped eating salt before he died”. 
6.4 Stressful Conditions

According to Mechanic (1978), stress is experienced when discrepancies develop, which is associated with physiological changes, feelings of discomfort, and concern. The extent of physiological change and feelings of discomfort will depend on the importance of the situation or the extent of motivation, on the degree of discrepancy or failure anticipated or experience, and on genetic and physiological factors (Mechanic, 1978). This implies that, as long as social life runs smoothly, and as long as habits are adjustive, stress does not exist. However, when habits become disrupted, new stimuli demand attention and when the usual situation is altered, then stress exist. When stress does occur, according to Coelho et al. (2014), cultural and personal devices must be available to the person under stress to contain and control feelings that impede long-term adaptations and to facilitate continued attention to ordinary activities.

A person’s capability and sense of efficacy to deal with stress depends on the extent and strength of his social networks. Individuals evaluate their skills and abilities, as well as the way to respond in an uncertain situation, through a process of social comparison. In such comparisons they tend to focus on individuals like themselves as a means of obtaining cues as to the meaning of events and the way to respond (Kahn, et al., 1964). How a person comes to assess himself depends on those within his social context with whom comparisons are made. In many situations feelings and self-esteem depend not on the objective coping capacities of the individual but on the favourability of such comparisons. The extent to which individuals’ emotional distress and feelings of danger or inadequacy is dependent on the kind of society they live in, the kinds of challenge to which they are exposed, the goals to which they aspire and the types of preparations they have to deal with these conditions and changing circumstances (Cohen, 1955).
In viewing stress from the social point of view, it becomes essential to consider not only personal striving, strengths, and inadequacy, but also the manner in which these are shaped by the social structure of the community. From the above analysis of stress, it can, therefore, be said that the whole issue of stress is about modes of daily living and not just only work. However, research has shown that if one persistently works under stressful conditions could lead one to development of diabetes and hypertension (Danqua et al., 2012; Locker, 1989). Respondents were therefore asked whether their daily activities sometimes put them under stress and how often they experience stress. From the data, few of them (11.2%) indicated that they do sometimes experience stress in their daily activities while the majority (88.8%) indicated that they have not been experiencing any pressure leading to stress in their daily activities. Those who indicated that they do not experience any stress, were mainly the farmers and other self-employed people.

Regarding those who sometimes experience pressure leading to stress (11.2%), the majority (64.2%) of them indicated that they only experience stress occasionally while the rest (35.8%) also work under pressure leading to stress at least once in a week. The most frequent explanation was centered on ‘meeting deadline of work scheduled‘.

“Anytime the external supervisors are coming into our school, the headmaster put pressure on us to finish all the arrears of our lesson notes and any other thing that needs to be done before they come……apart from that, I do not experience stress”.
6.5 Behavioural Factors

Locker (1989), in his analysis of the Theory of General Susceptibility Causes of Disease, emphasized on the behavioural risk factors such as excessive smoking, excessive intake of alcoholic and non-alcoholic beverages as causes of the development of diabetes and hypertension (Locker, 1989). Similarly, Rosenstock (1974) also stressed on preventive health-related behaviour patterns such as excessive smoking of cigarette, excess intake of alcohol, etc. in his analysis of the Health Belief Model. In Ghana, according to the national health policy, it is an offense for anybody to smoke cigarette in any public places such as in a public bus, market places, etc. It is also an offense for anybody who is under 18 years and pregnant women to smoke cigarette and drink alcoholic beverages (MOH, 2012). The study therefore sought to find out from the respondents whether they smoke and if they do how often they smoke. From the data, the majority of them (87.6%) indicated that they do not smoke while 12.4% responded that they smoke (only males). For those who smoke, 42.9% mentioned that, they smoke everyday while 57.1% said they only smoke occasionally. For those who smoke every day, the average number of sticks they consume per day was three sticks per person. The common explanations given by those who smoke was mainly for working.

In an attempt to determine whether respondents were aware of the effects of the excessive consumption of alcoholic beverages on their health, they were asked to indicate whether they drink alcoholic beverages or not. For those who mentioned that they drink alcoholic beverages, were further asked how often they drink in a week. From the data, the majority of them (61.8%) indicated that they do not take any alcoholic beverages while the rest (38.2%) mentioned that they sometimes drink alcoholic beverages. This comprises all categories of the age groups and
both sex (males and females). On the issue of how often they drink, from the data, 16.2% of them indicated that they take alcoholic drinks every day, 36.9% of them responded that they drink it occasionally while the rest (46.9%) indicated they drink alcoholic beverages at least once in a week. However, from observations within the communities, a lot of people especially the youth drink alcoholic beverages even those who were below eighteen years. Some people who were interviewed and they indicated that they do not drink alcoholic beverages were seen drinking alcoholic beverages during occasions like funerals.

They were further asked to indicate whether they do take soft drinks (non-alcoholic beverages), and if they do how often they drink. This question was asked to find out if respondents were aware of the risk involved in taking soft drinks regarding diabetes and hypertension. From the data, as many as 95.9% of them responded that, they sometimes drink soft drinks such as coke, Fanta, sprite etc. Out of this number 10.9% responded that they drink every day, 30.6% indicated they only drink occasionally while 58.5% of them indicated that they take soft drinks at least once a week. Those who indicated that they take soft drinks everyday and at least once a week, the majority of them were females while almost all the males responded that they take soft drinks occasionally. Observations revealed that traders as well as artisans such as seamstresses drink more soft drinks during the day. This observation was made during the researcher’s visit to the work places of those respondents who were traders and artisans.

6.6 Frequency of Checking Diabetes and Hypertension Status

Lack of regular checkups from any medical facility for proper health care in general in developing countries has been identified as one major health problems (WHO, 2010). McGuigan
(2010) in his analysis of the unique cultural factors that impacted on diabetes self-management in the Eritrean and Ethiopian identified lack of regular checkups for diabetes and hypertension as risk factors of developing diabetes and hypertension. Similarly in Ghana, the culture of medical checkups is generally absent and this was not different from the study communities. Generally, in Ghana, people only go to the hospital when they are sick irrespective of the social status (poor or rich). As mentioned earlier on, there are no proper medical facilities in the two communities for these services even to be done. The only clinic at Doryumu belongs to a military camp which is about 2 kilometers from the town. Observation revealed that the people do not even patronize the services of the military clinic because of the fear of the military generally in Ghana. The few chemical sellers available in the two communities do not have equipment to perform services like checking of blood pressure and of sugar levels of their clients.

The study, however, sought to ask respondents whether they do check their diabetes status and their blood pressure from any medical facility. The majority (86.2%) of them responded that they have never checked their diabetes status before from any medical facility. On the other hand, the majority of them (52.6%) responded that they have ever checked their blood pressure due to culture of compulsory checking of blood pressure of all adults at any health facility in Ghana. However, unlike hypertension, diabetes is not automatically checked for patients at the hospitals whenever they go there with any other sicknesses. This has enabled most of the respondents to know their hypertension but not their diabetes status from any medical facility. The rest who indicated that, they have ever checked their diabetes status (13.8%) were mainly women who explained that they checked their diabetes status when they were pregnant and they went to hospital for antenatal care. For those who responded that they have never checked their diabetes
status (86.2%) and hypertension status (47.4%) explained that they do not often fall sick and
even when they fall sick, they usually do self-medications. One of them commented:

“I don’t have the money to go to hospital for any check-up……myself I don’t fall sick, so I don’t
see the need to do that. Even at the hospital, when one goes there one have to join long queue, so
if by God’s grace I don’t fall sick, why should I go and join the long queue there for no
sickness”.

Nyarko, et al. (2014), reported that out of the 260 diabetic patients studied at Komfo Anokye
Teaching Hospital in Kumasi, the females were more (73%) than the males (27%). The findings
of their study provide a scenario that females are more susceptible to diabetes and hypertension
than males. This finding is said to be consistent with the findings of this study because the study
indicated that males were more involved in physical activities such as playing of football almost
every evening while the elderly men engaged themselves more in brisk walking. Similarly,
WHO (2017a) and Francesco et al. (2006) have all reported on exercising and physical activities
as an effective means of reducing blood pressure and slow the initiation and development of
diabetes. Further, Bunnag et al. (2006); Lee et al. (2012); Shrestha et al. (2006); Ducorps et al.
(1996); Otieno et al. (2005); Ogunleye et al. (2012); Berraho et al. (2012); Unadike et al.
(2011); Singh et al. (1996); Jain & Patel (1983); Joshi et al. (2012) have all indicated that, people
who are physically inactive have an increased risk of developing hypertension and type2
diabetes.

Again, their findings also indicated that by lifestyle modification, both type 2 diabetes mellitus
and hypertension can be prevented by an individual. By lifestyle modifications, Singh et al.
(1996); Jain & Patel (1983) and Joshi et al. (2012) reported on reduction of alcohol consumption
and excessive consumption of soft drinks as a means of prevention of type 2 diabetes and
hypertension while Bunnag et al. (2006); Lee et al. (2012); Shrestha et al (2006) and Ducorps et al. (1996) emphasized on reducing stress on oneself, regular check-ups, and quitting from smoking of cigarette as a major means of preventing hypertension and diabetes.

From the above analysis, it can be concluded that, in areas like physical activity or exercising, eating habits, smoking, and stressful work, the respondents of this study are doing very well either directly or indirectly to prevent themselves from initiation of the development of diabetes and hypertension. However, other risk factors like excessive consumption of soft drinks, alcohol consumption, checking of one’s diabetes or hypertension status (blood pressure) regularly to monitor oneself from the development of diabetes and hypertension; they generally do not pay attention to these risk factors as preventive mechanism of diabetes and hypertension.

In conclusion, the major issue discussed in this chapter was the preventive behaviours of the respondents. The main areas which were focused included physical activities or exercising, eating habits, working under stressful conditions, and checking of diabetes and hypertension status. Behavioural risk factors such as smoking and excessive drinking of alcoholic and non-alcoholic beverages were also discussed. These preventive behaviours discussed in this chapter therefore serve as basis for the next chapter which examines the health-seeking behaviours and management of diabetic and hypertensive conditions.
CHAPTER SEVEN

HEALTH-SEEKING BEHAVIOUR AND MANAGEMENT OF DIABETES AND HYPERTENSION

“My wife has been very supportive in the management of our situation, even though she is also diabetic and hypertensive, I got the two conditions at the same time long time before she got the diabetes…..she had the hypertension during her first pregnancy. She makes sure I take my drugs all the time…… she’s always on me to take my drugs. As for food, she controls what I eat all the time including the time I eat. She ensures that always we have plantain in the house……our children in Accra also buy us some of these foodstuffs”.

7.1 Introduction

None of the respondents interviewed within the selected communities was diabetic or hypertensive. This chapter therefore investigates the health-seeking behaviour and the challenges people with diabetes and or hypertension face in the district.

Community ideas and attitudes toward health and illness affect the way they utilize health services. This is because these ideas and attitudes provide ideological basis for the health care system (Omotosho, 2010; WHO, 2013). According to Omotosho (2010), in Nigeria, the quest for health easily shades into issues of morality and religion because the latter plays a significant aspect of social life. The rural populace has cosmological notions which ascribe etiology of diseases and ill-health to entities far beyond the realm of the stethoscope. They believe that the
doctor knows all and can cure all provided the right conditions are fulfilled. Hence, treatment of diseases classified as “common” or “ordinary” is diffused using either traditional or allopathic medicines while those classified as “severe” or “extraordinary” usually require traditional attention (Ewhrudjakpor, 2007; Omotosho, 2010).

Overtly challenging the patients’ health belief can result in non-adherence and treatment failure especially if the patients view a chronic illness such as hypertension or diabetes mellitus as an intermittent disease that requires ephemeral treatment (Iyalomhe and Iyalomhe, 2010).

Health promotion programmes worldwide have long been premised on the idea that providing knowledge about causes of ill health and choices available will go a long way towards promoting a change in individual behaviour, towards more beneficial health seeking behaviour (Ahmed et al 2001).

