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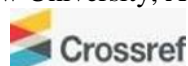
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## Perceived Predisposition Factors of Diabetes and Hypertension in the Shai-Osudoku District of Ghana



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### Abstract

**Purpose:** This study examined the perceived predisposition factors of diabetes and hypertension in the Shai-Osudoku district of Ghana. The research design adopted by the study was qualitative approach. Face-to-face semi-structured interviews were used to collect the data.

**Materials and Methods:** A total of fifty-two (52) participants made up of thirty-five (35) without any diabetes or hypertension and ten (10) with only hypertension and eight (8) with both diabetes and hypertension were involved in the study. For participants without diabetes or hypertension, the process of selection was simple random sampling while those with either hypertension and diabetes or only hypertension, snow ball process was used to identify them. Content analysis with coding of the information was used to analysis the data.

**Findings:** The paper identified a number of perceptions and firmly held beliefs about the predisposition causes of diabetes and hypertension. These include spiritual means of contracting diabetes and hypertension, the type of work one does, the kind of foods one eats, the age of a person, from parents to children, eating habits of a person, and lack of exercise/physical activities. Two theories

of causes of disease conditions were used in this study. These are: the Health Believe Model (HBM) and General Susceptibility Causes of Disease (GSCD). Comparing the above findings in the context of the two theories, it can therefore be said that, the participants' opinion regarding behavioural risk factors of diabetes and hypertension are in consistence with the theories used for the study.

**Implications to Theory, Practice and Policy:** Based on the findings, it is recommended that, the Ministry of Health and Ghana Health Service should engage social scientists such as sociologists and psychologists at the various healthcare centers to assist health professionals to improve the understanding of their patients; especially those with medical complications such as 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.

**Keywords:** *Diabetes, Hypertension, Perceived, Predisposition, Co-morbidity, Shai-Osudoku.*

## 1.0 INTRODUCTION

The co-morbidity of diabetes and hypertension conditions have had a heavy toll on the lives of Ghanaian. In medical context, they are referred to as ‘silent killers’. Most studies about chronic diseases in Ghana have been clinically oriented. However, medical-sociological truism suggests that, attitudes towards health and illnesses are sociocultural determined. In other words, the working and living conditions of a person, the definition and labeling of any illness condition and the appropriate therapeutic processes are all determined by society (Kodom et al 2022).

According to the World Health Organization (WHO, 2016) diabetes mellitus and hypertension have emerged as major medical and public health issues worldwide, and both conditions are important risk factors for coronary artery disease, heart failure and cerebrovascular diseases. The prevalence of diabetes in adults worldwide was estimated to be 4.0% in 1995 and is predicted to rise to 5.4% by the year 2025 (WHO, 2016). World Health Organization in 2017 estimated that 17.5 million people die each year from cardiovascular related diseases such as stroke, heart failure etc, accounting for around 31% of all deaths worldwide and making these diseases the world’s biggest killers. In Africa, non-communicable diseases are estimated to become the commonest cause of death by the year 2030 (WHO, 2017). Africa has been identified as the region with the fastest rate of increase of various non-communicable diseases. According to Dalal, S. (2011) the number of persons living with diabetes aged 20-79 years in Africa is projected to increase by 98% from 12.1 million in 2010 to 23.9 million by 2030, compared with a global average of 54% increase over the same period.

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 (Agyeman, 2012; Nyarko et al., 2014).

Understanding rural communities’ perceived causes of diabetes and hypertension can play an important role in enhancing communication between physicians and patients. One’s knowledge about perceived causes of any particular diseases have an influence on his/her decisions regarding the management of such conditions. Often, patients and clinicians are from different social, cultural and economic background which in most cases lead to a mutual lack of understanding and positive outcome in clinical encounters. The findings of the article will inform institutions where health policies are designed to target specific health problems related to hypertension and diabetes. This will ensure that any health intervention programs related to diabetes and hypertension are culturally appropriated. The following research questions guided the study:

- Do the rural folks in Ghana perceived aging factor as causes of diabetes and hypertension?
- Do the rural communities in Ghana perceived the causes of diabetes and hypertension through behavioural factors ?



- Does family history has any influence on the causes of diabetes and hypertension?
- What are the opinions of the rural communities in Ghana concerning the spiritual means of contracting diabetes and hypertension?

