

REGIONAL INSTITUTE FOR POPULATION STUDIES

UNIVERSITY OF GHANA

LEGON

CORRELATES OF HEALTH BEHAVIOR IN URBAN POOR COMMUNITIES

BY

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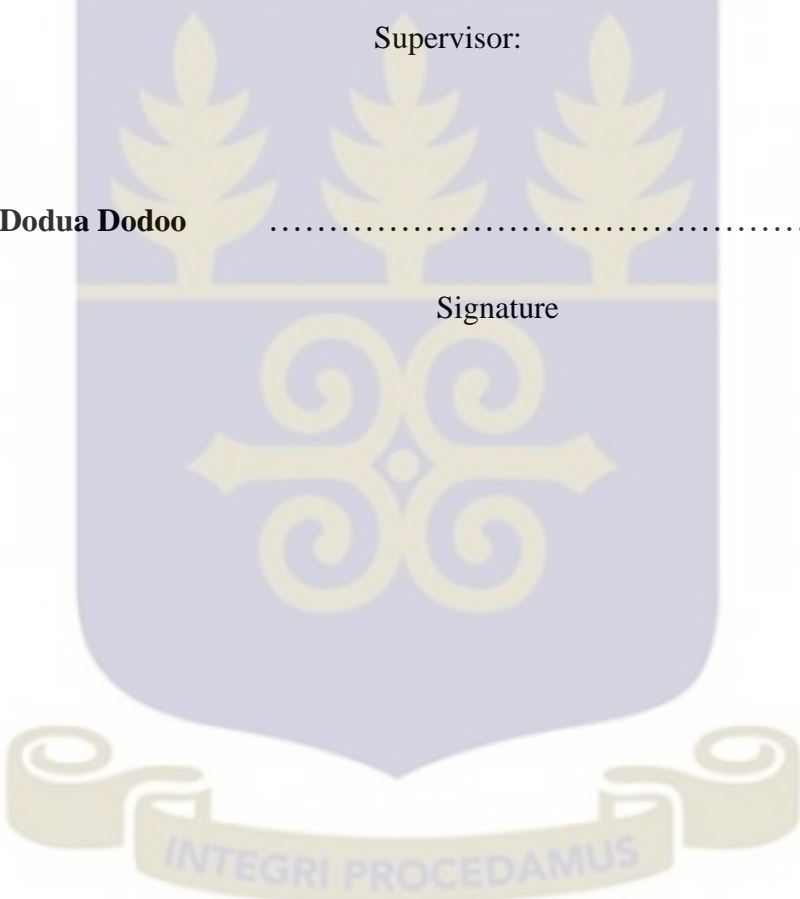
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ACCEPTANCE

Accepted by the faculty of Social Studies, University of Ghana, Legon in partial fulfillment of the requirement for the degree of MA Population Studies.



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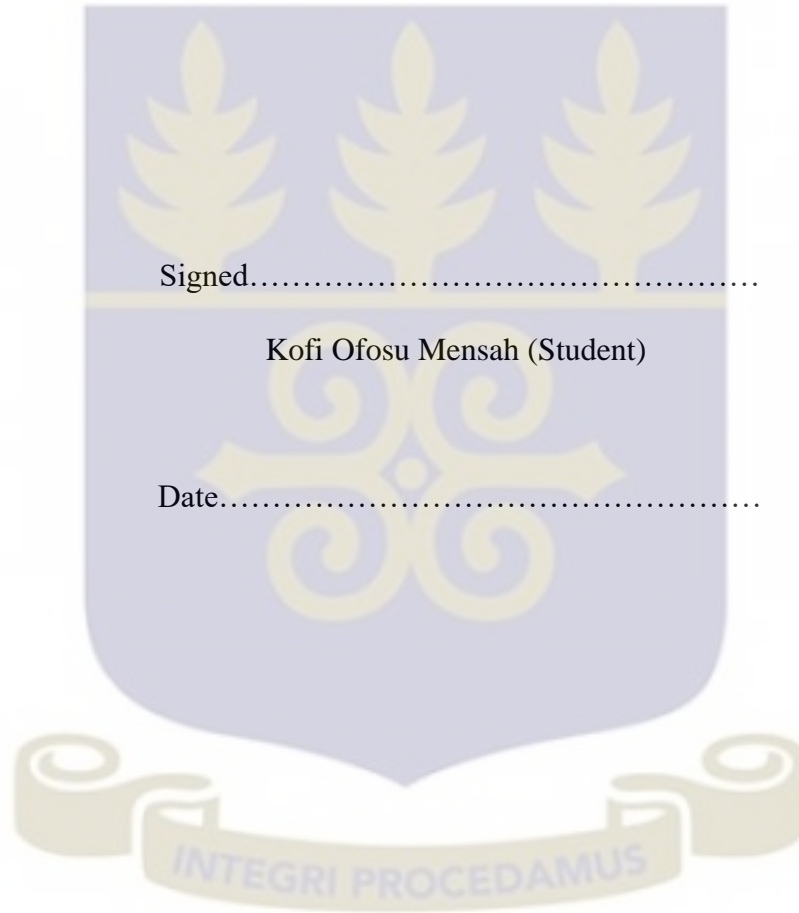
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INTEGRI PROCEDAMUS

DECLARATION

I KOFI OFOSU MENSAH do hereby declare that, except for the duly acknowledged citations of references and ideas, this work is my original work undertaken at the Regional Institute for Population Studies, University of Ghana, from August 2014 to August 2015, and that neither part nor whole of this work has been presented elsewhere for another degree.



Signed.....

Kofi Ofosu Mensah (Student)

Date.....

DEDICATION

I dedicate this work to my mother, Florence Ama Opokua



ACKNOWLEDGEMENT

I wish to express my gratitude to the Almighty God for His protection and guidance throughout this postgraduate programme and the writing of this dissertation. My sincere gratitude goes to my supervisor Dr. Naa Dodua Dodoo whose directions, encouragement and necessary comments have made this work possible. My sincere gratitude also goes to all the PhD students especially Oluwatobi Sanuade and Agyekum Wiredu Martin who stood steadfastly behind me in various ways and in prayers. My appreciation goes to my family: Dr. Kwaku Osafo, Florence Ama Opokua, Gertrude Agyemang, Ursula Ofofu Mensah, Florence Maame Opokua Ofofu-Mensah, Kwaku Osafo Ofofu-Mensah and friends and loved ones for their contributions in diverse ways to make my studies and dissertation success. I say the Almighty God richly bless you all. Amen!

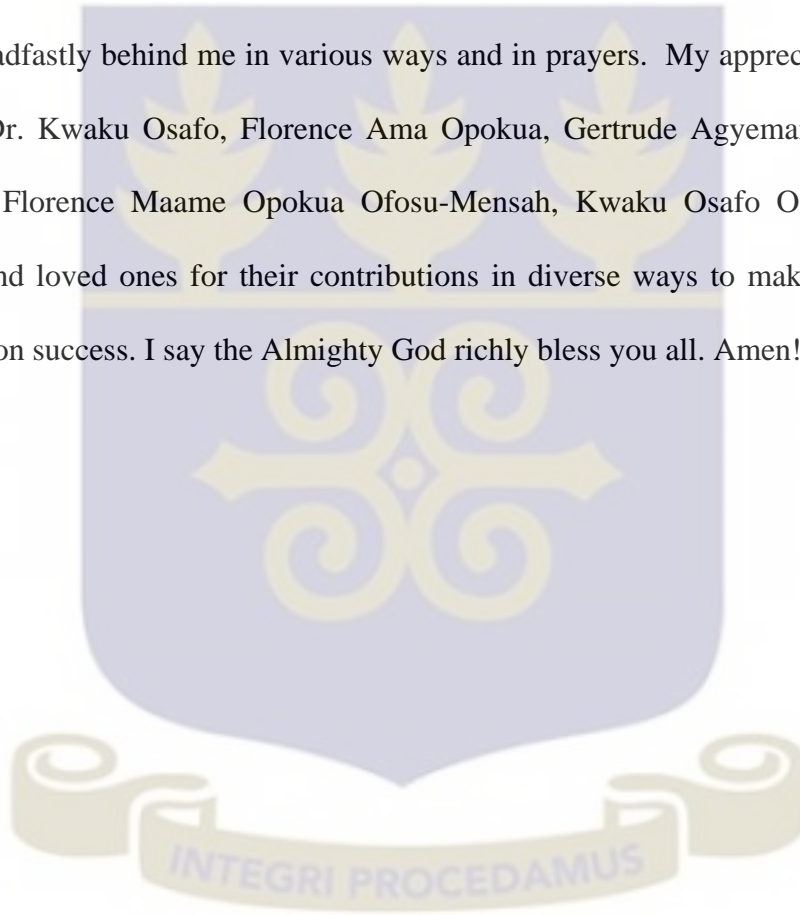
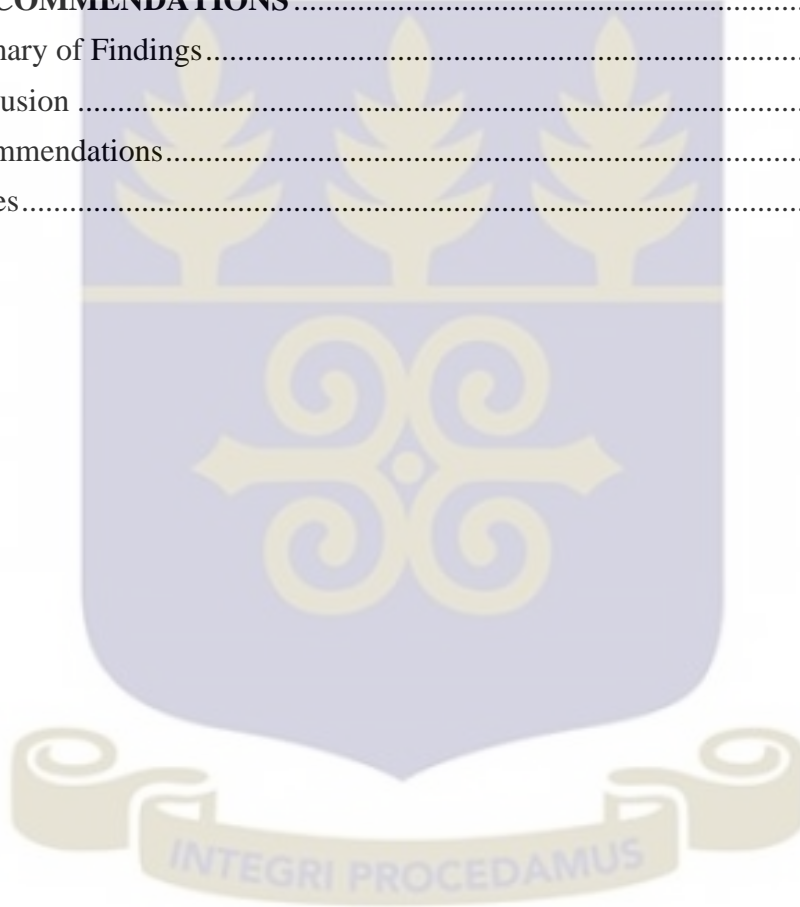