According to Godfrey et al (2012), there are two main types of health care-seeking behaviour - the first analyses barriers to care that lie between the patients and the services and the second type investigates the process of health care seeking. This involves identification of pathways to the formal health care system, often commencing with home care and traditional healers and extending to the formal system, pathways differing according to the presenting condition. Health-seeking behaviour studies look at illness behaviour more generally and focus in particular on motivating factors of illness perception and health belief (Godfrey et al 2012). Studies that look beyond the individual for social patterns or determinants of decision making includes the sense of local control over circumstances and the influences local groups and communities have on patterns of decision making (MacKian, 2003).

Asenso –Okyere and Dzator (1997) have reported that for several reasons – including availability, convenience, quick service and non-payment of consultation fees – patronage of
drug stores and pharmaceutical shops is increasing in both urban and rural communities of Ghana. Most drugs designated as essential drugs by the Ministry of Health are now readily available on the open market, and patients have greater access to them because of the flexible hours of operation of many drug stores. Senah (1994) found that in most cases when the patient did not know the kind of drug to purchase, he or she would consult the pharmacist or the store attendant who would then suggest the appropriate medication. In some communities in Ghana because of the belief that every disease has a spiritual cause, many people consult a fetish priest when they or members of their family are sick before they attempt any other form of treatment (Asenso-Okyere et al, 1998). Initial consultation with a fetish priest may also occur because they are closer to the patients in terms of distance and culture, and may be less expensive than orthodox providers. Faith healing involving prayers and fasting has also become a popular form of healing in Ghana (Asenso-Okyere. 1994). All these factors have a great influence on the health-seeking behaviour of a patient.

The decision as to where to seek care depends upon many factors including the availability of a provider within the community, the proximity of the provider, reputation of the provider, perceived quality of the services, the perceived causes of the disease, the cost of treatment, and the arrangement for payment (Asenso-Okyere et al, 1998). Cost of orthodox health care is increasingly becoming hindrance to many health care seekers, leading them to look at alternative providers. For instance, Asenso-Okyere and Dzitor (1997) reported that the average cost of treating malaria including the direct costs and the opportunity costs of travel and waiting time amounted to 3.7 days of male output and 4.7 days of female output. Drug peddlers and drug store operators provide services which are closer to the people and may be cheaper than services from the regular health care providers because of the non-payment of consultation fees and transport
expenses. (Asenso-Okyere et al (1998), found that in rural areas of Ghana health workers believed that patients attempt initial treatment by buying drugs from drug stores and report to the health center only if the condition become worse.

Annan et al (2013) in their analysis of the health-seeking behaviour of tuberculosis patients and related factors in the central region of Ghana found that more than half of the respondent sought treatment elsewhere as first point of treatment before reporting the health centers. They also reported that the National Health Insurance Scheme (NHIS) played an important role in the health-seeking behaviour of respondents ie 45.9% of tuberculosis patients with NHIS visited the health facility as first provider whilst 49.4% without health insurance visited prayer camps. Their study further revealed that factors such as staff attitude, distance to treatment center, gender, employment and educational level of respondents were key factors that affect the health-seeking behaviour of tuberculosis patients in the central region of Ghana. Therefore, knowledge of the patterns that influence the use of health and medical services of the diabetics and hypertensive are imperative to be analysed.

In all, twenty study participants who were members of the Diabetes and Hypertension Association in the district expressed interest to be part of the study. Out of this number, twelve of them were only hypertensive and eight both diabetics and hypertensive; however, none of them was only diabetic.
7.2 Brief Overview of Socio-Demographic Characteristics of the Participants

This section briefly presents the demographic profile of the participants. Out of the total number of 97 membership of the association, 40 were males and 57 were females. Twenty of them expressed their interest to take part of the study and out of this 7 were males 13 were females. Since participation was voluntary, no specific formula was used to choose participants, however this reflected the composition of the association. The minimum age of the participants was 36 years and the maximum was 72 years. The ages of eight of them were from 66 to 72 years, these were the people who had both diabetes and hypertension, and the rest had only hypertension. An attempt was made to include at least some members who were having only diabetes, but none of them was ready to be part of the study. In all, 15 were married, 2 women had been divorced, 1 woman was a widow and 2 men have been separated from their wives. On the level of education, 4 of them had no formal education, 1 had basic education, 3 had up to secondary level, 3 completed vocational/technical school, and 9 had up to tertiary level. All the participants were Christian. The composition of the participants was made up of 8 Ga-Dangme, 6 Akan, 4 Ewe, and 2 Dagare. Majority of the participants (12) were employed in the formal sector, 6 were farmers, and 1 each into trading and artisan (electrician). At least each of the participants has stayed in the district for four years and they were all Ghanaians by birth.

To understand the content of individual interviews, information related to: where they were born, where they have stayed before apart from Shai-Osudoku district and their working experiences were also collected. Seven of the participants were born in the district while the rest (13) were born outside the district. Regarding where they have stayed before, with the exception of four of them, the rest have stayed in other parts of the country doing various jobs (ranging from public service, civil service, and self-employed). With the exception of one woman, all study
participants have children and all have other dependents apart from their children except four who are staying with their husband/wife and their children only.

7.3 Perceived Causes of the Participants’ Own Conditions

The study sought to find out from the participants what they perceived as the causes of their own diabetes/hypertension. This was asked to determine whether they have an idea of what led them to their conditions. One of them who was both hypertensive and diabetic was much convinced that she perceived she got her own from her maternal family side (hereditary). Her reason was that, her mother’s mother was both diabetic and hypertensive, her mother was both diabetic and hypertensive and currently her senior brother is also diabetic. On this analysis, she perceived her condition as family diseases and therefore no matter what she would have done, she was convinced that she would have still gotten it.

Another woman could not exactly explain what might have caused her to have both conditions. However, as the interview progressed, she came to conclusion that, it could be late eating that might have caused her to have both diseases. She explained that none of her parents were diabetic or hypertensive. She has been a farmer throughout her life, so she has been doing physical works throughout her life. However, she explained that, she used to come home late from the farm, and she most of the time finished her supper after seven pm except the days she does not go to farm. She explained as follows:

“I can’t really tell what exactly might have caused my sickness, because I don’t drink alcoholic drinks, even fanta and sweet drinks such as coke, I don’t like them……I only take some of these soft drinks during funerals and even that I just take one bottle. As for exercise, I don’t think that
could be a caused of my condition because I walked long distance to my farm and work - such as weeding and making of mounds. Maybe, it could be my late eating in the evenings, because until I had the diabetes, I used to come home late from my farm and I usually finished my supper around seven pm. I used not to wait much time after eating my supper before I go to bed…….I got the diabetes first and about a year or so I was told I had the hypertension also”.

The rest of the participants who have both diabetes and hypertension talked more about their lifestyles and mentioned perceived causes like late eating in the night, too much eating of red meat and starchy foods (banku, fufu, kenkey), smoking of cigarette, drinking of alcoholic beverages, working under pressure (stress), lack of physical activities and exercise. Increased age was also mentioned as a perceived caused by a seventy two year old man. One retired security officer shared his experience and perceived that, his condition was due to stress in the Police Service. He explained as:

“I can”t talk about my condition without mentioning stress, in the police service. In Ghana, when you are a Police Officer and you are investigating a case, until the case is over, you won”t have your peace of mind, always there will be pressure on you to finish it…..especially if the case is a sensitive one…….especially murder cases. I used to drink alcoholic beverages and smoke cigarette too. Generally, I think all of these things put together might have caused my condition.”

Contrary to the above mentioned perceived causes of diabetes and hypertension by those who have the two conditions, four of the others who had only hypertension attributed their condition to pregnancy and marital problems. They explained that before they got married, they were not
hypertensives, but it developed during their pregnancies. Therefore, they perceived the causes of their condition as due to pregnancy. One of them comments:

“Before I got married, I wasn’t hypertensive; I became hypertensive during my first pregnancy. However, the doctor assured me that it will go after giving birth but unfortunately for me it did not go completely, my blood pressure only reduced a bit. I wasn’t much surprise because my mother told me that, she also got her hypertension through pregnancy. My elder sister is also hypertensive and she first realized it during her first pregnancy......,so I think is a family disease”.

7.4 Risk Involve of Being Diabetic/Hypertensive

When one is aware of the risks a particular health conditions (especially chronic conditions like diabetes and hypertension) could lead him/her to, it would have an influence of his/her lifestyle.

The study therefore sought to determine whether participants were aware of the risks involved of being hypertensive or diabetic. The common risk all the participants who had only hypertension mentioned was fear of developing diabetes in future. They explained that, the tendency for one to contract the two conditions is very high especially if one has already gotten any of them. Some referred to their neighbours and friends who contracted either diabetes or hypertension first and later on developed the other. One risk that those who have both diabetes and hypertension also mentioned was fear of battling with chronic wounds in case there is a cut on any part of their body. The common risks they all mentioned (those who have only hypertension and those who have both diabetes and hypertension) as they fear that their present conditions could bring to them were: kidney problems, stroke, heart attack/heart failure, and side effects of constant
medications. Some explained that they have known people who were having both conditions and before they died, they were put on dialysis due to kidney problems they developed.

7.5 Treatment and Health-Seeking Behaviour

For every ill-health or misfortunes, there is a cure for it, however, the channel of treatment depends on the perceived causes of the ill-health or the misfortunes (Chinenye and Ogbera, 2013). Therefore as part of the research objectives, the study sought to find out from the study participants how they seek for treatment of their diabetic and or hypertensive conditions. They were therefore asked to share their experiences on the following:

- How long they have been diabetic or hypertensive;
- Social link of diabetics/hypertensive;
- Where does he/she and other family members seek for treatment;
- Whether they encounter any problems in seeking for treatment; and
- Whether their immediate family members support them.

7.4.0 How Long Participants Have Been Diabetic/Hypertensive

As indicated earlier on, all the twenty study participants had hypertension while eight of them had diabetes. This implies that, 12 had only hypertension while 8 had both diabetes and hypertension. For hypertension, 4 of them have been hypertensive ranging from five to nine years, 8 from ten to fourteen years, 4 from fifteen to nineteen years and 6 have been hypertensive from twenty to thirty four years. All the 6 participants who have been hypertensive between
twenty to thirty four years are also diabetic including 2 other participants who have also been hypertensive for fifteen years. For those who have both conditions, six of them had the hypertension first before they developed the diabetes while the other two had the diabetes first before they developed the hypertension.

7.5.1 Social Link of Diabetics/Hypertensive

Researchers have been finding it difficult to determine the exact causes of most chronic diseases such as cancer, diabetes, hypertension, etc. However, there is a strong believe that such diseases have a family history and lifestyle as the root causes (WHO, 2010). In order therefore to analyse the social link of diabetes/hypertension, the study sought to find out from the study participants whether their partner (those who are married) or any of their family members (such as siblings, children or parents) are also diabetic and or hypertensive.

Out of the twenty study participants, fifteen of them were married while five of them were not in their marriages due to one reason or the other. Three of the married couples (one woman and two men) mentioned that, they and their partners are all both diabetic and hypertensive. For the rest of the five participants who had both diabetes and hypertension, one man could not tell whether his former wife has either diabetes or hypertension because they have been divorced over ten years ago, but one man however confirmed that, before he and his former wife divorced, the wife was diabetic but not hypertensive. One woman who was a widow and have both diabetes and hypertension also mentioned that, her husband was diabetic and hypertensive before he died. Two other participants (women) could not tell whether their husbands were diabetic or hypertensive because they have been separated for over eighteen years ago and do not even
know where they are currently staying in Ghana. The twelve who had only hypertension, six of them indicated that their partners are neither diabetic nor hypertensive, but six of them however indicated that their partners are either diabetic or hypertensive.

Sixteen of the participants indicated that, at least one member of their immediate relatives (parents, siblings, aunts, and grandparents) have either diabetes and or hypertension. Three of them indicated that, their fathers were both diabetics and hypertensive. Seven also explained that at least one of their brothers and sisters has either diabetes and or hypertension and at least one of their children are either diabetic and or hypertensive. Five of the sixteen indicated that, both their parents were diabetics and hypertensive. One participant out of the sixteen also indicated that two of her aunts are hypertensive. Four of the remaining twenty participants indicated that none of their immediate family members are either diabetic or hypertensive, however, two of them (women) had already indicated that, their husbands are hypertensive.

It can therefore be deduced that, out of the twenty study participants, only two of them had none of his/her immediate relatives have neither diabetes nor hypertension.