## 2.0 LITERATURE REVIEW

Generally, the literature review was centered on studies associated with the predisposition causes of diabetes and hypertension in the world, in Africa and in Ghana. 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 (WHO, 2016). King et al. (2002) conducted a research on prevalence of diabetes and hypertension in adults worldwide. One of their findings was that, the number of adults with diabetes and hypertension in the globe will rise 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 rise to 5.4% in 2025. The report revealed that the incidence of diabetes and hypertension prevalence in the developed countries is more than in the developing countries. According to the World Health Organization (WHO, 2016), the type of foods one eats, time of eating and sleeping are among the risk factors of developing diabetes and hypertension. Similarly, old age, sedentary type of work, lack of physical activities 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). 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)

Africa has been identified as the region with the fastest rate of increase of various non-communicable diseases with diabetes and hypertension as the leading cause (WHO, 2016). Mohan et al (2013), in collaboration with Nelson Mandela School of Medicine, South Africa, analyzed “The Rising Burden of Diabetes and Hypertension in South-east Asian and African Region. The aim of the study was to review the available literature on burden of Diabetes Mellitus and Hypertension and its coexistence in Southeast Asian and the African regions. A systematic reviewed of the papers published on diabetes mellitus, hypertension, and prevention/control of chronic diseases in the study regions between 1980 and 2012 was included in their study. 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, screening studies identified over 50% 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. Their findings also indicated that, by lifestyle modification both diabetes mellitus and hypertension can be prevented in both regions. Again, their findings indicated that among the WHO regions, the prevalence of hypertension was the highest in Africa, where both men and women have high rates of raised Blood Pressure, with prevalence rates over 40% (Norman et al, 2007). They

again indicated that, the prevalence of hypertension is increasing rapidly in Sub-Saharan Africa and occurring in young and active adults (Opie and Seedat, 2005). Finally, their findings revealed that significant number of individuals with hypertension in both regions were unaware of their conditions and, among those diagnosed with hypertension; treatment is frequently inadequate since a lot of people see hypertension as an old age condition but not disease (Lawes et al, 2006).

The understanding people have about what causes illness ranges from witchcraft and soul loss to germs and weak immunity. In the Western world, the body is often thought of as an intricate machine which must be kept “tuned-up,” and illness is viewed as a breakdown of the machine (Assimeng, 2010). This contrasts with African philosophies in which health is seen as a state of balance between the physical, social, and super-natural environment (Asamoah-Gyadu, 2014). 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 (Atobra, D. (2012). 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). Natural causes are, in fact, not seen as natural at all, but manipulations of spirits or the gods. There are several ways traditional Africans explain or understand the causes of disease. These include attacks from evil or bad spirits, spell-casting and witchcraft which are ways one could become sick. There is also the view that people with evil powers could cause other people they see as their enemies or are disrespectful to them to become sick as a way of punishment (Olupona 2004). Some also believe that when the ancestors are not treated well, they could punish people with diseases (Assimeng, 2010). Many traditional African communities are of the view that certain illnesses which defy scientific treatment can be transmitted through witchcraft and unforeseen forces; these include barrenness, infertility, chronic diseases such as cancers, diabetes, hypertension, etc. (Obinna 2012)

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). 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 (eating habits) and that the disease affected nearly one out of every five Ghanaian adults (GHS, 2014). 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 one of the main causes of hypertension.

In Ghana, spirits such as witchcrafts are essential in the explanation of so many social actions including disease causations (Assimeng, 2010). In Ghana, health is considered holistically, every illness is a product of physical, spiritual, emotional, and cosmological forces (Asamoah-Gyadu, 2014).

### **Theoretical Framework**

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. Two theories of causes of disease conditions were used in this study. These are: the Health Believe Model (HBM) and General Susceptibility Causes of Disease (GSCD). The Health Belief Model is an intrapersonal theory used in health promotion to design intervention and prevention of occurrence of diseases (Rosenstock 1974). The focus of the HBM is to assess health behavior of individuals through perceptions and attitudes someone may have towards disease and outcomes of certain actions. The theory examined the demographic characteristics such as socio-economic status, gender, ethnicity, age, etc. and how they are associated with preventive health-related behaviour patterns. The Health Belief Model assumes that behavior change occurs with the existence of three ideas at the same time:

- i. An individual recognizes that there is enough reason to make a health concern relevant (perceived susceptibility and severity).
- ii. That person understands he or she may be vulnerable to a disease (perceived threat).
- iii. 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)

The theory of General Susceptibility seeks to understand why some social groups seem to be more susceptible to particular diseases and death in general. Many contemporary medical problems today are better understood in terms of a web of causations. 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).