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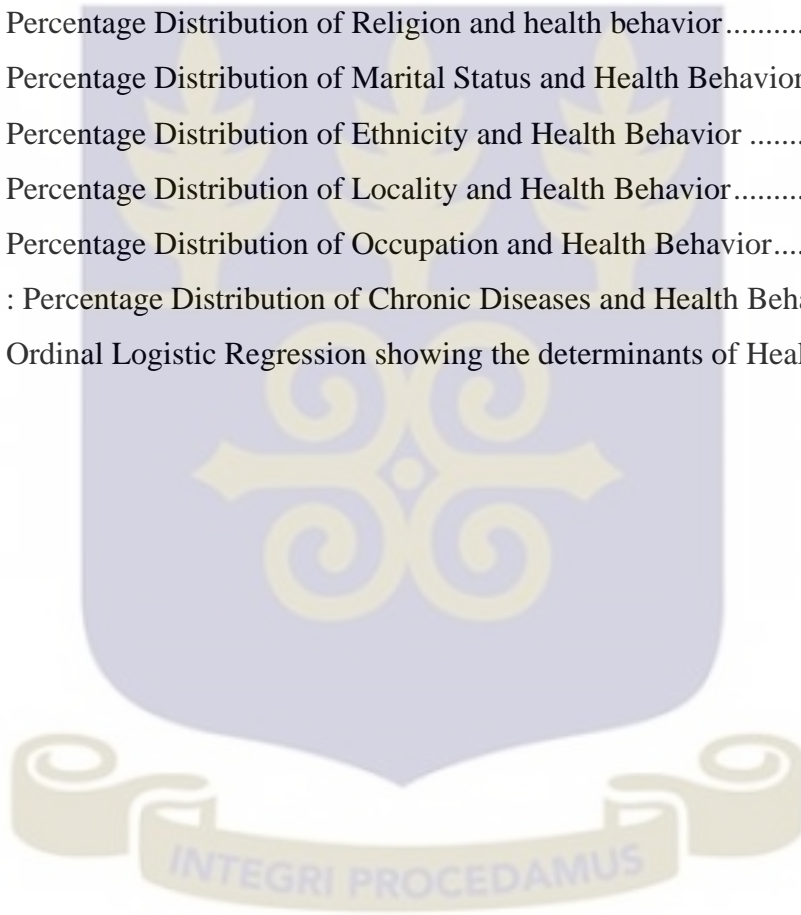
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ABSTRACT

Despite an increase in the number of people living in poor urban communities in Ghana, little is known about their health behavior. This study examined the correlates of health behavior in three urban poor communities in Accra, Ghana. The third round of EDULINK survey carried out by the Regional Institute for Population Studies from August-September, 2013 Agbogbloshie, James Town and Ussher Town was used. A total of 775 individuals aged 15-59 years were selected for the survey and formed the sample size for this study. Four variables were used to generate an index for health behavior. These are: smoking, alcohol consumption, salt intake and engagement in physical activity. The scores ranged from 1 to 4 and the higher the score, the better the health behavior. The data were analyzed using descriptive statistics, Chi-Square tests and cross tabulations, and ordinal logistic regression respectively. The results showed that the highest proportion of respondents (41.3%) engaged in bad health behavior. At the bivariate level, the findings showed that age, sex, religion, marital status, occupation and risk perceptions of heart disease were significantly associated with health behavior. Further, at the multivariate level of analysis, the results showed that age, religion, locality and risk perception of heart diseases were correlates of health behavior. Specifically, the log-odds of engaging in healthy behavior was higher among the younger age groups, Muslims, those living in Agbogbloshie and those who perceived themselves to be of no risk of heart diseases. This study showed that socio-demographic characteristics of the respondents in these communities matter with regard to enhancing health behavior. Based on the findings, the study recommends that policy targets people in the older age and others who engaged in unhealthy behaviors by giving them effective education on adopting a healthy behavior. Also, the study recommends that future studies adopt a longitudinal approach in the study of the correlates of health behavior in these communities so as to be able to establish causality.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Non communicable diseases (NCDs) contributed approximately 60% of the 56.5 million total reported deaths in the world and approximately 46% of the global burden of disease (WHO, 2001). The proportion of the burden of NCDs is expected to increase to 57% by 2020. Further, almost half of the total chronic disease deaths are attributable to cardiovascular diseases; obesity and diabetes are also showing worrying trends, not only because they already affect a large proportion of the population, but also because they have started to appear earlier in life. It has been projected that, by 2020, chronic diseases will account for almost three-quarters of all deaths worldwide. Research has shown that unhealthy behavior contributes significantly to non-communicable diseases, morbidity and mortality globally (Leonie et al., 2014). Hence, change in health behavior has been seen as the greatest hope for reducing the burden of preventable disease and death globally (Orleans, 2008).

The current WHO report (2015) has estimated that tobacco usage is currently responsible for the death of about six million people across the world each year. This notwithstanding, in 2012, about 3.3 million deaths, or 5.9% of all global deaths, were also attributable to alcohol consumption (WHO, 2014a). On the other hand, Physical inactivity has been identified as the fourth leading risk factor for global mortality causing an estimated 3.2 million deaths globally (WHO, 2014). An estimated 2.5 million deaths could be prevented each year if global salt consumption were reduced to the recommended level (WHO, 2014).

In 2010, WHO (2011) estimated that about 5% of Ghana's population smoked (approximately 792,100 persons) and it is projected that in 2025 around 8% of the population (approximately 1,697,800 persons) will be smokers. Statistically, the WHO (2014b) estimates that the age-specific death rate of every 100,000 death for both males and females were 62.2 and 34.2 respectively which was associated with alcohol consumption. This indicates the increasing prevalence of risk factors in Ghana

In Accra, CVD rose from being the seventh and tenth cause of death in 1953 and 1966 respectively, to the number one cause of death in 1991 and 2001 and it has continued as the major cause of mortality in the country since then (*Sanuade et al., 2010.*) Between 1990 and 2010, stroke and diabetes were also two of the leading causes of deaths in Ghana. (GBD, 2010). Prevalence of hypertension in Ghana ranged from 25% to 48% in 2010 (Bosu, 2010). The Ministry of Health of Ghana reported that hypertension is the second leading cause of outpatient morbidity in adult older than 45 years. (MoH, 2005)

Health behavior has been defined in several ways. For instance, Gochman (1997) defines health behavior as 'behavior patterns, actions and habits that relate to health maintenance, to health restoration and to health improvement' (Vol. 1, p. 3). Also, Conner and Norman (1996) define health behaviors as "any activity undertaken for the purpose of preventing or detecting disease or for improving health and well-being". They further said that a substantial proportion of the mortality from the leading causes of death is caused by the behavior of individuals whereas; such behavior is modifiable (Conner and Norman 1996). Health behavior may include what people do with regards to smoking, alcohol intake, salt intake, and engaging in physical activities.

Studies have shown that there are many factors which have some influence on health behavior. Theories of health behavior acknowledge that health behaviors may be influenced by biological, psychological, social and cognitive factors, for instance, people's perceptions have been identified to be associated with health behavior. That is, how people perceive health behavior (not consuming or consuming alcohol, not smoking or smoking, physical activity or physical inactivity regulating or not regulating salt intake) may determine the kind of behavior they engage in. Risk perceptions have also been identified as determining factors of health behavior (Slovic, 2001). For instance, people who perceive to have no risk of non-communicable diseases or other kinds of diseases are more likely to engage in particular health behavior even if that behavior predisposes them to these diseases. There is an effect of socio-economic status on health behaviors (Giacomo et al., 2014). Specifically, studies have correlated unhealthy behaviors, such as physical inactivity, unhealthy eating habits, smoking and alcohol consumption, with lower socioeconomic status (Woodward et al., 2003; Van et al., 2005; Laaksonen et al., 2008; Schrijvers et al., 1999; Pekkanen et al., 1995).

In this study, healthy behavior is operationalized as not smoking, not consuming alcohol, engaging in physical activity and controlling salt intake whereas unhealthy behavior is operationalized as smoking, alcohol consumption physical inactivity and uncontrolled salt intake.

Globally, the number of smokers in 1980 was 721 million and in 2012 there were 967 smokers (Marie et al., 2014) and according to Ghana Demographic and Health Survey (2008) 7.3% of men and 0.2% women engage in smoking in any form.

Data from the World Health Organization (WHO) show that excessive alcohol use has increased in the world, ranging from 1.4% in India to 31.8% in Colombia, with riskier and more frequent consumption patterns in low and middle-income countries thus, different strategies to reduce the harmful consumption of alcohol have been discussed by WHO and established in many countries, WHO, 2014 report shows that the alcohol consumption prevalence in the world in 2004 was 16%. In Ghana the prevalence in men is 36.7% and among women 17.5% (GSS, 2008).

Physical inactivity is an important contributor to non-communicable diseases in countries of high income, and increasingly so in those of low and middle income. The World Health Organization, (2008) draws the attention of nations to factor physical activity in national planning because physical inactivity is rated as one of the main causes of premature death in developed countries. Physical inactivity with other unhealthy behaviors is the main cause of chronic diseases such as cancer, cardiovascular disease and diabetes.

Salt (Sodium) is an essential nutrient which is important for the physiological functions in the body including fluid balance, nerve impulse transmission, and muscle contraction, but regulating ones salt intake is an important determinant of health status. Several studies have shown that excessive salt (sodium) intake leads to hypertension, stroke, and stomach cancer. These health challenges are mainly caused by excess use of salt in cooking or adding to meals at table.

In Ghana, the hypertension prevalence ranges from 19.3% in rural to 54.6% in urban areas. The high prevalence of hypertension in the urban areas is because of increased salt

consumption, family history of hypertension and excessive alcohol intake (de-Graft Aikins et al., 2012).

The rate of urbanization is increasing in Ghana. According to the Ghana Statistical Service (2010), about 51% of Ghanaians are living in urban areas with urban growth around 3.4% per annum. Further, the level of urbanization in Accra was 90.5%. This has in turn increased the number of urban poor communities in the country. However, little is known about the health of people in urban poor communities. Few studies which have been done have shown an increase in the rate of non-communicable diseases but information on the health behavior of people in such communities is lacking. This study therefore examines the correlates of health behavior in urban poor communities in Accra, Ghana.

1.2 Statement of the Problem

There are regional variations in the level of urbanization in Ghana and Greater Accra recorded 90.5% which was found to be highest amongst the other regions (Ghana Statistical Services, 2010). Consequently, the increase in proportion of people in urban poor communities in Accra may have implication on health behavior (Pawar, 2008). Urban poor communities are characterized by poor housing, overcrowding and poor sanitation. In addition, their pattern of diet which is characterized with food fried with oil and foods stuffed with salt, as well as demand of alcohol for traditional practices and many others have predisposed residents to engage in unhealthy behavior. Studies have shown that specific negative behaviors, including smoking, physical inactivity, higher alcohol intake and not regulating salt intake has increased risk of cardiovascular disease,

cancer, non-communicable diseases and premature mortality (WHO, 2005, Afrifa-Anane et al., 2015). The prevalence of these bad health behaviors with respect to unhealthy practices has disposed residents of urban poor communities in Accra to increasing chronic diseases (Awuah et al., 2014).

The individual's health behavior determines their exposure to non-communicable diseases like stroke, hypertension, diabetes, cancer and the likes. This increases the level of poverty of the individual and subsequently affects the family. Persons who are affected by the diseases do not work to generate income. This affects the members of the household in a situation where the affected person is a household head.

Further, unhealthy behaviors also affect health institutions through increase in non-communicable diseases. This put pressure on the limited facilities and health professionals in managing these diseases (de-Graft 2007). According to the annual 2012 Report on the Ghana Shared Growth and Development agenda (2010 – 2013), doctor and nurse population ratio is one doctor to 10,452 and one nurse to 1,251 people. Government incurs more cost in managing these conditions. This put more pressure on national budget, and the limited resources which could be used to do other development projects are rather use to manage these diseases.