7.5.2 Where Diabetics/Hypertensives Seek For Treatment

Participants were asked to share their experiences on where they seek for treatment. All participants responded that they seek medical treatment from the orthodox hospitals. The majority of them explained that anytime they feel the symptoms like dizziness, severe headache, and any other symptoms related to their conditions, they either go to the hospitals to see the doctor or they go to pharmacy to buy their known drugs for self-medications as prescribed by their doctors. For those who have only hypertension, it was revealed that they do more self-
medications with instruction from their doctors as compare with those who have both diabetes and hypertension. For those who have both conditions explained that in most cases they report to their doctors anytime they feel unusual reactions in their body. However, it was revealed that the well-educated ones among them do more self-medications with their doctor's advice, like self-testing of their own sugar level using their own glucometer and checking of their blood pressure as well as self-injection of insulin. The following excerpts demonstrate the most common explanations:

“I have my own machine that I use to check my blood pressure….usually it is my husband who does it for me. I usually check it once every week, but anytime I feel that am not feeling fine I call my doctor to tell him the results and how I feel. In most cases he (my doctor) tells me what medicine to take, even though I know most of the hypertensive medicines, but I just want to take the instructions from him”. A retired teacher explained.

Contrary to the above explanations, one uneducated woman who has both conditions also explained as:

“My doctor always give me date that I should report to him, so I always do that….whether am well or not, when the date he has given me is due, I have to go and see him….he is a very good doctor. But he has also told me that, even if the date he gives me is not due and I feel unusual reactions in my body, I should not wait for the date he has given me….but I should rather come and see him….. so I always do that”.

Surprisingly, none of them made mentioned of using traditional medicine as alternative source of seeking treatment. This is because it is known that chronic diseases in most African societies are treated in combination of traditional herbal medicines and biomedicines (Assimeng, 1978). The
most common explanation was that, they have been educated during their meetings that if they rely on traditional medicines, it can lead them to further complications of their problems.

### 7.5.3 Problems and Challenges

Participants were asked to share any problems they encounter in their quest to seek for treatment of their conditions. Overall, participants described two main problems, the most frequently mentioned was financial problem while others also mentioned long queue sometimes they join at the hospital. The majority of them described the problem they encounter as financial concerning buying of prescribed medicines. Even though some of them said that they receive financial support from their immediate family members (children), it is still a challenge they face. Some of them also explained that since they have been put on special diets, especially those with both conditions, expressed their concerns regarding high cost of buying of these special foodstuffs, especially plantain which some said is expensive. They further explained that even during certain period of the year, they find it difficult to get plantain (which is the main component of their prescribed food) to buy in their various communities. One woman explained her financial problem as:

“They say if you use the health insurance card, they will not give you „good” medicines, so my children buy all my drugs from Accra for me which are very expensive. These days, getting plantain to buy is very difficult.....plantain is the main food I eat, when you get it too is very costly. I spend all the money the children send me to buy plantain”.

Another problem they mentioned was long queue at the hospital sometimes they go to join before they can see a doctor. In Ghana, the elderly are given privilege at the hospitals to see the
doctor ahead of the young, but according to their explanations, even the elderly queue at the health centers are usually long due to limited facilities as well as limited number of doctors assigned to see the elderly at the hospitals. One man described it as:

“*My main problem is going to see the doctor. Sometimes if you don’t go early in the morning, you will spend the whole day at the hospital because of long queue..... that is my only worry*."

Apart from these two main problems described above, there were other challenges which emerged during the interview. These are regular medications and restricted Lifestyles. As described earlier, the majority of the were very uncomfortable when they were informed about their current conditions mainly because of the lifestyle changes usually associated with these conditions as well as the risk for developing subsequent diabetes (those who have only hypertension). They expressed their challenges in several ways, but the most frequently ones the majority of them mentioned were regular medications and restricted lifestyle.

They described how uncomfortable to be taken medicines almost every day and with regular intervals. Those who have both conditions explained that, because of the regular medications and insulin injection, sometimes it makes it difficult and uncomfortable to travel outside their comfortable homes. It was realized during the interview that, even some of them do not want their relatives and friends to know of their health conditions and this makes it difficult for them to stay outside their homes.

The next challenge all participants consistently mentioned was their eating habits. A change in diet and meal planning was one of the main themes that emerged, as the foods they eat affect their health conditions. They (especially those with both conditions) explained that this affected their family meal since they have to modify their food choices, eat specific foods, eat smaller portions, as well as eat regularly to avoid further health complications of their problems. This
could be difficult for the other members of diabetics/hypertensive family to adjust to. This could further be hard if they are accustomed to certain foods that diabetics/hypertensive now need to limit in their diet. Further, some explained that, it is difficult for them to attend party where there are all kinds of tempting foods available. Consistently, they kept on referring to how difficult it is to avoid eating certain foods of which probably they used to like most. The most common thing they all referred to as challenging regarding their eating habits and change in diet include: time of eating, especially those with both conditions; avoid eating or drinking certain favourite foods or drinks; cannot eat from family members' house because of the restricted type of foods to eat; immediate family members like grandchildren are unwilling to eat their non-salty foods, etc. all these challenges, according to most of them sometimes makes it uncomfortable to travel outside their home which make them feel socially isolated.

7.5.4 Family support

As health care providers work towards providing medical homes for chronically ill patients, it is becoming apparent that family provides the most important home for many patients‘ daily self-management and that family member can play critical roles in the health care (Uchino, 2006) systems. Managing chronic illness such as diabetes and hypertension is difficult for patients and health care providers alike. To avoid disease complications, patients are advised to take medicines on schedule times, eat certain types and quantities of food on daily basis, be physically active all the time, avoids stress, etc. Patients and health care providers often find it difficult to manage these routines (Uchino, 2006). Family and friends already affect patient self-management, since daily eating, physical activity, and stress management of diabetics/hypertensives happen in the setting of social activities and relationships. Family
members often decide which food to keep in the house, what food to prepare for meals, and how health is placed among other family priorities (Hwang et al, 2009).

According to Rosland (2008), positive social support (family or friends) plays an important role in one’s ability to make healthier choices. Social support means being able to access people that a person can rely upon if needed (Rosland, 2008). Family members are the most significant source of that support. The support of family and friends during a crisis has long been seen to have a positive emotional effect on people. However, this support also has a physical benefit as well. From a study done by Rosland (2008), during stressful times, people tend to experience higher blood pressure and heart rates. However, the presence of friends or family members has been shown to reduce these rates among people during difficult periods. In terms of chronic disease, the support of family or friends has been shown to lessen the chance that one will become sick or die from heart disease (Uchino, 2006). Research conducted at Brigham Young University and the University of North Carolina Gallant (2007) found that people who suffer from chronic diseases such as diabetes and hypertension and do not have enough family support were 50.0% likely to die from such chronic diseases as compare with people who have more social and family supports. Family and friends are also important for those who have been diagnosed with chronic disease such as heart disease, high blood pressure and diabetes (Gallant, 2007). Having enough social and family supports is very important for people who suffer from chronic diseases such as diabetes and hypertension to comply with the doctors‘ advice.

Researches have shown that there is a positive relationship between social and family supports and management and treatment adherence among diabetics and hypertensives patients. Social supports from family and friends gives people who suffer from chronic diseases with on-hand
assistance and can reduce the kind of stress their sick conditions put them into (Lewandowski and Drotar, 2007). According to research by DiMatteo (2004), support from friends and family members promotes patients‘ adherence to treatment regimen by motivating the patients‘ optimism and self-confidence, which can reduce the stress the patient goes through and also reduce patients‘ depression (DiMatteo, 2004). While social support can impact more positively on the patient’s ability to adjust and live normally with illness, researches have also shown that social support has also been identified by researchers to have some negative health outcomes. Some studies revealed that diabetics and hypertensives patients often feel some kind of guilts, when receiving support from family members, especially distance family members (Carter-Edwards, 2004). However, in this study there were no reported cases of diabetics and hypertensives patients feeling any form of criticism or guilt in receiving family supports.

Studies have shown that there are instances diabetics and hypertensives face some competitions between them and their family members on resources available in the home which to some extent affect the treatment and management of diabetes and hypertension (Gallant, 2007. Such competition can limit patients‘ time and energy and can even put some stress on the patient that can negatively affect patients who are making some efforts to play multiple family roles while living with their illness (Gallant, 2007). However, in this study there were no such competing demands from family members. Family and social support are important aspects of adherence to diabetes and hypertension management. Many research findings have shown a positive and significant relationship between social support and adherence to treatment and management of chronic diseases such as diabetes and hypertension.
One of the themes identified was the family as source of social support to diabetics/hypertensive patients in the quest for treatment and management of their health conditions. Family members such as spouses and children were often involved in the lifestyle changes that people made after they were diagnosed with diabetes/hypertension. Almost all diabetics/hypertensive mentioned that their spouses, partners and children were essential in helping them, and encouraging them to live according to the instructions of their doctors. Most of them explained that they received a lot of encouragements from family members to follow a healthy diet as prescribed by their doctors and maintain a consistent exercise routine such as brisk walking, regular taken of medicine, calling to find out how they are faring, frequent visit to them by family members, etc. were mentioned as the most important motivating influence for study participants. Participants also made mentioned of their immediate family members such as wife/husband and children as source of their financial support to meet their medical bills and cost of living, especially those participants who were sixty six years and above and on retirement from active work.

Study participants shared how their immediate family members such as their wife/husband, children, and siblings support them in seeking treatment and managing their health condition. Participants discussed two main supports that they receive from their immediate family members. These are social and financial supports. Participants’ responses regarding social support centered on assistants they get from their wives, grandchildren, distance relatives, etc. who are always with them to help them prepare their special diets; their children calling them to ask about their health and encouraging them to take their medications on time as well as encouraging them to do brisk walking from time to time.
Specifically, children and marriage partners were mentioned as a significant motivating factor by majority of them. These social supports were viewed as a source of motivation by study participants. The other support participants mentioned that they get from their immediate family members was financial support. This was explained as very necessary on two main reasons; the first is the cost of buying prescribed medications of which some of them especially those who are on pension said it would have been difficult for them to buy such expensive drugs. The other thing that they mentioned was special diet they are restricted to eat, especially those who have the two conditions.

World Health Organization (2004), Ghana Health Service (2013), the American Diabetes Association (2008), and the American Heart Association (2008) have all reported that family history is a recognized risk factor for Cardio Vascular Diseases including diabetes and hypertension which represents genetic, environmental and behavioural elements (lifestyles). Singh et al. (2011) analysed the Epidemiological Study of Diabetes Amongst Geriatric Population in an Urban Slum, Nagpur, India. The objective of the study was to study the prevalence of diabetes and the associated risk factors for diabetes. The most common risk factors found in their study for causes of diabetes were positive family history of diabetes and history of hypertension. Bindels et al. (2006) undertook a study to analyse how Ghanaian, African-Surinamese and Dutch patients explain hypertension in Netherlands. Their study indicated that, about 44% of their participants considered hypertension as lifestyle condition and 1.0% attributed hypertension to family history, that is hereditary factors and with pregnancy.

Comparing these findings with this study, it can be concluded that the findings of this study are not significantly different from the findings of the. For example, lifestyles, behavioural and environmental elements reported by WHO (2004), GHS (2013), Harrison (2003), The American
Diabetes Association (2008), and the American Heart Association (2008) could be said to have a great influence on the development of diabetes and hypertension on the majority of the married couples who have either one or both conditions. This is because, since all those study participants who have been married for thirty years and above have both diabetes and hypertension, but those who have been married for less than twenty years have either diabetes or hypertension. Similarly, family history and genetic elements reported in the findings of the literature are not different from the majority of the participants who have at least one member of their family being diabetic and or hypertensive.

There are several studies that have reported on the alternative treatment of diabetes and hypertension, such as traditional and herbal medicine (Asenso-Okyere, 1994; Asenso-Okyere et al., 1998; Annan et al., 2013; Chinenye and Ogbera, 2013). For instance, Chinenye and Ogbera (2013) reported that, many Nigerians often 'supplement' the care they receive in clinics and hospitals with treatment from traditional healers and some health workers such as nurses even engage in recommending certain traditional healers for patients suffering from diabetes and hypertension for further treatment. Findings from this study however, contradict these health seeking behaviour of diabetics and hypertensive because none of the study participants reported of seeking treatment from traditional healers, even though some held the view that diabetes and hypertension could be acquired through spiritual means. This could probably be due to the kind of education they received from their association ('God is Love') about treatment and management of these conditions.