## **3.0 METHODOLOGY**

### **Research Design**

In this study, a qualitative approach was adopted. This is because qualitative research methods allow the study population the opportunity for greater personal explanation than quantitative methods. It is believed that qualitative research is an effective way to do culturally sensitive research such as this (Neuman, 2011). This enabled the participants with diabetes and hypertension to describe their illness experiences and beliefs.

### **Setting**

The setting of the study was in Shai Osudoku district of Greater Accra region of Ghana. Two communities (Doryumu and Ayikuma) in the district were purposely selected for

community survey. The two communities were selected because they are typical farming communities. It is 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.

### **Sampling**

There were two groups of participants who were interviewed in this study. The first group was those who were neither hypertensive nor diabetic. From the 2020 Population and Housing Census of Shai-Osudoku District, the two communities have the following population: Doryumu – 2254 and Ayikuma – 1,150 peoples who were 18 years and above. Due to limited time and other constraints, 1.5% of these population, 34 (14 males and 20 females) and 18 (7 males and 11 females) respectively in each community were interviewed, thus 52 participants. In all, fifty two (52) participants made up of thirty five (35) without any diabetes or hypertension and ten (10) with only hypertension and eight (8) with both diabetes and hypertension were involved in the study. There was no one with only diabetes. For participants without diabetes or hypertension, the process of selection was simple random sampling while those with either hypertension and diabetes or only hypertension, snow ball process was used to identify them. The age range of the participants were between 20 to 74 years and all of them have completed at least Junior High School/Middle School Leaving Certificate.

### **Data Collection**

Face-to-face semi-structured interviews were used for the study. The utilization of a semi-structured format allowed the researcher 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 perceptions about diabetes and hypertension freely. According to Neuman (2011), semi-structured interviews are most effective technique in conducting culturally relevant research which allows a researcher to ascertain what the basic issues or problems are, how sensitive or controversial the topic is, how easy it is to secure participants' 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 participants' gestures during interviews were also recorded.

### **Data Analysis**

Content analysis was used with coding of the information. Three levels of coding were used for the analysis; these are the open coding, axial coding and selective coding. These processes involved scanning through the data to look for cases that illustrated themes and generalizable trends and conclusions were drawn from the study. Throughout the coding process, memos of ideas and conceptual schemes were kept which helped to identify assumptions as well as emerging themes. Thematic analysis led to the development of themes revealed both within and across categories of data.

### **Ethical Considerations**

Observing ethical guidelines was core to the success of the study. 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. The needs of the study had to be balanced against the needs of the participants, noting the particular sick conditions of some of them in order to

eliminate all possible risks inherent in the process. Care was taken to ensure that, the process did not pose any physical discomfort to any of them. It was important to be closely attuned to participants' non-verbal behaviours and paralinguistic cues of physical pain and was prepared to end an interview at the first sign of fatigue.

#### 4.0 FINDINGS

The main themes that emerged from the perceived causes of diabetes and hypertension by the study participants were: Age, Diet (eating habits) and types of work one does, Behavioural factors, Physical activities, family history, and Spiritual means.

##### **Likely Age for One to be Diabetic or Hypertensive**

In discussing the risk factors for developing diabetes and hypertension, one of the themes that emerged from the data was each participant's assessment of age for which one is likely to get diabetes or hypertension. From the interviews of the two communities, some of the participants (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 (20.6%) who believed that a person could acquire diabetes from age 1 while 41.2% were of the opinion that a person could acquire diabetes from age 20 years and above. The most common reasons cited by them (41.2% participants) 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. A young lady explained as:

*“My elder sister told me that she was not having diabetes, but when she became pregnant at age twenty one 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 41.2% of the participants 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 (91.5%) were of the opinion that, hypertension is more of an old age condition as compare 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 (91.5%) 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 eats or drink.....like this hypertension and diabetes issues and finally they get hypertension. This is because the more they chop these rich foods, the more they get more blood leading to high blood pressure”, a man of forty five years explained.*

The common reason provided by the participants (8.5%) who believed that hypertension could be acquired at any age was that, hypertension is a family disease and therefore one could acquire it at any age if the disease is in one’s family.

When comparing those who believed that diabetes could be acquired at any age (38.2%) and those who believed that 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 *et al*, 2006). For instance, Addo *et al* (2006) studied the changing patterns of hypertension in four rural communities in the Ga District of Greater Accra region and 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.