1.3 Research Questions

The following research questions serve as a guide throughout the study;

- i. What are the demographic characteristics of people living in urban poor communities in Accra?
- ii. What are the health profiles of people living in urban poor communities in Accra?
- iii. What are the correlates of health behavior in urban poor communities in Accra?

1.4 Research objectives

The general objective of this study is to determine the correlates of health behavior in urban poor communities in Accra.

The Specific objectives are:

- i. To describe the demographic characteristics of people living in urban poor communities in Accra.
- ii. To describe the health profiles of people living in urban poor communities in Accra.
- iii. To examine the relationship between the components of health behavior in urban poor communities in Accra.

1.5 Rationale of the Study

Improving the health of urban residents, particularly those living in urban poor communities, requires an integrated approach. Appropriate interventions must be based on a well-grounded understanding of health determinants (Pawar et al., 2008). However, in Ghana, there is paucity of literature on the health behavior of urban poor residents. Hence, the aim of this study is to determine the correlates of health behavior in urban poor communities. This study is important for a number of reasons. Firstly, understanding the correlates of health behavior by policy makers is important as the health sector has a crucial role in improving the lives and conditions of people living in urban poor communities.

Further, understanding the correlates of health behavior will also help to see which factors to focus on in minimizing the burden of chronic non-communicable diseases in

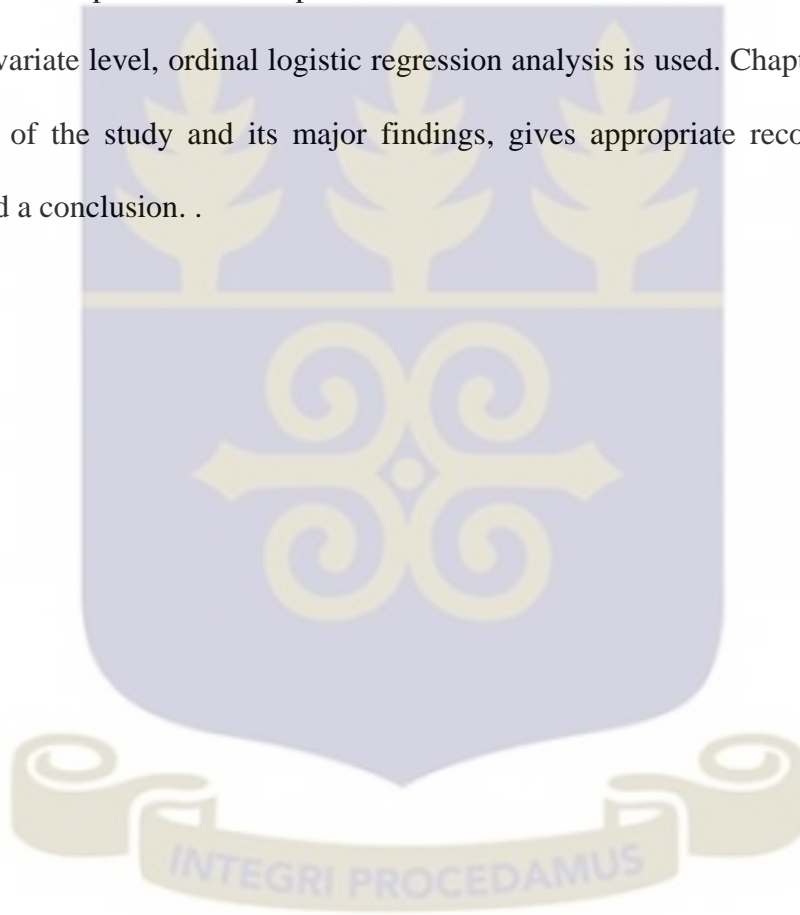
these communities. One of the few studies that have been done showed that the prevalence of hypertension in poor urban communities in Accra is high and awareness, treatment and control are low (Awuah et al, 2014). Another study showed increase in cardiovascular diseases in these communities (de-Graft Aikins et al. 2014). Another reason why this study is germane is because the health of urban poor is important due to their socio-economic characteristics that put them at risk of having poor health outcomes. It is therefore important to understand the health of urban poor people to ensure their wellbeing and put up measures to improve their health conditions.

In addition, this research will help to bring answers to questions that are very crucial to health and also serve as a guide for future research into factors which influence health behavior in urban poor communities. Therefore there is the need to know the factors associated with health behavior in urban poor communities and then come out with accurate information which is needed in the urban poor communities in order to come out with specific policies and interventions which will help to reduce the burden of chronic diseases (stroke, hypertension, diabetes etc.) in these communities.

1.6 Chapter Organization

This study has been organized into seven chapters. Chapter One focuses on the background of the study, statement of the problem, research questions of the study, objectives of the study, rationale of the study and organization of the study. In Chapter Two, research studies which have been done on health behavior are examined and synthesized. Also, the conceptual framework is part of this chapter.

Chapter Three focuses on the research methodology and showed the design of the process to which this study was carried out, source of data, the sample size, units of analysis and methods of data analysis. In Chapter four, the background characteristics of respondents are examined using frequency tables. Chapter Five focuses on associations between background characteristics and health behavior. In this Chapter, cross tabulations and chi-Square tests are performed. Chapter Six focuses on the correlates of health behavior. At the multivariate level, ordinal logistic regression analysis is used. Chapter seven gives an overview of the study and its major findings, gives appropriate recommendations for action and a conclusion. .



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents related literature on correlates of health behavior in urban poor communities. This chapter reviewed related works that have linked demographic and socio-economic variables to health behaviors such as alcohol consumption, smoking and physical exercise and salt in-take.

Again, this chapter reviewed studies that have linked chronic illnesses such as diabetes mellitus, hypertension, and stroke to these health behaviors and finally reviewed the risk perception associated with these health behaviors.

2.2 Demographic and Socio-Economic characteristics and Alcohol Consumption among adults

Studies have established an association between demographic, socio-economic background of adults and their alcohol consumption (Smart, 1986; Roman, 1988; van Leer et al.1994; Woodward & Tunstall-Pedoe, 1995; Grant & Dawson, 1997). Age was closely related to drinking in every society, but the patterns were different in the different societies. For instance, in Finland, Sweden and Switzerland, women's monthly consumption of alcohol decreased with age, but remained stable in Netherlands, Germany, France and Italy. In most study countries, the women consuming the greatest amount were aged 40–49 years. Ahlström, (2001), argued that age per se did not predict the drinking patterns of women but the historical effects seemed to be of great importance. In societies in which there has been little or no alcohol control policy,

monthly alcohol consumption and heavy drinking increased by age. This is different from the findings from North America, where it has become conventional knowledge that drinking decreases by age (Midanik & Clark 1994; Geenfield & Midanik & Rogers 2000). Sulander (2005) found that the prevalence of using at least 5 units of alcohol per week increased in all age groups of Finnish older women (aged 59 to 79) from the mid-1980s to the early 2000's. Thus the increase was especially significant among the 65 to 74 year-old age group.

Wiscott et al. (2002) have studied binge drinking in later life, comparing young-old (aged 65–74) and old-old (aged 75 and older) Americans. They found that there was no difference between young-old and old-old adults in weekly alcohol consumption or reported alcohol-related consequences. Some studies have also indicated that economic declines coupled with population aging resulted in decreased alcohol consumption as older people typically drink less (Makela, 1999; Kendell, 1983). A study on alcohol consumption also indicates that the average age of initiation has been reduced from 28 years during the 80's to 20's during the recent years (Subramanian et al., 2005). Again, harmful use of alcohol is the leading risk factor of death among males ages 15 to 59, globally. About 6.2% of all male deaths are attributable to alcohol, compared to 1.1% of female deaths (WHO, 2011).

Borsari & Carey (2006) found out that alcohol intake is higher among university students than any other groups in the society. Kuntsche et al (2004) explained that university students are in the age group where alcohol intake is high. They end up taking in more alcohol than expected.

In India, Easwaran et al (2015) study among men aged 18 years and above revealed that lower literacy level, having history of alcohol consumption and cigarette smoking were found to be positively associated with alcohol consumption. Prevalence of alcohol consumption was found to be 59.6% among men.

Moura and Malta (2011) examined the prevalence of alcohol consumption and socio demographic characteristics in Brazil. The study used 54369 adults living in the federal state. Usual consumption was related to drinking at least one dose of alcohol in the past 30 days and binge consumption respectively five or more for men and four or more for women in the last 30 days. The results of the study showed that age and marital status were associated with abusive alcohol consumption. On the other hand, schooling was associated with usual consumers. The study further revealed that alcohol consumption increased with age in both males and females.

2.3 Demographic and Socio-Economic characteristics and Smoking among adults

Literature has an elaborate discussion on the demographic and socio-economic features of adults and their smoking status (Pampel & Rogers, 2004; Mohsin et al. 2010; Guo & Sa, 2015). Breslau et al.'s (1993), study on age and smoking status indicate that age is important in that adults' who try cigarettes at younger ages are more likely to continue smoking. Jamal et al. (2014), found that smoking prevalence was highest among adults aged 25–44 years (20.1%) and lowest among those aged 65 years and above (8.8%)

Literature has established that motives for smoking tend to differ by gender. Among females, body image and eating issues are predictors of smoking initiation (Stice & Shaw, 2003), but among males aggression and conduct disorders appear to be fairly

consistent predictors of smoking (McMahon, 1999). Again, the current smoking prevalence is 38.0% among males and 0.1% among females older than 18 years in Sri Lanka. A study in Australia indicates that adult smoking rates in the general population have declined from 34% in 1980 to 19% in 2007, and this had occurred across both sexes (males: from 40% to 21%; females: from 29% to 18%) (Centre for Epidemiology and Research, 2008). Cigarette smoking among U.S. adults in 2013 showed that current cigarette smoking prevalence was higher among males (20.5%) than females (15.3%). Van Loon et al's (2005) study on the cigarette smoking among men and women on smoking initiation and cessation revealed that age, marital status, tobacco related factors were consistently associated with smoking initiation while older people and married people had the tendency of quitting smoking for both men and women. Kim et al's (2012) study in Korea also revealed that a higher level of education was associated with a lower smoking cessation rate while gender was found to be insignificant. Higher status occupation and levels of education were found to decrease with daily smoking amount.

2.4 Demographic and Socio-Economic characteristics and physical exercise among Adults

Literature has established a relationship between physical activity among adults and their demographic and socio-economic characteristics. Studies have shown that rates of insufficient physical activity tended to increase with age (although those ages 55–64 were inconsistent with this trend). Again, occupational differences in health-related behaviors such as physical activity maybe an important contributing factor to this variability in health status. Typically, blue-collar employees report lower levels of participation in

leisure-time physical activity (LTPA) than those in white-collar or professional positions (Niknian et al.1991; Oldridge, 1992).

Concerning gender, a study found that rates of insufficient physical activity varied. Thus compared with males, females tended to work fewer hours and were disproportionately concentrated in part-time occupations (Burton et al. 2000). Similarly, both males and females in blue-collar occupations were more likely to be insufficiently active for health when compared to those in professional occupations (Niknian et al.1991; Oldridge, 1992).

Livingstone et al. (2001) assessed physical activity across multiple domains and observed that men had higher leisure-time physical activity (LTPA) than women but women had higher levels of household physical activity.

According to previous studies, functional limitations such as walking difficulties increase with age. A population-based Finnish study on persons aged 55 and over found that a third of women and a fifth of men could not reach a walking speed of 1.2 m/s (Sainio et al. 2006). In the UK, 8% of women and 9% of middle-aged men reported having much difficulty or being unable to walk a quarter of a mile (Melzer et al. 2005).