Aikins (2007), among her findings were that, in Ghana without health insurance, managing conditions such as diabetes and hypertension can cost more than the average individual earns in Ghana; rural-urban study of diabetes experiences showed that many poor rural men and women
with diabetes often relied on financial support from their immediate and distant family members. Chronic conditions such as hypertension and diabetes according to the study appear to be stigmatized. Asenso-Okyere and Dzitor (1997) have also reported on the stigmatization of poor people suffering from severe chronic diseases such as diabetes and hypertension in some communities in rural Ghana where some community members see them as HIV/AIDS patients. Similarly, World Health Organization (2010) and Ndiaye (2009) also reported that, diabetic or hypertensive patients without health insurance could not effectively manage their conditions as those with health insurance. Some of the findings from this study are in consistent with the literature while others are not. For instance, findings from this study did not recognize the use of health insurance as effective management of diabetes and hypertension as at the time of doing this research.

Yusuf, et al. (2007) reported that, financial barriers, non-adherence to medication regimen, cultural barriers such as self-medication with local herbs, and lack of privacy during doctors‘ consultation were found to be related to poor diabetes and hypertension management among Nigerian. Again, the findings of this research agreed with these findings but none of the study participants in this study reported of the use of local herbs as treatment of diabetes and hypertension and lack of privacy at the hospitals. Bindels et al. (2006) also reported on some Ghanaians expressed reservations sharing their diabetic or hypertensive conditions with community members because it might cause social stigma. Famuyiwa (1990) indicated that, in Nigeria cases of summary dismissals from jobs due to erroneous belief that diabetes is contagious and harassment of diabetic patients by the police for possession of insulin syringes and needles have been found. McGuigan (2010) found that, some diabetic and hypertensive patients perceived long-term medication adherence as addiction rather than chronic disease.
management and lack of physical activities due to busy work schedules was also found among Eritrean and Ethiopian. Comparing the findings of this study to the literature, none of the literature reviewed identified long queue at the hospitals and difficulty of eating non-salty foods as diabetics and hypertensive challenge, but social isolation or loneliness and difficulty to visit their family members (children) because of their restricted lifestyles as challenges to the diabetic and hypertensive patients in this study are consistent with the literature.

7.6 Management and Preventive Behaviours

A lot of effective drugs have been developed for the treatment of hypertension and diabetes. However, research has proved that, the pharmacotherapy is still not very promising without lifestyle modification (WHO, 2017a). The role of physical activity and regular exercise for treatment of hypertension has proved very positive (WHO, 2017b). Regular exercise along with dietary modifications has shown to be associated with significantly greater improvement in both diabetics and hypertensive patients’ conditions (WHO, 2016b). According to World Health Organization (2017a), a diet rich in fruits, vegetables and low-fat dairy products along with reduced saturated and total fat has proved to have reduced the complications associated with diabetes and hypertension as compare with pharmacotherapy treatment. Strict dietary advice for diabetics and hypertensives by dieticians has shown to improved their conditions drastically (Pappachan et al, 2011). Dietary sodium restriction, which is less than a teaspoon of salt per day, is an important component of managing diabetic and hypertensive patients (Pappachan et al, 2011). Excess alcohol consumption has also been found to worsen diabetic and hypertensive
conditions. Cigarette smoking has been found to be a contributory factor to death from stroke and heart attack in diabetics and hypertensive patients (Cohen et al., 2012).

The study therefore sought to determine how study participants are managing their diabetic and hypertensive conditions apart from the pharmacotherapy treatment and what they are doing to prevent their present health condition from deteriorating. They were asked to share their opinions on the following: what individual should be doing to prevent him/her from getting diabetes/hypertension; what they do to manage their present condition; how often they engage in exercise; how often they eat heavy foods after six pm; how often they add additional salt to their foods; whether they smoke cigarette; whether they drink alcoholic and non-alcoholic beverages and how often they drink.

When participants were asked to share their experiences on what one should be doing in order to prevent him/her from getting diabetes or hypertension, there were two main opinions expressed. The first thing the majority of them mentioned was family history and hereditary. They were of the opinion that, parents should endeavor to check traces of either diabetes or hypertension in their children as soon as they are born to know their status. They explained that, even though diabetes and hypertension are perceived to be caused by lifestyle of a person, there are some people who inherit them from their parents, therefore if they become aware of the tendency of developing any of the diseases from their infancy, it will help them to be extra careful regarding their lifestyles. The second thing all mentioned was lifestyle of individuals. Specifically, they mentioned good eating habits, regular exercise, avoid working under pressure, abstain from alcoholism, and one should take enough rest. The following are the common explanations given by them:
“From what I have learnt about diabetes and hypertension, it is good for one to eat well, reduce oily foods, reduce intake of alcoholic drinks…….left with me alone, I will suggest that alcoholic beverages should not be taken at all, take enough rest…….no matter what one does or how long one works, one can’t do everything, so when one is working and one is tired, just stop and take rest. As much as possible, one should avoid working under pressure. More importantly, eat more vegetables and green leaves like „animals” and avoid smoking of cigarette……my son, for cigarette smoking is not good for those who have heart problems”. A retired security officer commented.

One woman also expressed her opinion as follows:

“I think in addition to what I have said about lifestyle, I also want to say that, the Ghana health sector should make it a policy for hospital officials to check traces of either diabetes or hypertension of every child who is born at any hospital for the parents to be aware of their child’s susceptibility of getting either diabetes or hypertension in future. This will help one to be extra careful about one’s lifestyle as one grows”.

When participants were asked whether they engage in any form of physical activity or exercise, ten of them responded that, they have been engaging in brisk walking from time to time. Four of them who are farmers rather explained that by the virtue of their farming activities, they have not been intentionally engage in any form of exercise. Almost all the participants explained that, before they were diagnosed of either diabetic and or hypertension, they used not to do any serious form of physical activities or exercise except the four farmers. Three of them (retired workers) explained that, even though they were not intentionally engaged in any form of exercise when they were in active service, they were doing some form of physical activities. For example,
two were former teachers and the other retired police officer; the two retired teachers explained that, they used to ride bicycles to school while the former police officer also explained that, he used to go on police parades when he was a junior officer. One of the retired teachers recount his past experience:

“I don’t understand why I should even develop diabetes and hypertension in the first place, because I used to ride bicycle throughout when I was a teacher. Anyway, I used to eat late in the evening and that might have caused my situation”.

Six of the hypertensive (women) however mentioned that, they do not engage in any form of physical activities or exercise. The common explanation given by them was that, they perceived their condition as hereditary and family diseases; therefore they do not see the need to engage in any form of exercise to manage it. One of them explained her daily routine as:

“I am always busy throughout the week; from Monday to Friday I have to be at the market, and I use to come home around six to seven pm. Saturday is the only day I used to do my house chores…..so there is no time for any exercise. But as I told you, my problem is a family one, so I think whether I do exercise or not, it won’t change anything”.

They were asked how often they add additional salt to their foods after preparation. Each of the eight participants who have both diabetes and hypertension responded that he/she does not eat salt at all since he/she was diagnosed of both conditions. The common explanation by almost all was that, initially it was difficult for them to stop the consumption of the salt; some of them indicated that they rather reduced the consumption initially when they were advised by their doctors to stop eating the salt. However, one of them (a man) revealed that, even though he and the wife were all asked to stop eating salt, the wife stopped completely, but he was still adding
salt to his food occasionally. According to him, this went on for a while until he had a serious quarrel with the wife concerning his continues eating of the salt before he forced himself to stop. He explained as:

“My son, it was initially difficult for me to just stop eating the salt completely, but my wife completely stopped. She advised me initially to eat it small-small for sometimes. However, any time we go to the hospital for checkups, my wife’s situation was always better than my own, so she advised me now to stop eating the salt completely and I agreed with her. With that advice, initially I stopped completely, but later on I was adding it small-small to my food without my wife’s notice until one day she realized it and we had a quarrel about that. After that, I advised myself that, I won’t eat it again and since then I have not ate salt again”.

For the rest of the twelve participants who have only hypertension, the common response was that, they do not add additional salt to their food after it is served, even though they explained that they have reduced their intake of salt.

None of the participants currently smoke cigarette, however, two of the men mentioned that, they have ever smoked before. One of them shared his experiences as follows:

“I used to smoke cigarette almost every day when I was in the police service ……not less than five sticks a day until I was advised by a doctor to stop when I felt sick. Even then, I couldn’t completely stop, until I seriously felt sick again. This time, I was sent to a different hospital, and that doctor also advised me to stop smoking. After that day, I stopped for about three months and I started smoking small-small again until my wife noticed it and we had a big quarrel which
nearly resulted into a divorce. It was one of my church elders who spoke to me after the issue was settled, since then, my brother, I have not smoked again”

For alcoholic beverages, thirteen of them responses were that, they drink alcoholic beverages. Five of the thirteen indicated that they take alcoholic beverages two to three times in a week while the eight also said they drink it occasionally. However, four of them indicated on the course of the interviews that, before they were diagnosed of diabetes and or hypertension, they used to drink alcoholic beverages almost every day. For example, one of them said:

“Before I got married, I was staying with my friends in a flat, there was not a single day that one won’t find drinks in our fridge. I used to take at least one bottle of guinness each day after work, but during weekends, other friends used to join us……and we really enjoyed ourselves……I think all these have accounted for my present condition. But today, I only take one bottle of guinness occasionally”.

For the non-alcoholic beverages such as Fanta, coke, etc. the most common responses by all the eight participants who have both conditions was that, they do not take any soft drink. For the rest of them who only have hypertension, four of them indicated that, they take soft drinks three to four times in a week while the rest (eight) said; they take soft drinks occasionally; as one man put it:

“For my condition now, I know I have to be careful with what I eat or drink, so for these soft drinks such as Fanta and coke, I rarely take them, because am aware of the close relationship between hypertension and diabetes. I know if I don’t take good care of myself, I can get diabetes”.
From the Health Belief Model used as one of the theoretical framework, according to Rosenstock (1974), the model assumes that behavior change occurs with the existence of three ideas at the same time: One must realize that, there is enough reason to compel one to make one's health a priority in one's life. That one understands one may be susceptible to a disease and the one must realize that behavior modification could be helpful and the advantages of that modification of one's lifestyle will be more beneficial as compare with any costs of doing so. Comparing these assumptions to the participants who have only hypertension, the main risk they all mentioned was the fear of developing diabetes in future. This fear has made them conscious of their life regarding what they eat and also engage in regular exercise. Further, one of the goals of the Health Belief Model is to examine the individual's opinions about how likely the behaviors they partake in are going to lead to a negative or positive health outcome. From the analysis, those participants who used to drink and smoke before they were diagnosed of their conditions, they did not feel that they were at risk of developing any of these conditions; therefore they had no reason in their mind to make a behavior change. However, in the Health Belief Model, perceived severity addresses how serious the diseases that a person is susceptible to can be. After those participants have been diagnosed of their conditions and realizing the severity of their problems, they decided to change their smoking and drinking habits. That is to say, the Health Belief Model seeks to increase awareness of how serious the outcomes of behaviors can be in order to increase the quality of one's life.

In conclusion, it was revealed that the diabetics/hypertensive in this study use only the orthodox hospitals for their health seeking treatment of their conditions. They face a number of problems and challenges in their quest to seek for treatment and management of their conditions. These
includes financial problems, social isolations and to some extent stigmatizations. Other major issues discussed in the chapter include brief overview of socio-demographic characteristics of the participants, perceived causes of the diabetics'/hypertensive' own conditions and the risks involve of being diabetic or hypertensive.