### **Diet and Type of Work One Does**

Another theme that emerged was how participants 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 time one eats. All participants 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 fowl 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 of 74 years commented.*

Similarly, when participants were asked to share their opinions on the type of work one does and incidence of diabetes and hypertension, 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. 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. One lady of 38 years explained as follows:

*“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 likely to develop diabetes and/or 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 (22.6%) 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 explanation was summarised by one woman as:

*“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, 90.20% of the participants were of the view that, the 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 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”.* By one retired Teacher.

For the few of them (9.80%) who were of 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, when participants 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 82.0% of them mentioned late eating of heavy foods such as fufu, banku, ampese, kenkey, etc. 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 undigestion of these foods and consequently leads to the development of these conditions. The rest (18.0%) 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.

Comparing these findings with the literature, the participants’ perceptions about the predisposition causes of diabetes and hypertension are not significantly different from the literature. For instance, according to WHO (2017); Seedat (2005); Al-Mosa et al, (2006), the type of foods one eats, time of eating and sleeping are among the risk factors of developing diabetes and hypertension. 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 Health Belief Model which is one of the theoretical frameworks for this study makes 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)

### **Behavioural Factors**

Throughout the interview processes, one of the emerging themes that some participants (89.5%) perceived as causes of diabetes and hypertension was behavioural factors such as excessive intake of alcoholic and non-alcoholic drinks as well as excessive smoking. Participants mentioned all kinds of soft drinks such as coke, Fanta, mirinda, etc. as perceived to contain a lot of sugar which induces diabetes. However, some of them (10.5%) 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”.*

One of those participants (89.5%) who were of the opinion that smoking and drinking alcohol are perceived risk factors for one to become diabetic and or hypertensive explained as:

*“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 the 89.5% of the participants also explained that, if one works at insanitary environments such as refuse dump-site and public toilets, one is likely to involve in risk behaviours such as excessive smoking and alcoholic drinking which are risk factors for developing diabetes and hypertension.

Comparing the above findings in the context of the Health Belief Model, the model examines the individual’s opinions about how likely the behaviours they find themselves are going to lead them to a negative or positive health outcome. For instance, if a drunker does not feel that he is at risk of developing any diseases, he has no reason to make a behaviour change. One of the goals of the Health Belief Model is to change perceptions of susceptibility in order to move towards behavior change. Susceptibility is about how someone acknowledges that his behavior could lead to a specific disease. It can therefore be said that, the majority (89.5%) of the participants’ opinion regarding behavioural risk factors are in consistence with the Health Belief Model. Addo et al. (2006) reported that, there are no significant association between hypertension prevalence and alcohol consumption. However, from the findings of this study, 89.5% of the participants were of the opinion that excessive consumption of alcohol could play a major role in the development of diabetes and or hypertension. This however contradicts Addo et al (2006) findings.

### **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. One teacher explained explained as;

*“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”, .*

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.”*

### **Family History**

Family history was frequently mentioned by participants in the discussions of causes and preventions of diabetes and hypertension. In the discussion, 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 participants perceived diabetes to be more of genetic than hypertension. This is because 38% believed that one could acquire diabetes at any age and only 8.5% believed that one could acquire hypertension at any age.

Again, in the discussion of the 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 the type of foods one eats and the 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 the type of work or the type of foods one does or eats 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 sixth month 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.”*

### **Contracting Diabetes or Hypertension: The Spiritual Dimension**

On the basis of the above analysis, participants 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 participants believed that regardless of how one lives his/her life, witches and wizards could inflict diabetes or hypertension on anyone. 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 participants 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 I 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 participants of this study (56.6%), 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.

## 5.0 CONCLUSION AND RECOMMENDATIONS

### Conclusion

In conclusion, the paper identified a number of perceptions and firmly held beliefs about the predisposition causes of diabetes and hypertension. These include spiritual means of contracting diabetes and hypertension, the type of work one does, the kind of foods one eats, the age of a person, from parents to children, eating habits of a person, and lack of exercise/physical activities. Generally, 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. Based on these findings, recommendations have been made to improve on the local communities' knowledge of the predisposition factors of diabetes and hypertension in the country.

### Recommendations

Based on the findings, the following recommendations have been made:

From the study results, most participants (56.6%) 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 healthcare centers to help health professionals improve the 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 types of work and lack of physical activities were identified by participants as one of the predisposition risk factors of diabetes and hypertension. 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.

The paper also established that some women perceived to have developed diabetes or hypertension during pregnancies. It is therefore recommended that public health directorate of Ghana Health Service intensifies its public education on pregnant women to encourage them visit healthcare centers for their diabetes and hypertension status to be checked regularly. This will 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 after they have given birth.

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