Another study by Droomers *et al.* (1998) speculates that people in higher status groups may overestimate their physical activity since their peers value a healthy lifestyle more than people in lower socioeconomic groups. Studies have also established that physical activity in childhood and adolescence predicts both physical activity in adulthood (Telama & Yang, 2000; Tammelin et al.2003) and better health and well-being (Sacker &

Cable, 2006). However, for the majority, physical activity declines with older age (Bijnen et al. 1998) partly due to the aging process, the deterioration of muscle tissue, and an increase in morbidity and the rate of functional decline (Bijnen et al. 1998; Bortz, 2002; Rantanen et al.1999).

2.5 Demographic and Socio-Economic characteristics and salt-in take among Adults

The use of discretionary salt is also associated with socio-economic factors (Turrell et al.2006). Studies have found that individuals from lower income households, those with lower levels of education, males and younger adults have higher levels of discretionary salt use (Henderson et al.2003; Grimes et al.2010).

A study on the relationship between socio-demographic factors and discretionary use of salt in Australia by Sarmugam et al. (2013) showed that age, gender and education influenced discretionary salt usage indirectly through salt knowledge, misconceptions and beliefs about the importance of the taste of salt.

Fulgoni III et al. (2014), found that the usual salt- intake of adults (age 19–50 years) of any gender and ethnicity was higher compared to children (age 2–18 years) and older adults (age 51 years and above) of the same gender and ethnicity. The study also found that usual intakes of all age, gender and ethnic groups were higher than 2300 mg/day. Intakes of sodium were below 1500 mg/day for less than 5% population of any age, gender and ethnicity. Again, a study by Grimes et al. (2010) in Australia found a significantly greater proportion of younger (18-24) participants were salt users than those in the older (65+) age groups but there was no significant association between gender or education level and salt usage.

A number of Australian studies have found that salt intake ranges between 6.4 g to 10 g per day (Charlton et al. 2010; Beard et al. 1997; O'Reilly et al. 2010), exceeding the recommended maximum amount of 6 g/day.

In Brasil, Perin et al's (2013) study on the behavior of salt consumption showed that salt intake according to different measurements of consumption was significantly related to sex, low level of education and income.

2.6 Chronic Disease and Alcohol consumption among adults

Literature had found some relationship between chronic condition and alcohol consumption among adults. Among women, increased chronic health stressors (diabetes, high blood pressure) predicted a decrease of alcohol consumption. Again, epidemiologic evidence suggests that heavy alcohol consumption is strongly associated with increased risk of hypertension, but the relationship between light to moderate alcohol consumption and incidence of hypertension remains controversial (Fuchs et al. 2001; Potter & Beevers, 1984; Briasoulis et al. 2012). In other words, observational studies provide inconsistent results, reporting that moderate alcohol consumption is associated with decreased incidence of hypertension (MacMahon, 1987; Nanchahal et al. 2000; Thadhani et al. 2002), associated with increased incidence of hypertension (Garrison et al. 1987; Nakanishi et al. 2001) or not associated with hypertension at all (Koppes et al. 2005; Hsia et al. 2007).

Some previous studies have also reported a linear association between alcohol intake and blood pressure among men (Dyer et al. 1977; Curtis et al. 1997), while others have

reported a threshold only above which there is an association in both men and women (Klatsky et al. 1977; Ford & Cooper, 1991).

Among men, light to moderate alcohol consumption continued to be associated with higher risk of hypertension (Briasoulis et al. 2012). Chronic exposure to alcohol alters the production of this same set of hormones (that is, estrogen and testosterone), and hence alcohol's effects on the cardiovascular system could involve an indirect mechanism in which alcohol alters hormone levels and, in turn, the hormones affect blood pressure.

However, studies have showed that associations in observational studies of alcohol intake and blood pressure may be heavily confounded by other factors such as diet, smoking, exercise levels, and socioeconomic status.

Some cross-sectional studies suggest that daily drinking is associated with a stronger alcohol-blood pressure association than episodic drinking (Alkerwi et al. 2009; Russell et al. 1991).

Ohira *et al's* (2009), study in Japan found that habitual alcohol intake is associated with increased blood pressure in the morning and heart rate while awake and asleep, which might explain some of the mechanisms of the relationship between heavy alcohol intake and the risk of cardiovascular disease (CVD) in Japanese men.

Guidelines for the management of hypertension recommend that alcohol intake should be limited to no more than 30 ml of ethanol, the equivalent of two drinks, per day in most men, and to no more than one drink per day in women (Chobanian *et al.*, 2003). Previous studies have also linked moderate alcohol consumption to a decreased risk of myocardial

infarction and heart failure in hypertensive men (Beulens *et al.*, 2007; Djoussé & Gaziano, 2008). A study by Kim *et al.* (2012), among Korean men found that majority of Korean men with hypertension were current alcohol drinkers, and over one-third of the participants were hazardous drinkers and current smokers. According to Rose *et al.* (2008), when hypertensive patients with alcohol problems received alcohol counseling, their systolic and diastolic blood pressure was reduced significantly.

The relation between alcohol intake and risk of Type II diabetes has been examined in relatively few prospective studies (Tsumara *et al.* 1999; Wei *et al.* 2000; Ajani *et al.* 2000). Some studies report no association (Feskens & Kromhout, 1989; Hodge *et al.* 1993) while others have suggested that heavy drinking is a risk factor for diabetes (Holbrook *et al.* 1990; Wei *et al.* 2000). Epidemiological studies indicate that moderate alcohol consumption is associated with a reduced risk of Type 2 diabetes in the order of 30–40% (Carlsson *et al.* 2003; Carlsson *et al.* 2005; Koppes *et al.* 2005; Pietraszek *et al.* 2010). The protective effect has been attributed to improvement of insulin sensitivity (Joosten *et al.* 2008), reduced postprandial response (Brand-Miller *et al.* 2007), and increasing levels of circulating adiponectin (Li *et al.* 2009). Findings of a recent Swedish study show that alcohol consumption was associated with an increased risk of Type 2 diabetes and pre-diabetes (Cullmann *et al.* 2011). Other studies found that an increased risk of Type 2 diabetes has been associated with episode or binge drinking (Kao *et al.* 2001; Hodge *et al.* 2006), primarily in women (Carlsson *et al.* 2005).

Wannamethee *et al.*'s. (2003), study found that light to moderate alcohol intake was associated with higher insulin sensitivity and a lower risk for Type 2 diabetes in several

studies in men and women. In United States, men suggested that the pattern of alcohol consumption was also important: alcohol consumption spread over more days (less than 1 drink/day for more than 5 days/week) was associated with a lower risk for Type 2 diabetes as compared with the same amount of alcohol consumed on 1-2 days per week (Conigrave et al., 2001).

Studies on the relation between alcohol consumption and mortality from stroke have produced contradictory findings, perhaps because the relations are different for haemorrhagic and ischaemic stroke. The risk of haemorrhagic stroke is thought to increase with alcohol consumption (Stampfer et al. 1988; Iso et al. 1995), whereas some studies have found a reduced risk of ischaemic stroke for moderate drinkers (Palomaki et al. 1993). Studies in China (Yuan et al.1997), the United Kingdom (Doll et al.1994), and Japan (Iso et al. 1995) have found increased risk of mortality from stroke with amount of alcohol consumed. Again, a strong positive relation was seen between alcohol consumption and risk of mortality from stroke, with men drinking (Hart et al.1999).

2.7 Chronic Condition and Smoking among Adults

There has been an established relationship between chronic disease and smoking among adults in previous literatures. An earlier study had shown that cigarette smoking may reduce insulin sensitivity and has been suggested as another modifiable risk factor for Type 2 diabetes (Feskens et al. 1989). Cigarette smoking was also associated with an increased risk for Type 2 diabetes in cohort studies in Netherland (Feskens et al. 1989), Britain (Wannamethee et al. 2001), and Japan (Nakanishi et al. 2000). As cigarette smoking tends to be associated with other unhealthy lifestyle habits, lack of adjustment

for physical activity and diet may have led to an overestimation of the association between cigarette smoking and risk of Type 2 diabetes.

A study has shown that excessive smoking increases the risk of hypertension and the incidence of cardiovascular disease. Thus strong exposure to cigarette smoke causes an increase in blood pressure and as a result of smoking BP values are probably still higher due to the short-term effect of each smoked cigarette (Mancia et al. 2007).

Cigarette smoking is a well-established risk factor for all forms of stroke. In short, these studies performed across various ethnicities and populations demonstrate a strong association between smoking and stroke risk, with current smokers having at least a two- to four fold increased risk of stroke compared with lifelong nonsmokers or individuals who had quit smoking more than 10 years prior (Shah & Cole, 2010). Studies have convincingly shown that environmental (second-hand) smoke increases the risk of stroke even in nonsmokers (NHMRC report, 1987; CDC. 1986). Bonita et al. (1999) found that the odds of a first stroke were increased among non-smokers and long-term ex-smokers exposed to second-hand smoke at home or at work compared with those not exposed.

A study in Australia found that the risk of stroke was twice as high in individuals with spouses who smoked compared with sex-matched neighborhood controls (You et al. 1999). Studies have showed that the pathogenesis of increased stroke risk in populations exposed to cigarette smoke have relation to chronic infection (Howard et al. 1998; Kiechl et al. 2002). Another study showed that current smoking increases the risk of ischemic stroke only, while former smokers have a 50–60% increase in the RR of both ischemic and hemorrhagic stroke (Lu et al. 2008).

Literature has revealed that stroke-related morbidity stems from the fact that tobacco smoke contains over 4000 different chemicals including heavy metals and other toxins that promote the development of free radicals, inducing vascular endothelial dysfunction and inflammation, ultimately leading to the development and acceleration of the atherosclerotic process.

It is important to note that smoking also decreases cerebral blood flow, which may further increase the risk of clot formation and subsequent stroke risk through a slowed flow or stasis phenomenon (Rogers et al.1893).

In a more recent study evaluating young females, the risk of stroke as associated with smoking demonstrated a strong dose–response relationship. Again, up to one-quarter of all strokes are directly attributable to cigarette smoking. This percentage can rise up to 50% for young adults admitted for a cryptogenic ischemic stroke (Giroto, 2008).

2.8 Chronic Conditions and physical activity among Adults

Physical activity has some level of association with people living with chronic condition or at risk of being susceptible to chronic disease by previous literatures. The importance of physical activity for insulin sensitivity and prevention of Type 2 diabetes is supported by a large body of data from mechanistic (Perseghin et al. 1996), and observational studies (Hu et al.2001). Although regular physical activity (PA) may prevent or delay diabetes and its complications (Cohen et al. 2008; Ghosh et al. 2009), most people with Type 2 diabetes are not active (Morrato et al. 2007). Regularly performed aerobic exercise that is exercise that involves the use of large numbers of muscles and that elevates the pulse to 70 to 80 percent of its maximum attainable rate can be as complex to prescribe as it is crucial in both insulin-dependent (IDDM) and non-insulin-dependent

(NIDDM) diabetes mellitus (Gavin II, 1988). Randomized intervention studies have shown that changes in physical activity can protect against type two (2) diabetes (Tuomilehto et al., 2001; Mensink et al., 2003). Thus, physical activity can affect the development of Type 2 diabetes through changes of body fatness, but also through other pathways.