The final chapter presents the summary of findings of this thesis draws conclusions and recommendations are made based on the findings. Future researches areas have been suggested as well as the policy implications based on the findings have also been made at the end of the chapter.
CHAPTER EIGHT

CONCLUSION AND RECOMMENDATIONS

8.0 Introduction

Diabetes and hypertension are one of the main public health problems in the contemporary world which are rapidly growing. These two conditions are incremental threat for the world health and has become a global epidemic by demographic changes and cultural transition of societies accompanied by aging phenomenon not only in developing countries. Diabetes and hypertension are costly diseases which have been known as the main reason of cardiovascular diseases, blindness and advanced renal failure in the adult population in many countries. World Health Organization in 2017 estimates that 17.5 million people die each year from cardiovascular disease, accounting for around 31% of all deaths worldwide and making this disease the world’s biggest killer. Some 80% of these deaths are caused by heart attacks and stroke. High blood pressure, or hypertension, is the leading risk factor for heart disease and stroke, and accounts for more than 12% of total deaths from cardiovascular disease. A large proportion of heart attacks and strokes can be prevented by controlling major risk factors through lifestyle interventions and pharmacological treatment when indicated (WHO, 2017a). In 2016, WHO issued a global report on diabetes, underscoring the enormous scale of a crisis. The report estimated that the number of adults living with diabetes has almost quadrupled since 1980, moving from 108 million in 1980 to 422 million in 2014. According to the report, more than half of these people are unaware of their disease status and even more receive treatment. The global prevalence of diabetes in the
adult population has also increased, nearly doubling from 4.7% in 1980 to 8.5% in 2014. Diabetes is increasing most markedly in the cities of low-and middle-income countries. Most people are affected by Type 2 diabetes – once known as adult-onset diabetes, but no longer, as so many adolescents and children are now affected (WHO, 2017b).

In Ghana, cardiovascular diseases with the main risk factors including diabetes and hypertension, accounted for 8.9% of institutional deaths in 2003 compared to malaria which accounted for 17.1% of the deaths. However, in 2008, cardiovascular diseases became the leading cause of reported institutional deaths accounting for 14.5% of institutional deaths compared to malaria which accounted for 13.4% of the deaths. According to the 2013 Annual Report of the Korle-Bu Teaching Hospital, in 2012, seventy percent of all adult deaths at the hospital were caused by hypertensive conditions. The disease affects nearly one out of every five Ghanaian adults (Nyarko et al., 2014). Hypertension is said to be a silent killer because many people have it for years but are not aware of it.

This final chapter therefore, presents the summary of findings of the data presentations and analysis, draws conclusion and suggest recommendations based on the findings. Future research areas as well as policy implications have also been discussed.
8.1 Major Findings

The general objective of the study was to analyse people’s perceptions and management of diabetes and hypertension in some rural communities of Ghana. In furtherance of the major objective, the following specific objectives served as guide for the study:

1. To examine the local communities’ knowledge and understanding of hypertension and diabetes
2. To examine how local communities perceived the causes of hypertension and diabetes
3. To Analyse diabetes/hypertension preventive behaviours of the people within the selected communities
4. To investigate the health-seeking behaviour and the challenges people with diabetes and or hypertension face.

Ultimately, addressing these research objectives is intended to inform health care providers in an effort to improve public health education design to reduce the occurrence of diabetes and hypertension in the country.

The major findings in this regard include the following:

- Participants and respondents in this study identified the media, the family/community members and health care providers as the most common sources of information about diabetes and hypertension. They all indicated that, they have ever heard of diabetes and hypertension. In particular, the media was reported to be the primary source of information for both diabetes and hypertension. From the results, about 56.0% of the responses referred to the media as their main source of knowledge about diabetes and hypertension as diseases. They made mentioned of the various advertisement in the...
media concerning diabetes and hypertension medicines and health care facilities that claim to cure these diseases.

- An additional finding regarding their knowledge of diabetes and hypertension was revealed in their knowledge concerning the symptoms of diabetes and hypertension. From the study results 48.0% and 38.8% of the responses referred to the use the sugar content of one’s urine through tasting of the urine and ants gathering around one’s urine respectively as the knowledge of signs and symptoms of developing diabetes.

- On the other hand, the majority of them had little knowledge regarding signs and symptoms of developing hypertension. From the results, 32.4% of the responses indicated that, it is only at the hospital that one could know whether he/she is developing hypertension or not while 32.2% indicated that they have no idea of any symptoms of developing hypertension. This implies that more than half of them had no idea of any symptoms of developing hypertension as against 0.9% who indicated that they had no idea of the signs and symptoms of developing diabetes. This probably explains why hypertension is referred to as the ‘silent killer’, because many have it for years without realizing it.

- The study revealed that respondents'/ participants' understanding of diabetes and hypertension is mainly derived from the local names of diabetes and hypertension. For example, diabetes in the Akan name for diabetes is ‘sikyire yare’, the Ewe called it ‘sukli dɔ’, and the Ga-dangme called it ‘siklɪhela’. All these names literally mean ‘sugar disease’. Similarly, hypertension is also referred to as ‘Mo gya Boroso‘, ‘wusgbɔ dɔ’, and ‘lainiteken’, by the Akans, the Ewes and the Ga-dangmes respectively. All these names mean ‘excess blood in one’s body’. These local names ascribed to these diseases
strongly tied to their perceived causes; as majority from the community survey believed that as one grows one gets more blood leading to hypertension. However, it was also revealed that the majority of the people with diabetes and hypertension relatively understood the diseases better as compare with the respondents without these conditions. This probably is due to the education they received from their association.

- From the study results, 38.2% and 8.5% of them perceived that, one could get diabetes and hypertension at any age respectively. Similarly, 41.1% of them believed that one could only acquire diabetes from age 20 years and above but 91.5% believed that hypertension could be acquired from age 20 years and above. Therefore, it can be deduced that, the majority of them perceived hypertension as more of an aging disease than diabetes.

- The study found that over 90.0% of the respondents/participants perceived the type of foods one eats has an influence on one’s chances of developing diabetes and hypertension. Specifically, respondents mentioned high carbohydrates diets (cassava and yam), fats and oil, animal protein and sugary foods. As many as over 82.0% of them perceived late eating of heavy foods such as fufu, ampese, and kenkey could lead to the development of diabetes and hypertension.

- The study found that the majority of the diabetics and hypertensive perceived their eating habits and other lifestyle such as lack of regular exercise/physical activities, smoking of cigarette, excessive drinking of alcoholic beverages, and stress as the causes of their diabetes and or hypertension.

- The study found that one of the factors respondents perceived as causes of diabetes and hypertension was the spiritual dimension. Over 56.0% of them from the community
survey indicated that, they believed it is possible for one to contract diabetes and hypertension through spiritual means. However, only 5 participants of the diabetics/hypertensive believed that diabetes and hypertension could be contracted through spiritual means.

- Another means perceived by participants as causes of diabetes and hypertension was the type of work one does. From the data presentation, over 63.0% of them believed that the type of work one does could determine his or her chances of getting diabetes and hypertension. They perceived that if one’s work is sedentary and also closes late in the evening, it is likely one will always eat late in the evening which they perceived that he/she is more likely to develop diabetes and or hypertension later in life than one who does physical or manual works and closes from work early.

- Family history and pregnancy was also perceived as one of the causes of diabetes and hypertension by the majority of the respondents/participants. They perceived that some women develop diabetes and or hypertension when they become pregnant. They also perceived that people who get these diseases before they rich their adult age get them through their family history and genetically.

- The study revealed that, all the diabetics and hypertensive perceived that, marital status could play a major role in determining one’s diabetes/hypertension status. They were of the opinion that, one’s marital status to a large extent determines the kind of foods one will eat as well as the lifestyle. It was realized that, while some believed that marital status could play a positive role by preventing one from contracting these conditions, others also perceived marriage as an initiator of these conditions. Some of the diabetics/hypertensive participants attributed their own conditions to their marriage,
while others also perceived that their late marriage had caused them to developed their diabetes/hypertension.

- From the study results, it was found that, almost all the respondents’ daily activities are made up of physical activities. In addition to their physical activities in their various work places mainly in their farms, the young men engage themselves in football activities.

- The study found that only few of the respondents (11.2%) indicated that they do sometimes found themselves under stressful conditions in course of their daily activities. The rest (88.8%) indicated that they have not often experience any stress in their daily activities. It was found that, for those who sometimes experience stress, were mainly formal workers such as teachers. It was however, revealed that some diabetics/hypertensive participants used to experience stress in their daily activities prior to the development of their diabetics/hypertensive.

- Again, 12.4% of the respondents mentioned that they smoke cigarette while majority of them (87.6%) indicated that they do not smoke. The study found that for those who smoke cigarette, 42.9% smoke everyday while 57.1% smoke occasionally. However, observations throughout the interview revealed that, many of the young guys do smoke cigarette. This is because even some guys who were interviewed and indicated that they did not smoke cigarette, were seen smoking at drinking bars.

- On their dietary habits, the majority of them (58.2%) mentioned that they most of the time (3 or more days in a week) eat their supper after six pm which in most cases are made up of heavy foods such as fufu, banku, kenkey, etc. However, it was found that even though most of them eat late in the evening, majority of them (85.0%) sleeps late in
the night. It was further found that, the majority (54.5%) of them do add additional salt to their food after preparation, which is not a good sign of hypertension prevention.

- Additional finding of the study was that, 38.2% of them do drink all kinds of alcoholic beverages and this comprises all categories of the age groups of both males and females. From the data, 16.2% of those who drink alcoholic beverages indicated that they drink every day, 36.9% drink occasionally while the rest (46.9%) mentioned that they at least drink once in a week. However, observations within the communities, a lot of people especially the youth drink alcoholic beverages even those who were below eighteen years. Some people who I interviewed and they indicated that they do not drink alcoholic beverages were seen drinking alcoholic beverages during occasions like funerals. This is not a good sign for diabetes and hypertension prevention.

- The study found that as many as 95.9% of the respondents drink all kinds of soft drinks which are perceived to induce diabetes. The study further revealed that, 10.9%, 30.6%, and 58.5% of them drink all kinds of soft drinks daily, occasionally, and at least once a week respectively. It was found that for those who take soft drinks daily and at least once a week, majority of them were females while almost all the males mentioned that they take soft drinks occasionally. Observations revealed that traders as well as artisans such as seamstresses drink more soft drinks during the day. This observation was made during visits to the traders and artisans during the day.

- The study revealed that, the majority (86.2%) of them have never checked their diabetes status before while 52.6% of them have ever checked their blood pressure before from any health facility During the interview processes, it was revealed that one of the reasons why a lot of them have never checked their diabetes status but majority have checked
their hypertension status (Blood Pressure) was due to the fact that, whenever an adult goes to hospital, they check your blood pressure (Hypertension status) irrespective of whatever sicknesses one went to the hospital with. However, unlike hypertension, diabetes is not automatically checked for patients at the hospitals whenever they go there with any other sicknesses. For those who mentioned that they have never checked their diabetes status (86.2%) and hypertension status (47.4%), explained that they do not often fall sick and even when they fall sick, they usually do self-medications. The study further found that, those who have ever checked their diabetes status (13.8%) were mainly women who explained that they checked their diabetes status when they were pregnant and they went to hospital for antenatal care.

- The study found that all diabetics/hypertensive seek for health care from the orthodox hospitals. Majority of them explained that, anytime they feel signs and symptoms like dizziness, severe headache, etc. they either go to the hospital to see the doctor or they go to pharmacy to buy their known drugs for self-medications.

- For those who have only hypertension, the study found that they do more self-medications with instructions from their doctors as compare with those who have both conditions. For those who have both diabetes and hypertension, it was found that in most cases report to their doctors anytime they feel unusual reactions in their body

- Additional finding was that, the well-educated ones who have both diabetes and hypertension also do self-medication with their doctor’s advice, like self-testing and checking of their own blood pressure and sugar level and self-injections of insulin.
The study again revealed that, study participants try as much as possible do not want other people get to know that they are diabetic or hypertensive even including their distance family members, especially those with both diabetes and hypertension.

The study again discovered that, the diabetics/hypertensive do not patronize the use of traditional medicine to treat and manage their condition. The common reason was that, they fear the side effects of using traditional medicines, specifically referred to complications associated with traditional medicines and kidney problems. This could probably be due to the education they received from their association.

Participants mentioned one or combinations of the following as the main challenges they face in managing their present condition. These include: regular taking of medicines; preparation of special diet; restricted lifestyle in terms of what one eats or drinks; attempt to eat what everybody around you is eating which might not be good for diabetic/hypertensive; difficulty in eating non-salty foods; social isolation or loneliness; difficulty to visit their family members (children) because of their restricted lifestyles.