Concerning physical exercise and risk of hypertension, a study had shown that both high and moderate levels of recreational physical activity were associated with decreased risk of hypertension (Hauai et al. 2013). Studies showed that there is an association between physical activity and the risk of hypertension, and regular daily physical activity can reduce the risk of hypertension in women (Baroogh et al. 2010; Forman et al. 2009). Also, increasing physical activity is one of the lifestyle-related factors that are effective in preventing hypertension (Davis & Duvernoy, 2011; Turk et al. 2009). Again, a study among Korean adults showed that physical activity whether vigorous, moderate, or light is not associated with hypertension status in adults of either sex regardless of age, body mass index, sleep duration, mental stress, education level, economic status, or frequency of drinking or smoking (Yoon & So, 2013).

2.9 Chronic conditions and Salt-intake among Adults

According to literature, some level of relationship has been found to exist between chronic disease and salt in-take among adults. A study found that excess dietary sodium predisposes to clinically measured hypertension and especially to age-related increases in blood pressure (and thereby leading most likely to consequences such as stroke (Celermajer et al.2013).Again, more than a quarter of human populations now suffer from hypertension paralleling the marked increase in the dietary intake of salt during the

recent several decades (Batuman, 2013). During the recent several decades, the dietary intake of salt has steadily increased up to 18 g per day worldwide, along with a marked increase in the prevalence of hypertension. More than 25% of adults aged 25 and more years have hypertension globally.

Sacks et al., (2001), confirmed that low-salt diet lowers blood pressure both in individuals with normal blood pressure and in patients with hypertension. He & MacGregor, (2009), established that the overconsumption of salt (sodium chloride) increases blood pressure and with it the risk of stroke. Also, excessive dietary sodium intake is a significant contributor to hypertension (Strazzullo et al. 2009; Aburto et al. 2013). Current evidence suggests that excessive sodium intake is a risk factor for hypertension and consequent health outcomes. Higher intakes of dietary salt intake have been shown to increase risk of stroke (Strazzullo et al., 2009; Gardener et al. 2012).

2.10 Risk perception and Alcohol Consumption among adults

The concept of risk is central to the study of health-related behavior. Risky decisions under uncertainty are part of everyday life for an individual. A common belief is that people, unaware of the risks associated with consumption of addictive goods, are being lured into drinking and smoking (Orphanides & Zervos, 1995). A study on alcoholic risk perception among Swedish adults found that people overestimate the risks of alcoholism. These risk perceptions fall substantially with age, but nevertheless imply risk overestimation, and that education about alcohol, narcotics and tobacco leads individuals to perceive risks more correctly and to have lower risk beliefs. An additional finding was that individuals with higher perceived risks were less likely to consume alcohol (Lundborg & Lindgren, 2002).

2.11 Risk perception and Cigarette Smoking among adults

There is also an established relationship between cigarette smoking and the perceived risk associated with it by literature. Both higher perceived addictiveness and mortality risk are found to be significantly and negatively related to the probability of smoking (Lundborg, 2007). The empirical investigation of risk perceptions involving smoking hazards began with Viscusi (1991). He offered a measure of perceived risk of cigarette smoking, which ascertains the lung cancer risk per 100 smokers, for examining the effect of lung cancer risk perceptions on smoking activity. Experience regarding the health effects of one's smoking may lead the individual to revise his/her prior risk perceptions (Viscusi 1991). There is empirical evidence indicating that, if anything, smokers overestimate the probability that smoking will lead to adverse health outcomes and death (Costa-Font and Rovira 2005; Khwaja et al. 2009). Most of this evidence, however, which directly elicits probabilities of adverse health outcomes, is for persons much older than the age at which the smoking habit is typically initiated (Douglas and Hariharan, 1994).

2.12 Risk Perception and Physical activity

Studies have shown the role of risk perception on physical activity. Woody (2010) explored the role of risk perception in physical activity level of a group of black women. The study examined the relationship between the level of physical activity among women with no chronic disease and another group with at least one chronic disease. The level of change was observed for 4 weeks. The findings of the study showed that women with low risk of perception of cardiovascular disease and diabetics tend to be physically active for women with no health condition. On the other hand, for women with at least one health condition, there was a significant relationship between physical activity and age. Women

who perceived their health to be good tended to be physically active. With regards to age, women over 60 years tended to be physically active while those under age 50 tended to be physically inactive. The findings further showed that people especially black women with or without chronic disease may have different beliefs influencing their decision to be physically active. Vahasarja et al (2012) found that majority of high risk individuals perceive the need to increase their physical activity level. The perception of the need to increase physical activity is determined by their individual influence. The need to increase physical activity was more likely among those with larger waist circumference, those with less perceived fitness and less education.

2.13 Risk Perception and Salt Intake

Sanchez et al (2012) examined perception and behavior related to salt intake and its relationship to health in the rural and urban areas of three countries (Argentina, Ecuador and Costa Rica). Using focus group discussion and interview, the results of the study showed that salt intake varies among people in the rural and urban areas. Moreover, it shows that many of the respondents had perception on the risk of salt and are careful about the quantity of salt intake. The findings showed that food could not be consumed unsalted and people who consumed more salt stand at developing health risk. Due to this, the intake of salt was low because of their perception. They further pointed out that people who have heart problems and hypertension could eliminate salt from food or reduce intake. On the other hand, those whose relatives had diabetes and hypertension were also of the view that they would be at risk of having the disease because it is a hereditary but not salt intake.

Risk perception and salt intake have been found to be low in other countries. People with risk perception tend to lower their salt intake while others without increase their salt intake. Zhang et al (2011) revealed that in China, about 80% of the people reported to have reduced their salt intake. Reduction of salt was more likely to occur among people who were aware of the link between salt and hypertension, and less likely among those who had unfavorable attitudes towards dietary sodium reduction.

2.14 Conceptual framework

The conceptual framework of this study is presented in Figure 2 and was adopted from the theory of Health Belief Model (Figure 1). This model was initially developed to clarify the failure of people participating in programs to prevent and detect disease and later the model was extended by others to study people's behavioral response to health-related conditions. This model proposes that people's beliefs about health problems, perceived benefit of action and impediments to action and self-motivation explain engagement in health-promoting behavior.

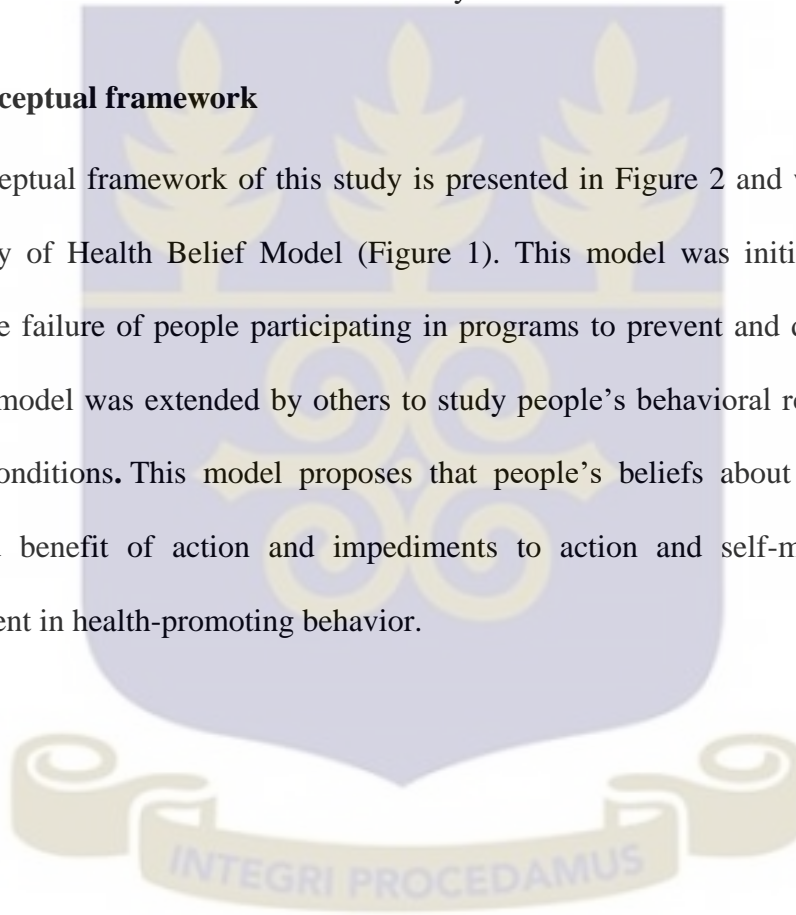
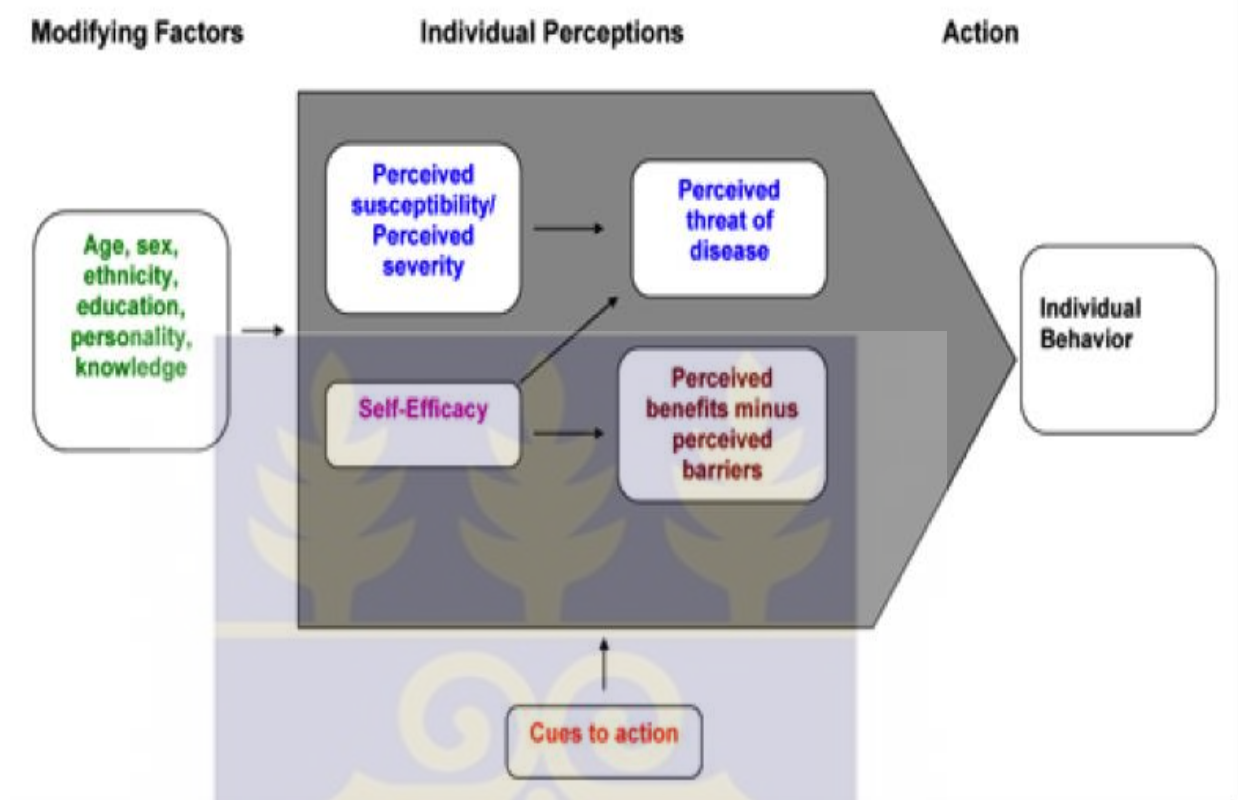


Figure 1: Health Belief Model.

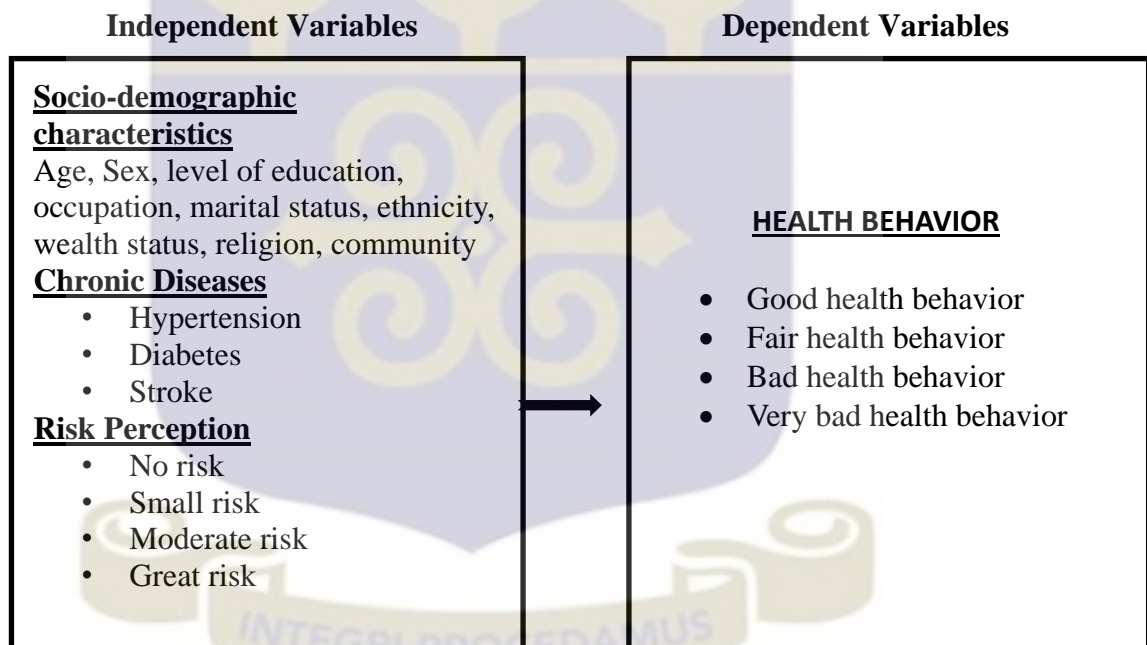


Hochbaum, Rosenstock et al., 1958

The conceptual framework in Figure 2 represents the basis for understanding the socio-demographic characteristics and the risk perception of diseases of the respondents and determine the influence to which these socio-demographic characteristics and the perceptions have on the health behaviors like alcohol consumption, smoking, physical activities and salt in-take. These behaviors eventually determine the level of one's health behavior status in the category of very bad, bad, fair and good. The socio-demographic characteristics include age, sex, level of education, occupation, marital status, ethnicity, wealth status, religion and community. The socio-demographic characteristics of the study determine the extent to which a persons' health behavior is likely to cause diseases

like hypertension, diabetes and stroke. The perception of respondents can also influence their health behavior. Those who perceive to have no risk of getting chronic diseases such as hypertension, diabetes and stroke engage in unhealthy behavior like consuming alcohol, smoking, not engaging in physical activity and not regulating their salt intake. On the other hand, those who perceive to have risk of getting chronic diseases engage in a healthy behavior such as not consuming alcohol, not smoking, engage in physical activities and regulating their salt intake.

Figure 2.1: Conceptual Framework for Correlates of Health Behavior



Adapted from Hochbaum, Rosenstock et al., 1958

2.15 Research Hypotheses

The following hypotheses will help guide the study:

- i. Those who perceived themselves to have no risk of non-communicable diseases are more likely to practice bad behavior compared with those who perceive themselves to have great risk.
- ii. Respondents with higher education are more likely to practice good behavior compared with those with no education/primary.
- iii. Those living with hypertension are more likely to practice good behavior compared with those with no hypertension.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter gives details to the method employed in the study. It deliberates on the source of data, sampling design, and the methods used to analyze the data. Also, categorization and measurement of dependent and independent variables have been explained and some limitations of the study are discussed.

3.2 Source of data

The source of the data for the study is the third round of EDULINK Urban Health and Poverty Project. It was a collaborative venture amongst Regional Institute for Population Studies (RIPS) of the University of Ghana, University of Southampton, UK, University of Ibadan, Nigeria, University of Cape Coast, Ghana and the Fourah Bay College, Sierra Leone. The purpose of the survey was to understand the relationship between population, health and poverty in Ghana. The data were collected in three urban poor areas of Accra, namely: Agboghloshie, James Town and Ussher Town. Generally, the survey collects data on the following; demographic, socioeconomic, climate change and cultural characteristics as well as those on sexual and reproductive health. There were also questions on general health matters.

3.3 Sampling design

Agboghloshie, James Town and Ussher Town are under the Asiedu – Keteke Sub Metropolitan Assembly which happens to be under the Accra Metropolitan Assembly (AMA). The sampling design consisted of 29 enumeration areas (EA's) in these localities

out of which 40 households were sampled from each EA. After informed consent was obtained from respondents, household interviews were conducted with household members and individual questionnaires were also administered to respondents ages 15-49 (for females and 15-59 for males).

3.4 Categorization and measurement of variables

The dependent variable for the study is defined as Health Behavior (which is coded as ‘Good Health Behavior’, ‘Fair Health Behavior’, ‘Bad Health Behavior’ and ‘Very Bad Health Behavior’). On the other hand, the independent variables are age, sex, level of education, occupation, marital status, religion, community, chronic disease (Hypertension, Diabetes and Stroke) and Risk perception (No risk, small risk, moderate and great risk). How the variables were measured is discussed below. The unit of analysis is the individual.

3.4.1 Dependent Variables

Four variables were used to create an index which was named ‘Health Behavior’ and this was used as the dependent variable for this study. These are: alcohol consumption, smoking status, physical activity and salt intake. Two questions were used to measure the alcohol consumption intake. The first question focused on if respondent has ever consumed a drink that contained alcohol. The second question, which was answered by only those who have ever consumed alcohol, focused on whether respondent had consumed alcohol in the past 30 days. Those who have never consumed alcohol were coded as “non-consumer”. Those who have ever consumed alcohol but didn’t consume in the last 30 days were coded as “Previous consumer”. Those who have ever consumed alcohol and also consumed in the last 30 days were coded as “current consumer”.

Further, with regards to smoking status, two questions were used. The first question was whether the respondent has ever smoked or used smokeless tobacco. The second question focused on whether those who have ever smoked or use smokeless tobacco used it currently. Those who responded “No” to the first question were coded as “Non-smokers”. Those who responded “Yes” to the first question and “No” to the second question were referred to as “Previous smokers”. Those who responded “Yes” to the two questions were referred to as “Current smokers”. With regard to physical activity, one question was used in the measurement. The question focused on the number of days respondents do moderate intensity sports, fitness or recreational (leisure) activities that cause a small increase in breathing or heart rate such as brisk walking, cycling, swimming, volley ball for at least 10 minutes continuously. Those who did these activities 0 days were referred to as “not physically active”. Those who did these activities for 1-2 days were coded as “Partially active” while those who did the activities for 3 days and more were coded as “fully active”. For the salt intake, the question asked focused on whether respondents do anything on a regular basis to control their salt intake. Four variables were used to generate the health behavior and these were alcohol consumption, smoking, physical activities and salt in-take.

Further, for alcohol consumption, those who were previous consumers and current consumers were added and re-coded as “ever consumed alcohol”. This generated two categories of alcohol consumption namely “non-consumer and those who have ever consumed alcohol”. Those who were non-consumers were given a code of “1” and those who have ever consumed alcohol were given a code of “0”. Also, for smoking, those who were previous smokers and current smokers were added and re-coded as “ever

smoked”. Hence, the new categories for smoking were non-smokers and ever smoked. Those who were non-smokers were given a code of “1” and those who have ever smoked were given a code of “0”. Further, physical activity was recoded. Those who were partially active were added with those who were fully active and this generated two categories of physical activity. Those who were inactive were given a code of “0” and those who were partially/fully active were given a code of “1”.

An additive index score was generated from these four variables (alcohol consumption, smoking, physical activities and salt in-take). The score ranged from zero (0) to four (4). Those with the score of zero to one (0-1) were considered as Very Bad Health Behavior, the score of two (2) indicated Bad Health Behavior, the score of three (3) is Fair Health Behavior and four(4) is Good Health Behavior.

3.4.2 Independent Variables

The independent variables considered in this study included: age, sex, level of education, marital status, ethnicity, religion, locality, risk perception and living with any of the chronic conditions like stroke, hypertension and diabetes. Age was categorized into four namely 15-24, 25-34, 35-44, and 45-59. Further, level of education was categorized into three groups: no education/primary, middle/JHS, Secondary/Higher. With regard to occupation, the respondents were categorized into No Occupation, Professional, Skilled manual, Sales, and Others. For marital status, the categories were three: formerly married, never married and currently married. Ethnicity was grouped into four categories namely: Akan, Ga-Adangme, Ewe, and Other ethnic group. In addition, religion was categorized into no religion/others, Christianity and Islam. The localities examined were James Town, Usher Town and Agbogbloshie.

Risk perception was measured as whether the respondents thought they had no risk, small risk, moderate risk or great risk with regards to heart diseases. Hypertension was measured as whether the respondents has ever been diagnosed with hypertension or having a systolic BP of ≥ 140 and/or a diastolic BP of ≥ 80 . Diabetes was measured as whether the respondent has ever been diagnosed of diabetes. Stroke was measured as whether the respondent has ever been diagnosed of stroke.

3.5 Methods of analysis

The analyses were carried out in three stages using the IBM's Statistical Package for Social Science (SPSS) windows version 20.0. The stages were univariate, bivariate and multivariate. At the univariate stage, a detailed description of the background of the characteristics of the respondents was provided. Descriptive statistics such as frequency tables and graphs were used to describe variables at a time. Cross tabulations and chi square were used to relate background characteristics and the dependent variables at the bivariate level. The chi-Square test was set at a significance of 5% level.

At the multivariate level, ordinal logistic regression was used to test the significance between the dependent and independent variables. This was used because the dependent variable is ordered. Ordinal logistic regression refers to the case where the dependent variable has an order with a difference between each category. The ordinal logistic regression model is mainly for Multi Category Outcome variables. The dependent variables have three or more categories and are nominal or ordinal. Ordinal outcomes basically have characteristic of ordered categories. In this study the health behavior is grouped into four main categories and ordered as very bad, bad, fair and good.

The problem with this ordinal logistic regression is that, the distance between the adjacent categories is unknown. This implies that there cannot be exact measure of distance in-between the categories. In this case, the actual measurement in between very bad, bad, fair and good cannot be ascertained. Solutions to this ordinal scale as though it represents a latent interval/ratio scale have been suggested by many to take care of the difference in each category. Long & Freese (2006) argue that categories are treated with equity Proportionality Assumption is used to test the distance between each Category, is equivalent to each other and violating this assumption may not matter in any way.