The study revealed two main problems that study participants faced, the most frequently mentioned was financial problem. The second one was long queue sometimes they join at the hospital when they want to see their respective doctors. This sometimes, according to them let them resort to the use of self-medication.

The study also found that, one of the main challenges face by all those with only hypertension was how to prevent themselves from developing diabetes, because they perceived hypertension as a risk factor for the development of diabetes which to them will worsen their condition.
8.1.0 Other Findings

Apart from the above findings related directly to the objectives of the study, other findings which are not directly related the objectives but worth mentioning were also found. These include the following:

- The study revealed that, out of the fifteen married participants, nine of them (representing 60%) have their spouses either being diabetic and or hypertensive. Three of them (one woman and two men) indicated that, they and their spouses are both diabetic and hypertensive; six of them indicated that their partners are neither diabetic nor hypertensive; six of the married couples (five women and one man who have only hypertension) also mentioned that their partners are either diabetic or hypertensive. It is also revealed that, all those participants who have both diabetes and hypertension together with their spouses have been married for at least thirty years and above. It was also found that all those who have only hypertension and their spouses either being diabetic or hypertensive have been married for less than twenty years. Therefore, it can be deduced that, to a greater extent marital status has some influence on one's susceptibility of developing diabetes and hypertension.

- Similarly, the study revealed that, sixteen of the diabetics/hypertensive (representing 80.0%) indicated that, at least one member of their immediate relatives (parents, siblings, aunts, and grandparents) have either diabetes and or hypertension. It implies that, out of the twenty study participants, only two of them had none of his/her immediate relatives have ha neither diabetes nor hypertension. Therefore, it can be perceived that, there is a family history and social link of the causes of diabetes and hypertension.
• The common risks they all mentioned (those who have only hypertension and those who have both conditions) as they fear that their present conditions could bring to them were: kidney problems, stroke, heart attack/heart failure, and side effects of regular medications. Some explained that they have known people who were having both conditions and before they died, they were put on dialysis due to kidney problems they developed. However, one risk that those who have both conditions mentioned was battling with chronic wound in case there is a cut on them.

• The family was identified by all diabetics/hypertensive as their primary source of social and financial supports in their quest for seeking treatment and management of their health conditions. Almost all diabetics/hypertensive mentioned that their spouses and children were essential in helping them, and motivating them to keep their condition under control. The social supports mentioned include: helping them prepare their special diets; their children calling them to ask about their health and encouraging them to take their medications on time as well as encouraging them to do brisk walking from time to time.
8.2 Conclusion

Researchers continue to find risk factors associated with hypertension and diabetes; however information on how local communities perceived the causes, management, and prevention of diabetes and hypertension in Ghana is scanty. It is known that most of the people living with either hypertension or diabetes or both are aware of what caused their sickness. However, much was not known about how the people without these non-communicable diseases especially the people in the rural communities of Ghana also perceived the causes of diabetes and hypertension. This study therefore aimed to bring to bear, the perspective of the section of the society outside the health profession, peoples’ perceptions, knowledge, management and their interpretations of diabetes and hypertension. Any successful strategies to improve people’s health must be based on a clear understanding of the peoples’ beliefs, their perceptions, expectations and approaches how they interpret particular illness and their health care seeking behaviours, so that specific issues can be addressed.

In conducting the research, mixed method techniques were used to elicit information from the selected communities. Quantitative approach, specifically, simple random sampling was used to survey three hundred and forty (N340) respondents through semi-structured questionnaire from the selected communities. Quantitative approach, through convenient sampling method was used to select twenty (N20) diabetics/hypertensives patients from the diabetics and hypertensive association in the district for in-depth interviews. These approaches were complemented by observations to enable the researcher obtain firsthand information through a natural setting.

The study found that majority of the respondents and participates identified the media as the main source of their information about diabetes and hypertension further the study revealed that
the majority of the respondents use popular knowledge of tasting their urine and ants gathering around their urine as signs and symptoms of diabetes, however they had limited knowledge about signs and symptoms of hypertension. The study also found that respondents understanding of diabetes and hypertension was mainly base on the local names which is strongly tried to their perceived causes of these diseases. The majority of the respondents and participates perceived the causes of diabetes and hypertension to include dietary habits, the type of work one does, family history and behavioral risk factors such as smoking excess consumption of alcoholic and non-alcoholic beverages. The study further revealed that the majority of the respondents have never checked their diabetes and hypertension status from any health facility. Finally the study found that all the diabetic and hypertensive patients seek for health care from the orthodox hospitals and do not patronized the use of traditional herbal medicines to manage their condition. The main challenges and problems of the diabetic and hypertensive include financial problems, long queue at hospitals, regular medications, change of lifestyle as well as stigmatization.

Based on the above findings, recommendations have been made to reduce the prevalence of diabetes and hypertension in the country. It is recommended that Ghana Health Service in collaboration with National Media Commission to regulate all diabetes and hypertension programmes in the media, including advertisements on these diseases to ensure that the right information are given to the general public. Furthermore, it is recommend for the Ministry of Health to intensify its Regenerative Health and Nutrition (RHN) programme that aims to empower communities to adopt health lifestyles in Ghana. It is also recommended that, the health promotion efforts by the GHS on behavioural risk factors such as smoking, excess consumption of alcoholic and non-alcoholic beverages should not be limited to only urban
centers but extended to the rural communities. It has also been recommended that the general public be educated on dietary habits such as excess consumption of salt, animal protein as well as late eating of supper. It is also recommended that, children should be screened at the hospital to detect those who are susceptible to develop diabetes and hypertension genetically. Finally it is recommended that, the NHIS should have special packages for people suffering from chronic diseases such as diabetes and hypertension so that they may pay higher premium to receive better treatment. Future studies could be done to ascertain the impacts of the association on the perceptions of diabetics/hypertensive who belong to the association and those who do not belong to the association regarding the level of knowledge of the causes, preventions, and management of diabetes and hypertension.
8.3 Recommendations

Based on the discussions and the findings from the data presentations, the following recommendations are made.

- From the discussions, respondents/participants identified the media as the main sources of knowledge and information about diabetes and hypertension. It is therefore recommended that, Ghana Health Service should collaborate with the National Media Commission to regulate all the various health programmes including advertisement especially those related to diabetes and hypertension being preached on the various media houses in the country to ensure that the right information are given to the general public. From the findings, a lot of people listen to health programmes on the various radios and televisions scattered throughout the country and they have confidence in whatever information is presented on these media platforms regardless of who is presenting it. Therefore if this health information are not properly checked and screened by the appropriate institutions like Ghana Health Service and the Ministry of Health to ensure that what is being told about the perceive causes, preventions, management, medicines, etc. about diabetes and hypertension are the right information, the prevalence will continue to increase.

- Again, it was also realized that, there was limited knowledge regarding the symptoms of hypertension and how people can check their hypertension status at home as compare to diabetes where ants and tasting of urine for sugar is done. It is therefore recommended that, the Ghana Health Service should educate the general public through their public health programmes the symptoms and the improvise means for one to check one‘s hypertension status regularly. Some respondents/participants expressed the view that,
diabetes and hypertension are old age diseases and no matter what lifestyle one lives, one is likely to develop any of the diseases as one grows. It is therefore, recommended that Ghana Health Service through their public health programmes should educate the general public that, it is not an automatic for one to develop diabetes or hypertension as one grows. This will let the general public become more conscious of their lifestyle such that, if one takes good care of oneself, one can live longer without developing diabetes or hypertension.

- Similarly, Ghana Health Service should educate the general public properly regarding the causes of diabetes and hypertension since the majority of the respondents’/participants’ understanding of diabetes and hypertension is based on the local names. For example, the understanding of hypertension connote the fact that one is having more blood in one’s body and therefore as one grows he/she gets more blood leading to hypertension. This understanding is strongly tied to the perceived causes of the condition.

- From the findings of the study, respondents/participants identified dietary habits (Western types of foods) and lack of physical activities and regular exercise as the main causes of diabetes and hypertension. It is therefore imperative to recommend that the general public should be educated to patronize the traditional Ghanaian foods devoid of too much oil and fats. This public education on diet should be done by the department of food and nutrition of the Ghana Health service. It is also recommended that the Ministry of Health’s Regenerative Health and Nutrition (RHN) Programme that aims to empower lay communities to adopt healthy lifestyles in Ghana should be intensified throughout the country. Further, the Ghana Health Service through the public health directorate should also educate the general public to regularly engage themselves in exercise such as brisk
walking, cycling, jogging, etc. People must also be educated to involve themselves in physical activities such as weeding in one’s own backyard gardening and any form of physical activities to reduce weight and also burn fats which were also identified by participants as risk factors for developing diabetes and hypertension.

- Smoking of cigarette among respondents was relatively low in the selected communities; it therefore offers a window of opportunity for smoking prevention. Health promotion efforts by the Ghana Health Service should therefore be intensified so as to prevent the rural populace from taken up smoking of cigarette which is identified by respondents/participants as one of the perceived risk factors for causing hypertension and its attendant health problems. This is necessary because the rural people in Ghana are the backbone of Ghana’s agricultural sector of which the economy of Ghana depends.

- Similarly, public education on the excessive consumption of alcohol must be intensified by all health promoters’ institutions such as Food and Drug Authority to prevent the youth from excessive consumption of all kinds of alcoholic beverages in the country. Again, the national policy on cigarette smoking and alcohol consumption must be enforced by the Food and Drug Authority to prevent the youth from engaging in smoking of cigarette and consumption of alcohol. This is based on the fact that, the study found that, a lot of the youth in the selected communities engage themselves in excessive alcohol consumption which was identified as one of the perceived risk factors for the development of diabetes and hypertension. The youth in the rural areas are the ones who are into the agricultural activities to feed the teeming population in the urban centers.

- From the study results, most respondents from the selected communities believed that, diabetes and hypertension could be contracted through spiritual means. This calls for the
Ministry of Health and Ghana Health Service to engage sociologists as well as psychologists and other social scientists at the various health care centers to help health professionals improve their understanding of their patients; especially those with medical complications such as chronic diseases like diabetes and hypertension in order to increase patient adherence to treatment. This is because if diabetic or hypertensive patient has a belief that his/her condition is caused by spiritual means, it presupposes that it can only be cured through spiritual means and therefore he/she will not adhere to routine medications as the case may be.

- Sedentary type of work was identified by respondents/participants as one of the predisposition risk factors of diabetes and hypertension. It is perceived that people who engage in certain type of works which seem to keep them glue on their seats for long hours end up developing diabetes and hypertension due to the stressful and demanding nature of the work. It is therefore, recommended that such group of people who do not engage in physical activities but sit at one place for long hours working, be educated by health promoters such as public health professionals; to find time and means of walking round from time to time during the working hours to stretch themselves to reduce the risk of developing diabetes and hypertension.

- It was found during the study that some women perceived to have developed diabetes or hypertension during pregnancies. It is therefore suggested that public health directorate of Ghana Health Service intensifies its public education on pregnant women to encourage them visit health centers for their diabetes and hypertension status to be checked regularly. This will help to identify who is susceptible for future development of diabetes or hypertension. This will also help early diagnosis so that the necessary advice is given
to them regarding modifications of their lifestyles to reduce the risk for pregnant women to fully develop diabetes or hypertension. It is also suggested that every child who comes to or born at any health center be tested to determine whether there are traces of diabetes or hypertension in his/her blood. This suggestion is based on the fact that, some study participants perceived that certain family members are prone to develop diabetes and or hypertension no matter whatever lifestyles one lives. Therefore testing for diabetes and hypertension traces in children will help to determine whether it is the lifestyles of the individual members of such families which lead them to develop diabetes and or hypertension or not. This will also help parents to know the necessary steps to be taken when they are informed at the hospital about their children chances of developing diabetes and or hypertension in future so that necessary steps will be taken to reduce the risk for such children to fully develop diabetes or hypertension later in their life.

- Similarly, it is recommended that any person who goes to any health care facility with any illness should be tested for his/her diabetes status as hypertension is checked for all adults who go to hospital in the country. This suggestion is based on the fact that, the majority of the study respondents/participants mentioned that they have ever checked their hypertension status at hospital. This is because no matter whatever sickness one reports at the hospital, if one is an adult they will check one's blood pressure. However, only few of them have ever checked their diabetes status from any health care facility because unless one intentionally decides to go for diabetes test, it will not be done for one as done for hypertension.