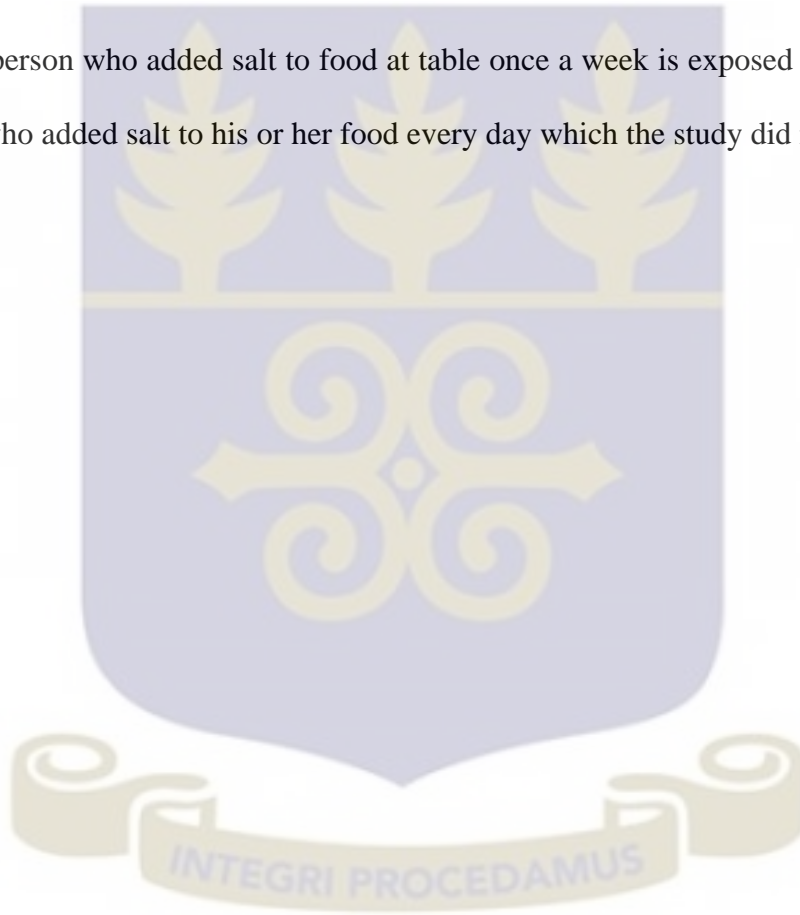
The data are from EDULINK Urban Health and Poverty Project round 3. The Outcome variable was rated health behavior, where 1 = very bad, 2 = bad, 3 = Fair and 4 = good. The significance of the variables is tested at 95% confidence level ($p < 0.05$).

The data also had missing values despite its quality. This was first realized when frequencies of variables were ran. Considering the valid cases, only small proportions were generally recorded for the missing data. This constituted less than 5% of the study sample. It was however important to take out of the data, the missing values by deleting or removing them from the study.

3.6 Study limitation

The data set used can be subject to recall bias of respondents. Also, causality cannot be established since the dependent and independent variables were recorded at the same time. Grouping those who had ever consumed alcohol is ambiguous in a sense that, someone who has consumed once or ten years ago cannot compare his or her risk with someone who has consumed and had stopped a day before the survey was conducted. It

does not really measure the severity of the risk of health behavior. The same thing applies to smoking. In terms of physical activity a person may not be able to do physical activity because of disability or old person which does not take into consideration this implies that those who are doing physical activity are the young ones. With regards to salt intake, the question of do you regulate your salt intake is vague because of the frequency to which some one add salt at table and someone who add salt at table once a week. In this case the person who added salt to food at table once a week is exposed to lesser risk than the one who added salt to his or her food every day which the study did not capture.



CHAPTER FOUR

BACKGROUND CHARACTERISTICS OF RESPONDENTS

4.1 Introduction

This chapter presents the description of the socio-demographic profile and health behavior characteristics of 775 respondents in James Town, Ussher Town and Agbobbloshie

4.2 Age Distribution of Respondents

Age distribution is an important determinant of the health behavior of urban poor people. Moreover, it determines the structure of the population for a better understanding of health behavior. As shown in Table 4.1, the relatively larger proportion of respondents (36.8 percent) fell within the category of 15-24 years old. The 25-34 year bracket was also represented by a proportion of 30.5 percent. Respondents above 34 years, that is, 35-44 year olds and 45-59 year olds had lower percentages of 19.6 percent and 13.2 percent respectively. The majority of the respondents belonged to the age bracket 15-24 and 25-34 years which implies a youthful population.

4.3 Sex Distribution of Respondents

The distribution of sex is presented in Table 4.1. The results indicate that the majority of the respondents are males (55.2 percent) compared to 44.8 percent who are females. The finding is inconsistent with the report of the Ghana Statistical Service that per the 2010 population and Housing Census, there are more females in Ghana than males (GSS, 2013).

Table4.1: Percentage Distribution of Socio-Demographic Characteristics

Variable	Frequency	Percentage
Age		
15-24	285	36.8
25-34	236	30.5
35-44	152	19.6
45-59	102	13.2
Sex		
Female	347	44.8
Male	428	55.2
Educational level		
No education/Primary	182	23.5
Middle/JHS	331	42.7
Secondary/Higher	262	33.8
Religion		
No religion/others	64	8.3
Christian	615	79.4
Islam	96	12.4
Marital status		
Formerly married	123	15.9
Never married	316	40.8
Currently married	336	43.4
Ethnicity		
Akan	185	23.9
Ga-dangme	468	60.4
Ewe	56	7.2
Other ethnic group	66	8.5
Occupation		
No occupation	226	29.2
Professionals	67	8.6
Skilled manuals	126	16.3
Sales	283	36.5
Others	73	9.4
Locality Name		
Agbobbloshie	107	13.8
James Town	215	27.7
Ussher Town	453	58.5

Source: EDULINK, ROUND 3, 2013.

4.4 Educational Level of Respondents

Education is an important variable that can influence the behavior of people positively or negatively. The educational level of individuals determines their health behavior as they are made aware of risky health behavior and how to behave. From Table 4.1, it can be seen that a largest proportion of respondents had attained a middle school or JHS level (42.7 percent). Respondents within the category of secondary school level or higher were 33.8 percent, a relatively larger proportion as compared to those with no education or primary school (23.5 percent). This indicates that the majority of the people are literate with qualifications from the middle/JHS to the tertiary. This may be due to the fact that the communities are found in urban areas of Accra and precisely the heart of Accra.

4.5 Religion of Respondents

People in different religions have their own perception and this influences their health behavior. According to Table 4.1, the majority of respondents are Christians (79.4 percent). The proportion of Muslims is also represented by 12.4 percent while those either with no religion or others are 8.3 percent. The dominance of the Christians is not surprising since their population outnumber other religions in Ghana.

4.6 Marital Status of Respondents

With regards to marital status, a larger portion of respondents were currently married (43.4 percent), which was followed by respondents who were never married (40.8 percent) with the least proportion representing the people who were formerly married (15.9 percent).

4.7 Ethnicity of Respondents

Respondents were grouped based on those who were Akan, Ga-Dagme, Ewe and other ethnic groups. The results show that the majority of the respondents are Ga-Dagme (60.4 percent) which is consistent with the community where the study was carried out. 23.9 percent of the respondents are Akans, 8.2 percent are made up of other ethnic groups, with the least proportion being people who are Ewes (7.2 percent). The dominance of the people being Ga-Dagme is not surprising because the selected communities are found in Greater Accra Region where the major ethnic group of the people is Ga-Dagme.

4.8 Occupation of Respondents

With regards to occupation, a larger proportion of the people were into sales (36.5%). The results also indicate that 29.2 percent had no occupation, the proportion of those with skilled manuals were 16.3 percent. Others apart from the generally common classifications were 9.4 percent while 8.6 percent of the respondents were professionals, representing the least proportion of the people interviewed. It is expected that occupation has an influence on health behavior because peoples' occupation influence their health and their way of life.

4.9 Locality of Respondents

Locality usually determines peoples' lifestyle and to an extent how long they would live and behave. The community where the study was done is classified into Ga Mashie and Agboghloshie. Ga Mashie comprises of James Town and Ussher Town. These communities are different in terms of culture. Ga Mashie has different culture from Agboghloshie. The results show that the majority of the respondents are in Ussher Town (58.5), 27.7% and 13.8% in James Town and Agboghloshie respectively.

4.10 STROKE

Stroke was not seen as typical with the respondents as the majority responded no (97.7 percent) with a minority yes (2.3 percent). This clearly indicates that among the respondents, the majority of the people are stroke free which gives an indication they that may be of good health

4.11 DIABETES

There were also few known diabetic patients among the respondents represented by 5.9 percent since the response of the majority was a no (94.1 percent).

4.12 HYPERTENSION

Hypertensive patients have a way of life which may have an influence on their health behavior. The majority (82.6 percent) of the respondents responded that they are not hypertensive while 17.4 percent were hypertensive.

Table 4.2 Percentage Distribution of Chronic Diseases

Chronic Diseases	Frequency	Percentage
Stroke		
No	757	97.7
Yes	18	2.3
Diabetes		
No	729	94.1
Yes	46	5.9
Hypertension		
No	640	82.6
Yes	135	17.4
Total	100	100

SOURCE: EDULINK ROUND 3, 2013.

4.13 RISK PERCEPTION

Majority of the respondents perceived that there was no risk (70.7 percent) with a relatively smaller portion of the respondents asserting to the fact that either there was a small, moderate or great risk to have chronic diseases like stroke, hypertension and diabetes.

Table 4.3 Percentage Distribution of Risk Perception

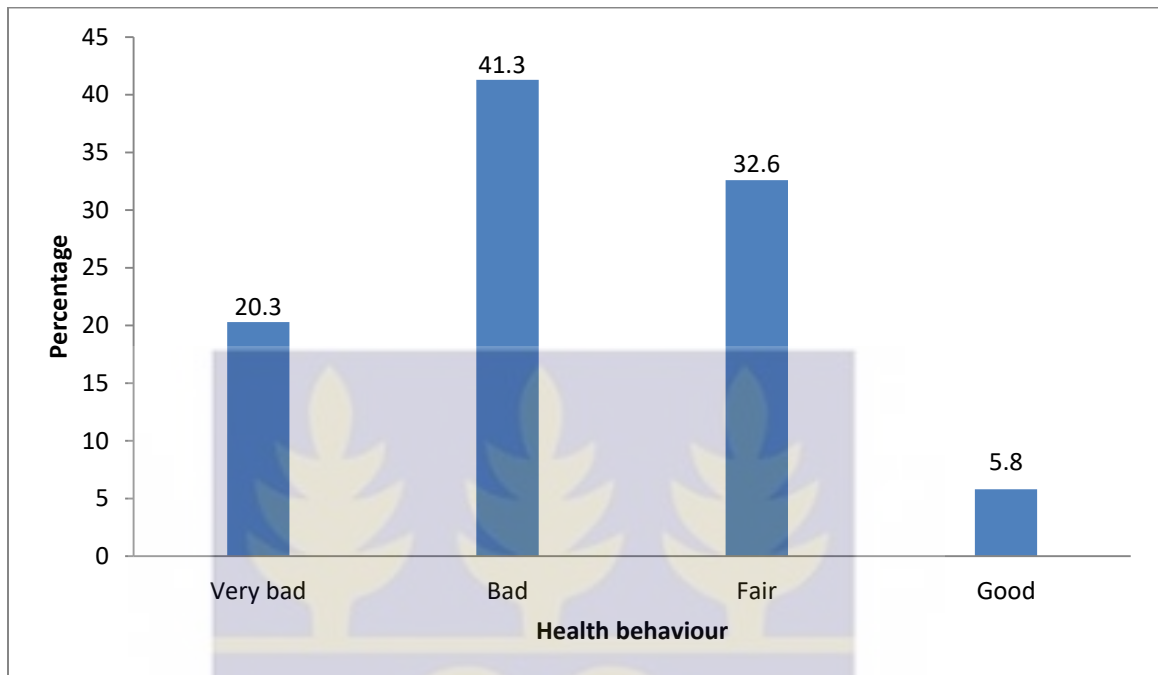
Risk perception	Frequency	Percentage
No risk	548	70.7
Small/moderate/great risk	227	29.3
Total	775	100.0

SOURCE: EDULINK ROUND 3, 2013.