- One of the findings of the study indicated that people with diabetes and or hypertension do not patronized the use of traditional medicines to treat and manage their diabetic or
hypertensive conditions. The main reason was that, they perceived the use of the traditional medicines for the treatment and management of their condition has side effects which could deteriorate their health conditions. It is therefore suggested that registered traditional medicine practitioners should collaborate with the Ghana Health Service to intensify the education of the importance of using standardized or certified traditional medicines in the treatment and management of diabetes and hypertension.

- It is recommended that the National Health Insurance Scheme should have a special package for people with chronic diseases, particularly diabetes and or hypertension. This is because the study revealed that even though all the twenty diabetic/hypertensive patients do have the National Health Insurance card; most of them do not use it when they are going to hospital. The reason was that, anecdotal evidence suggests that when they use the insurance card to assess health services, they will not be given ‘proper’ medicines. They therefore claim that, if one wants ‘proper’ medicines and good treatment, then one does not have to go to the hospital with one’s insurance card. Meanwhile evidence from the literature showed that, diabetic and hypertensive patients who do not have health insurance package in the various countries face serious challenges in the treatment and management of their health conditions. It is therefore suggested that even if the cost of treatment and management of diabetes and hypertension is too costly compare with what diabetic and hypertensive patients pay as premium for the National Health Insurance, special arrangements could be made for them to pay higher premium. This will let them have confidence in the Scheme such that they will use it to have proper treatment and management of their diabetic and hypertensive conditions.
• It is also recommended that people with chronic diseases such as diabetics and hypertensives who are sixty years and above should be given separate queue at the various hospitals to encourage them visit the hospitals regularly. This suggestion is based on the fact that, many of the study participants with diabetes and or hypertension especially those who were above sixty years of age complained bitterly about long queues they have to join anytime they go to hospitals. According to them, this situation discourages them from going to hospitals to assess health care.

• It is also recommended that individuals should examine his/her family history to determine how susceptible he/she is to the development of diabetes and or hypertension. This will enable him/her to determine the kind of lifestyles he/she will lead to minimize his/her chances of developing any of the conditions. This is based on the fact that, one's family history is perceived to have some influence on one's chances of contracting these conditions in future.

• The causes of diabetes and hypertension from the study results are mainly perceived to include the lifestyles of individuals. It is therefore recommended that health education in schools should be intensified with emphasis on their lifestyles and the negative behavioural lifestyles such as smoking of cigarette, and excessive drinking of alcoholic and non-alcoholic beverages which are likely to let them develop diabetes and hypertension in future. If the children become aware and understand these negative behavioural lifestyles as predisposition risk factors for developing chronic diseases such as diabetes and hypertension from their childhoods, it will help them live good life and reduce the prevalence rate of diabetes and hypertension in the country.
• It is recommended that the general public must be educated by health promoters especially the Ghana Health Service about the importance of going for medical check-ups in general and in particularly checking their blood pressure and sugar levels regularly to enable individuals detect any early signs of developing any of the conditions. This is because from the study results, it is revealed that 86.2% and 47.3% of the participants from the selected communities have never checked their diabetes and blood pressure before at any health facility respectively.

• Finally, telephone monitoring systems that involve family members should be setup at the various health facilities in the country to monitor their diabetic/hypertensive patients at home. This will enhance patients to adhere to medication regimen. This is because one of the challenges of diabetics/hypertensive patients was the boring of regular medications which has become part of their lives.
8.4 Policy Implications of the Study

The thesis has presented findings which may be important for health promotion and health care delivery in Ghana as people’s belief systems underpin their actions which may inform policy makers within the health sector in Ghana to give cultural sensitive care to health policies. For instance, people’s misconceptions and inappropriate thinking” regarding causes of diabetes and hypertension may be addressed in health education policies. In line with the findings, policy framework will ensure comprehensive amalgamation of diabetes and hypertension management and prevention into the primary health care system in Ghana. The policy framework must ensure that the government becomes committed to the prevention of behavioural risk factors of diabetes and hypertension, especially smoking and alcoholic beverages and soft drinks which are perceived to induce diabetes and hypertension.

Lack of policy framework in most developing countries including Ghana has been attributed to limited levels of information regarding a particular condition. The information which has been produced from this thesis will therefore serve as part of guidelines for policy formulation and also strengthen the existing ones meant for prevention and management of diabetes and hypertension. A comprehensive primary health care policy review should acknowledge the perceptions and beliefs systems of the rural populace to ensure successful behavioural lifestyle modifications leading to preventions of diabetes and hypertension. The findings have indicated the need for public health education about diabetes and hypertension in order to ensure early detecting and reporting at health facilities. This is likely to activate greater demands for care services due to public awareness to offer biomedical health care services. As a result of this public awareness, there is the need to develop policy framework to meet the anticipated growing
health care needs of the people with chronic diseases such as diabetes and hypertension within the primary health care systems in Ghana.

8.5 Future Goals for Research

The various themes identified in this research can be used to inform future qualitative studies. In addition to that, during the interview with the diabetics and hypertensives, it was realized that they have been well educated on the causes, prevention, treatment and management of diabetes and hypertension through their Association. During the interview process of the diabetics and hypertensives, it was realized that, the majority of them fairly understood the two conditions better as compared with those without the conditions. This has an influence on their perceptions of causes, prevention, and management of diabetes and hypertension from those who do not belong to the association. Probably, this explains why only five of them were of the view that diabetes and hypertension could be contracted through spiritual means as against more than fifty percent of the study participants from the community survey who believed that diabetes and hypertension could be contracted through spiritual means. It is therefore suggested that, further studies could be done to ascertain the impact of the Association on the perceptions of those who belong and those who do not belong to the Association regarding the level of knowledge of the causes, preventions, and management of diabetes and hypertension.


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Appendix A

Semi-structured Questionnaire for the Community Survey

Dear Sir/Madam

My name is Amponsah Kodom Michael, a PhD student at University of Ghana, Legon. I am conducting a study on diabetes and hypertension in Shai-Osudoku district and you have been randomly selected for this study. I therefore plead with you to answer the questions posed as best as you can. There are no damages to you if you participate or refuse to participate and there are no wrong or right answers in this study. All information provided will be treated with the strictest confidentiality and used for academic purposes only. Your kind cooperation will be most appreciated.

Thank you.

Community…………………………………………………………

Code No…………………………………………………………
Socio-Demographic characteristics

1. Gender: Male (1) Female (2)

2. Age: ..............................................................

3. Marital status: Not married (0) Married (1) Divorced (2) Widow / Widower (3)
   Separated (4) other (specify) (99).................................

4. Level of Education: Not at all (0) Basic (1) Secondary (2) Tertiary (3)
   Vocational/Technical (4) Non-formal education (5)
   other (specify) (99).................................................

5. Religion: Muslim (1) Christian (2) Traditional ( ) other (specify)
   (99).........................................................

6. Ethnicity: ..........................................................................

7. How long have you stayed in this community?: .................................

8. What do you do for a living? Formal sector (1) Trading (2) Farming (3) Artisan (4)
   Driving (5) other (specify) (99) ...........................................
DIABETES

Knowledge and perceived causes of diabetes

9. Have you ever heard of diabetes (–asikyire yare”)? Yes (1) No (2)
If yes, how did you get to know it?

10. What is your understanding of diabetes?

11. At what age do you think one is likely to get diabetes?

12. How would you know that you have diabetes?

13. Do you sometimes taste your urine to determine whether it tastes sweet? Yes (1) No (2)
If yes, how often do you taste your urine to check whether it tastes sweet or not?

Once every 3 months (1) once every 6 months (2) once in a year (3) other, specify (99)…………………………………………………………

If No, why:……………………………………………………………………………………………………

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14. What are some of the means through which you think a person could get diabetes?

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15. Do you think the type of work one does may determine his/her diabetes status? Yes (1) No (2)

If Yes, Please explain your answer…………………………………………………………

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If No, why:……………………………………………………………………………………

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16. Do you think the kinds of food one eats may determine his/her diabetes status?
Yes (1) No (2) If Yes, please explain your answer

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If No, why: ................................................................................................................................
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17. Do you think one’s time of eating supper and sleeping time could determine his/her diabetes status? Yes (1) No (2)

If Yes, please explain your answer..........................................................................................
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If No, why................................................................................................................................
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18. Do you think it is possible for one to get diabetes through spiritual means? Yes (1) No (2)

If Yes, please explain your answer..........................................................................................
HYPERTENSION

Knowledge and perceived causes of hypertension

19. Have you ever heard of hypertension (mogyaboroso)? Yes (1) No (2)

If yes, how did you get to know it? .................................................................

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20. What is your understanding of hypertension?

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21. At what age do you think one is likely to get hypertension? ........................
22. How would you know that you have hypertension?

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23. What are some of the means through which you think a person could get hypertension?

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24. Do you think the type of work one does may determine his/her chances of getting hypertension? Yes (1) No (2)

If Yes, please explain your answer

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If No, why:..............................................................................................................

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25. Do you think the kinds of food one eats may determine his/her chances of getting hypertension? Yes (1) No (2)

If Yes, please explain your answer

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If No, why:..........................................................................................................................
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26. Do you think one’s time of eating supper and sleeping time could determine his/her chances of getting hypertension? Yes (1) No (2)

If Yes, please explain your answer

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If No, why:..........................................................................................................................
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27. Do you think it is possible for one to get hypertension through spiritual means? Yes (1)  
No (2)  
If Yes, please explain your answer.  
If No, why.
Preventive Behaviours

28. Do you intentionally do exercise? Yes (1) No (2)

If Yes, what type of exercise do you do?

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How often do you intentionally engage in such exercise in a week?

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If No, why..................................................................................................................................

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29. How often do you eat heavy food (banku, kenkey, fufu, ampe etc) after 6 pm in a week?

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30. When do you usually go to bed after eating your supper?

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31. Do you add table salt to your food? Yes (1) No (2)

If Yes, how often do you add table salt to your food?

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If No, why…………………………………………………………………………………………
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32. Do you sometimes work under stress? Yes (1) No (2)

If Yes, how often do you work under stress in a week?
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If No, why…………………………………………………………………………………………
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33. Do you smoke? Yes (1) NO (2)

If yes, how often do you smoke (number of sticks per day)?
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Please can you explain what motivate you to smoke?
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34. Do you drink alcoholic beverage? Yes (1) NO (2)

If yes, how often do you drink in a week?
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35. Do you drink non-alcoholic beverages (soft drinks)? Yes (1) NO (2)

   If Yes, how often do you drink in a week?
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36. Have you ever been to any health facility to check your diabetes status (sugar level)? Yes (1) NO (2)

   If Yes, how often do you check your diabetes status in a year?
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   If No, why................................................................................................................................
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37. Have you ever been to any health facility to check your blood pressure? Yes (1) NO (2)

   If Yes, how often do you check your blood pressure in a year?
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   If No, why................................................................................................................................
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38. Can you kindly explain any relationship between diabetes and hypertension?
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39. Would you like to ask me any question?

Thank you for your time
Appendix B

Interview Guide for Diabetics/Hypertensive

Community……………………………………………

Code No…………………………………………………

Socio-Demographic characteristics

1. Gender: Male ( 1 ) Female ( 2 )

2. Age:………………………………………

3. Level of Education: …………………………………………………………………

4. Religion: …………………………………………………………………………

5. Ethnicity: …………………………………

6. Were you born in this community? Yes (1) No (2)
   
   If No, where were you born?
   ……………………………………………………………………………………………..

7. How long have you stayed in this community?
   …………………………………………………………………………………………………
   …………………………………………………………………………………………………

8. Can you tell which other places you have stayed apart from this community?
9. How long did you stay in each of the communities/towns?

10. Can you tell me your working experiences at the various places you have stayed?

11. Currently what do you do for a living?

12. Marital status:

13. If married, how long have you been married?

14. If divorced or separation, how long did you marry?
Do you have biological children?

How many dependent(s) do you have?

**DIABETES**

**Knowledge and Perceived Causes of Diabetes**

15. Are you diabetic? ( 1 ) NO ( 2 )

If yes, before you got to know that you had diabetes, did you know of this disease? Yes ( 1 ) No ( 2 ) If yes, how did you get to know it?

16. How did you know that you have diabetes?

17. How did you feel when you were told that you have gotten diabetes?
18. What is your understanding of diabetes?

19. Name some of the means through which you think a person can get diabetes?

20. At what age do you think a person is likely to get diabetes?
21. Marital status and incidence of diabetes

22. Type of work one does and incidence of diabetes

23. Type of food one eats and diabetes

24. One eating habits (Time of eating supper) and diabetes
25. Working under stress and incidence of diabetes

26. What do you think are the causes of your diabetes?

27. What are some of the risks involved as a diabetic patient?
28. Spiritual means of getting diabetes
Treatment and Health Seeking Behaviour

29. How long have you been Diabetic? .................................................................

30. Is your wife/husband (if married) also diabetic? Yes (1) No (2)

   If yes, for how long?

   ............................................................................................................................

Where does she/he seek treatment?

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31. Are any of your family members such as children, dependents, sibling, parents, etc also diabetic? Yes (1) No (2)

   If yes, relationship with the family member (s)

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   How long has she/he been diabetic?

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   Where does she/he seek treatment?

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32. Where do you seek treatment?

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33. Do you encounter any problems in your attempt to seek treatment? Yes (1) No (2)

   If Yes, what kind of problems do you often encounter?
34. How do your immediate family members (wife/husband, children) support you?
Management and Preventive Behaviours

35. What do you think one should be doing in order to prevent him/her from getting diabetes?

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36. How often do you intentionally engage in exercise in a week?

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37. How often do you eat heavy food (banku, kenkey, fufu, ampese etc.) after 6 pm in a week?

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38. When do you usually go to bed in the evening after eating your supper?

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39. How often do you add table salt to your food?

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40. Do you smoke? Yes (1) No (2)

If yes, how often do you smoke (number of sticks per day)?

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41. Do you drink alcoholic beverage? Yes (1) No (2)

If yes, how often do you drink in a week?

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42. How often do you drink non-alcoholic beverages (soft drinks) in a week?

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43. How often do you work under stress?

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44. What are some of the challenges you face in managing your present health condition?

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45. Can you kindly explain any relationship between diabetes and hypertension?

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46. Would you like to ask me any question?

**HYPERTENSION**

**Knowledge and Perceived Causes of Hypertension**

1. Are you hypertensive? Yes ( 1 ) NO ( 2 )

   If yes, before you got to know that you had hypertension, did you know of this disease?
   Yes ( 1 ) NO ( 2 ). If yes, how did you get to know it?

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2. How did you know that you have hypertension?

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3. How did you feel when you were told that you have gotten hypertension?
4. What is your understanding of hypertension?

5. Name some of the means through which you think a person can get hypertension?

6. At what age do you think one is likely to get hypertension?

7. Marital status and incidence of hypertension
8. Type of work one does and incidence of hypertension

9. Type of food one eats and incidence of hypertension

10. What do you think are the causes of your hypertension?

11. What are some of the risks involved as a hypertensive patient?
12. Spiritual means of getting hypertension

13. How long have you been Hypertensive?

14. Is your wife/husband (if married) also Hypertensive? Yes (1) NO (2)

If yes, for how long?

Where does she/he seek treatment?

15. Are any of your family members such as children, sibling, parents, etc also Hypertensive? Yes (1) NO (2) If yes, relationship with the family member (s)

How long has she/he been Hypertensive?
Where does she/he seek treatment?

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16. Where do you seek treatment?

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17. Do you encounter any problems in your attempt to seek treatment? Yes ( 1 ) NO ( 2 )
If yes, what kind of problems do you often encounter?

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18. How do your immediate family members (wife/husband, children, etc.) support you?

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Management and Preventive Behaviours

19. What do you think one should be doing in order to prevent him/her from getting hypertension?


20. How often do you intentionally engage in exercise in a week?


21. How often do you eat heavy food (banku, kenkey, fufu, ampese etc.) after 6 pm in a week?


22. When do you usually go to bed in the evening after eating your supper?


23. How often do you add table salt to your food?


24. Do you smoke? Yes (1) NO (2)

If yes, how often do you smoke (number of sticks per day)?
25. Do you drink alcoholic beverage? Yes (1) NO (2)

If yes, how often do you drink in a week?

26. How often do you drink non-alcoholic beverages (soft drinks) in a week?

27. How often do you work under stress in a week?

28. What are some of the challenges you face in managing your present health condition?

29. Can you kindly explain any relationship between diabetes and hypertension?
30. Would you like to ask me any question?
Appendix C

UNIVERSITY OF GHANA

OFFICE OF RESEARCH, INNOVATION AND DEVELOPMENT
Ethics Committee for Humanities (ECH)

NEW PROTOCOL SUBMISSION FORM

Requirements:

i. A new protocol must be submitted to the ECH at least five weeks before the proposed commencement date of the research.

ii. All sections of the form must be completed before protocol can be considered for review.

iii. 11 hard copies of proposal must be submitted to the ECH in addition to other documentations as spelt out in the SOP. A soft copy of proposal and other documentations should also be emailed to ech@isser.edu.gh /ech@ug.edu.gh

Section A – Background Information

Project Title: Local Perceptions and Management of Diabetes and Hypertension in Shai-Osudoku District of Ghana.

2. Proposed Date of Commencement: February, 2016

3. Principal Investigator (Name, Title, Qualifications, Postal Address, Institution/Department, Phone number, Email address) Michael Amponsah Kodom, MSc., Department of Sociology, University of Ghana; Phone: 0240714122; Email: kamponsah@vvu.edu.gh

4. Co-Investigator(s) (Name; Osman Abubakar Sadick Mr.Title; Qualification ;BSc. Development Studies, Postal Address; Phone number; +233 278085606; Email address: abusadick99@gmail.com

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5. **Student Investigator(s)** (Name; Title; Qualifications; Postal Address; Institution/Department; Phone number; Email address; Supervisors name, Title and Contact) **Michael Amponsah Kodom, MSc., Department of Sociology, University of Ghana**  
Phone: 0240714122; Email: kamponsah@vvu.edu.gh

5a. Indicate status

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<th>Masters Level</th>
<th>Doctoral Level</th>
</tr>
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5b. Thesis Approval Letter and Introductory Letter from Head of Department

(Attach Letter of approval)

---

**Section B – Project Information**

1. Proposed Project Duration - From: (16/11/2015) _____________
   To: (30/03/2017) _____________

2. Collaborating Institution (if applicable)

3. Funding Status of Project?

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4. Source of funding (Name and Address)

   Own funding

5. Research Location(s): **Shai-Osudoku District, Greater Accra, Ghana.**

6. Data Collection Instruments (ie. Interview, questionnaire, observation et cetera)

   Interview, questionnaire, and Observation
7. Consent Process (Circle all that applies):
   (i) Written
   (ii) Oral
   (iii) English language
   (iv) Local language

9. Work Plan (Attach Work Plan)

Section C – Ethical Survey

1. Will the study involve participants who are particularly vulnerable or unable to give informed consent? (e.g. people under the age of 18, people with learning disabilities, students you teach or assess, etc.)
   Yes ☐ No ☐: No
   If Yes, state the category of persons?

2. Will it be necessary for participants to take part in the study without their knowledge and consent at the time?
   Yes ☐ No ☐: No
   If Yes, state why?

3. Will the study involve any audio or visual recording of people in public places?
   Yes ☐: Yes No ☐
   If Yes, State which type?: Audio recording

4. Will the study involve the discussion of sensitive topics? (e.g. sexual activity, illegal drug use, illegal activities, death, whistleblowing)
   Yes ☐ No ☐: NO
   If Yes, state the topic type?
5. Will the study involve invasive, intrusive or potentially harmful procedures of any kind?  
   Yes ☐ No ☐: No

If Yes, State procedures?

6. Is physical pain or psychological stress from the proposed project likely to cause harm or negative consequences beyond the risks in normal life?  
   Yes ☐ No ☐: No

If Yes, State how?

7. Will financial inducements (other than expenses) be offered to any of the participants?  
   Yes ☐ No ☐: No

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**Section D – Signature**

Name of person completing the form: Michael Amponsah Kodom  
Role on the study: Principal Investigator

Signature: MAK  
Date: 01/02/2016

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For all student projects:  
Michael Amponsah Kodom 01/02/2016 Pro. K. Senah  
Student Investigator Date Supervisors Signature Date

For Thesis Supervisor(s)  
I the undersigned supervisor have read through the proposal thoroughly (Scientific Review of the proposal) and reviewed the research instrument(s).  

Super visors Signature Date Supervisors Signature Date
Note:

As the **Principal Investigator/Student Investigator** on this project, my signature confirms that:

(i) I will ensure that all procedures performed under the study will be conducted in accordance with UG-wide policy statement on ethical conduct of research involving human subjects as well as the Standard Operating Procedure of ECH.

(ii) I understand that if there is any change from the project as originally approved, I must submit an amendment to the ECH for review and approval prior to its implementation. Where I fail to do so, the amended aspect of the study is invalid.

(iii) I understand that I will report all serious adverse events associated with the study within seven days verbally and fourteen days in writing.

(iv) I understand that I will submit progress reports each year for review and renewal. Where I fail to do so, the ECH is mandated to terminate the study upon expiry.

(v) I agree that I will submit a final report to the ECH at the end of the study.
Appendix D

UNIVERSITY OF GHANA

ETHICS COMMITTEE FOR HUMANITIES (ECH)

PROTOCOL CONSENT FORM

Section A - BACKGROUND INFORMATION

TITLE OF STUDY: Local Perceptions and Management of Diabetes and Hypertension in Shai-Osudoku District of Ghana.

PRINCIPAL INVESTIGATOR: Michael Amponsah Kodom

Certified Protocol Number: ECH 084/15-16

Section B - CONSENT TO PARTICIPATE IN RESEARCH

General Information about Research

The main purpose of the study is to analyze people’s perceptions and management of diabetes and hypertension in some rural communities of Ghana. The objective of the study is to analyze the local communities’ perceptions and management of hypertension and diabetes. It also seeks to examine how the local communities perceived the causes of hypertension and diabetes and their health seeking behaviour. The entire Study within the district in terms of data collection is expected to last for a period of about three months to enable the researcher do a thorough exploration of the study area. The study will involve in-depth interviews, and a questionnaire survey. Interviews will be recorded. There will be no experiments and participants are only required to give answers or responses to questions outlined in the interview guide or questionnaire.
Benefits/Risks of the Study

There are no direct benefits to individual participants. It is however expected that the findings of the study will inform institutions where health policies are designed to target specific health problems related to hypertension and diabetes. The study is expected to bring to the policy table, the knowledge, perceptions and societal understanding of diabetes and hypertension to ensure that any health intervention programs are culturally appropriate, and do not violate social norms. There are no foreseeable risks to the participants. The researcher shall take all steps to protect all participants from any risks that may result from participation or providing any information to the researcher(s).

Confidentiality

Information gathered will be treated with strict confidentiality. Records will not be made available to anyone outside the project and only used for academic purposes. All identities of respondents will be protected. In furtherance of this, names of respondents who provide any form of information will not be recorded.

Withdrawal from the Study

Participants are expected to take part in this study voluntarily. You will not be forced to take part and if at any moment in time you feel incapable of participating, you are free to opt out of the study.

Contact Information

For any further clarifications regarding the exercise, please contact the address below:

Amponsah Kodom Michael
Department of Sociology
University of Ghana
Cell Phone: 0240714122
Email: kamponsah@vvu.edu.gh
Section C - VOLUNTEER AGREEMENT

"I have read or have had someone read all of the above, asked questions, received answers regarding participation in this study, and am willing to give consent to participate in this study. I will not have waived any of my rights by signing this consent form. Upon signing this consent form, I will receive a copy for my personal records."

__________________________________________________________
Name of Volunteer

__________________________________________________________
Signature or Mark of volunteer Date

For Witnesses to Participants who may not be able to read and or write

"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".

__________________________________________________________
Name of Witness

__________________________________________________________
Signature of Witness Date

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.

__________________________________________________________
Name of Person Who Obtained Consent

__________________________________________________________
Signature of Person Who Obtained Consent Date