4.14 Health Behavior

The data set presented information on the health behavior of respondents in urban poor communities. From Figure 4.1, the highest proportion (41.3 percent) of respondents had Bad health behavior, followed by fair health behavior (32.6 percent), very bad health behavior (20.3 percent) and Good health behavior with the lowest proportion of 5.8 percent. It can be seen that the majority of the respondents had very bad behavior while the lowest proportion reported Good health behavior. This means that 4 out of 10 respondents had Bad health behavior while 6 out of 10 had bad and very bad health behavior.

Figure 3 Percentage distribution of health behavior



SOURCE: EDULINK, 2013.



CHAPTER FIVE

BACKGROUND CHARACTERISTICS OF RESPONDENTS AND HEALTH BEHAVIOR

5.1 Introduction

This chapter looks at the association between the independent variables (background characteristics) and dependent variable (health behavior). Pearson Chi-Square test was used to examine the association between the variables at 95% significance level, thus p value lower than 0.05 is significant while equal or greater than 0.05 is not significant. Variables considered include age, sex, educational level, religion, marital status, occupation, ethnicity, locality, diabetics, stroke, hypertension, risk perception and health behavior.

5.2 Age of Respondents and Health Behavior

Age has an influence on health behavior. It relates to the lifestyle of people. As a person is aging, the health behavior of the individual becomes a problem. From Table 5.1, the Pearson chi square of 50.440 and p value of 0.000 shows that there is an association between age and health behavior. The table further shows that health behavior becomes very bad with respect to aging. Respondents in the age bracket 15-24 had about 51.9 percent of their health being Fairly Good while 22.6 percent of the respondents in the age group 45-59 had 77.5% of their health being rated from bad to very bad. On the other hand, about 22.6 percent had their health being fairly good. Respondents in the age bracket 35-44 had the highest of proportion of 27.6% for very bad health behavior. The findings of the study showed that as age increases individuals tend to have very bad and bad health behavior, thus age is inversely related with health behavior.

Table 5.1 Percentage Distribution of Age and Health Behavior

Age	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
15-24	12.6	35.4	42.1	9.8	285
25-34	21.6	41.9	30.9	5.5	236
35-44	27.6	45.4	25.0	2.0	152
45-59	27.5	50.0	21.6	1.0	102
TOTAL					775
Chi square test	X ² : 50.440		P value = 0.000		

Source: Computed from EDULINK, 2013.

5.3 Sex of Respondents and Health Behavior

Sex (male and female) is an important indicator of health behavior. Males and females seem to have different biological make up and orientation. This therefore influences their perception on health which further affects their behavior differently. The study seeks to look at the variations in the health behavior of urban poor people. Table 5.2 illustrates that there is a significant relationship between sex and health behavior at a p value of 0.011. Almost 9 percent of females had good health behavior relative to their male counterparts with 3.5 percent having good health behavior. On the other hand, about 58.2 percent females had bad and very bad behavior while 64.3 percent of males had bad and very bad behavior. This clearly shows that the health behavior of females is relatively better than the males.

Table 4.2 Percentage Distribution of Sex and Health Behavior

Sex	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
Female	20.7	37.5	33.1	8.6	347
Male	19.9	44.4	32.2	3.5	428
TOTAL					775
Chi square test	X ² : 11.072		P value = 0.011		

Source: Computed from EDULINK, 2013.

5.4 Education and Health Behavior

Education is very important and a great concern when it comes to health behavior. People are enlightened and given the chance to understand certain things which influences how they behave. The Chi square test (p value, 0.217) from Table 5.3 indicates that there was no significant difference in the respondents' education and health behavior. In other words, there is no major difference with respect to education and health behavior of the people in Ga Mashie. However, people with secondary/higher education reported very bad health behavior of 19.5 percent while 22.5 percent of those with no education /primary had very bad health behavior. Secondary/Higher respondents had the highest proportion of 8.4 percent for good health behavior. The findings of the study show that the health behavior of people in urban poor communities improves with respect to an increase in educational level.

Table 5.3 Percentage Distribution of Education and Health Behavior

Educational level	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
No Education/Primary	22.5	41.2	33.0	3.3	182
Middle/JHS	19.6	44.4	30.8	5.1	331
Secondary/Higher	19.5	37.4	34.7	8.4	262
TOTAL					775
Chi square test	X ² : 8.299		P value = 0.217		

Source: Computed from EDULINK, 2013.

5.5 Religion and Health behavior

Religion has long been considered an important variable shaping the formation and attitudes of people. It redefines their beliefs and to the extent that their health behavior is affected. From Table 5.4, the chi square (27.777) and p value of 0.000 show that there is an association between religion and health behavior. This means that there is a difference with respect to the category of religion a person belongs to and their health behavior. About 10.4 percent of Muslims had Good health behavior relative to 5.2 percent of Christians and 4.7 percent of those with No religion/others. On the other hand, 24.0 percent of Muslims had bad health behavior relative to 48.4 percent of those with No religion/others. With respect to very bad health behavior, people in No religion/other had the highest proportion of 20.3 percent with 21.3 percent for Christians and 13.5 for Muslims. In general, Muslims had the highest proportion (10.4) for good health behavior while people with no religion/other had the highest proportion (68.7 percent) for bad and very bad behavior.

Table 5.4 Percentage Distribution of Religion and health behavior

Religion	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
No religion/others	20.3	48.4	26.6	4.7	64
Christians	21.3	43.3	30.2	5.2	615
Muslims	13.5	24.0	52.1	10.4	96
TOTAL					775
Chi square test		$X^2: 27.777$	P value =0.000		

Source: Computed from EDULINK, 2013.

5.6 Marital status and Health Behavior

Table 5.5 indicates that marital status had a significant influence on health behavior (p value 0.00). This means that a person's health behavior is determined by the marital status. The results of Table 5.5 show that 11.1 percent of never married respondents had Good health behavior relative to currently married with 2.4 percent and formerly married 1.6 percent. On the other hand, about 25.2 percent of respondents who were formerly married had very bad health behavior relative to 23.8 of currently married and 14.6 percent never married. In all, those who are never married had good health behavior while formerly married respondents had very bad behavior.

Table 5 Percentage Distribution of Marital Status and Health Behavior

Marital status	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
Formerly married	25.2	47.2	26.0	1.6	123
Never married	14.6	35.1	39.2	11.1	316
Currently married	23.8	44.9	28.9	2.4	336
TOTAL					775
Chi square test		$X^2: 46.601$	P value = 0.000		

Source: Computed from EDULINK, 2013

5.7 Ethnicity and Health Behavior

Table 5.6 shows the distribution of ethnicity and health behavior among urban poor people. The table shows that there is no association at p value 0.085 between ethnicity and health behavior. Ewes had the highest proportion (12.5) of Good health behavior compared to those in other ethnic group (4.5 percent). Again, the Ewes had the lowest proportion (14.3 percent) of Very bad health behavior relative to Akan with the highest proportion of 22.2 percent. In general, the Ewes had a good health behavior while the Akan had very bad health behavior. However, taking into cognizance and adding very bad and bad, both the Akan and Ga-Adangme have the same proportion of 63.3 percent resulting in bad health behavior.

Table 5.6 Percentage Distribution of Ethnicity and Health Behavior

Ethnicity	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
Akan	22.2	41.1	30.3	6.5	185
Ga-Adangme	21.2	42.1	31.8	4.9	468
Ewe	14.3	44.6	28.6	12.5	56
Other ethnic group	13.6	33.3	48.5	4.5	66
TOTAL					775
Chi square test	$X^2: 15.231$		P value = 0.085		

Source: Computed from EDULINK, 2013.

5.8 Locality and Health Behavior

Locality of people affects the lifestyle of people and influences their health behavior. Due to difference in locality and the lifestyle pertaining to each locality, people tend to adopt their own way of living and hence influence their health behavior. Moreover, availability and access to resources also affects their health behavior. The results of the study showed

that locality had no significant association with health behavior at p value of 0.054 as indicated in Table 5.7. The results also show that people in James Town had the highest proportion of Good health behavior of 7.9 percent relative to those in Agbogbloshie with 1.9 percent. On the other hand, residents at Agbogbloshie had the highest proportion (29.0 percent) of very bad health behavior compared to the lowest proportion (16.3 percent) James Town. Ussher Town lies in between James Town and Agbogbloshie in terms of Very bad and good health behavior. This result clearly shows that people in James Town had Good health behavior while those in Agbogbloshie had very bad health behavior.

Table 5.7 Percentage Distribution of Locality and Health Behavior

Locality	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
Agbogbloshie	29.0	40.2	29.0	1.9	107
James Town	16.3	45.1	30.7	7.9	215
Ussher Town	20.1	39.7	34.4	5.7	453
TOTAL					775
Chi square test	X^2 : 12.388		P value = 0.054		

Source: Computed from EDULINK, 2013.

5.9 Occupation and Health Behavior

The occupation of an individual influences his/her health behavior. As an individual is engaged in a particular occupation, the lifestyle of the person tends to change to suit the kind of work engaged in. The finding of the study showed that people who are not engaged in occupation had a highest proportion (11.1 percent) of Good health behavior relative to those engaged in sales with the lowest proportion of 1.4 percent. Those in skilled manuals had the highest proportion (27.0 percent) for very bad health behavior

relative to those not engaged in any work (No occupation) with the lowest proportion 11.9 percent for very bad health behavior. In addition those engaged in other occupations had the highest proportion of 50.7 percent for Bad behavior relative to the lowest proportion of 35.8 percent for no occupation. Further, the results of the study show that there is an association between occupation and health behavior at a p value of 0.00. This means that the kind of occupation a person is engaged in influences the health behavior of the individual. People with no occupation reported the highest proportion for Good health behavior and the lowest proportion for bad health behavior while those engaged in sales reported the lowest proportion for Good health behavior and skilled manual for the highest proportion for very bad health behavior.

Table 5.8 Percentage Distribution of Occupation and Health Behavior

Occupation	Health Behavior (%)				Total
	Very bad	Bad	Fair	Good	
No Occupation	11.9	35.8	41.2	11.1	226
Professionals	14.9	43.3	34.3	7.5	67
Skilled Manuals	27.0	42.9	24.6	5.6	126
Sales	26.1	42.0	30.4	1.4	283
Others	16.4	50.7	27.4	5.5	73
TOTAL					775
Chi square test	X ² : 49.318		P value = 0.000		

Source: Computed from EDULINK, 2013.

5.10 Chronic Diseases and Health Behavior

Table 5.9 shows the association between the various types of chronic diseases such as diabetics, stroke, hypertension, and risk behavior and health behavior. With respect to diabetes, the p value of 0.268 shows that there is no association between diabetes and health behavior. Those who reported to have had diabetes had the highest proportion of

6.5 percent for Good health behavior relative to 5.8 percent for those with no diabetes. Interestingly, those with diabetes had the highest proportion of 30.4 percent for very bad health behavior compared to 19.6 percent for no diabetes. Though there is no association between diabetes and health behavior, people with diabetes reported the highest proportion for Good and Very bad health behavior than those with no diabetes.

Also, Table 5.9 shows the percentage distribution of stroke and health behavior. The results of the table show that the p value of 0.665 indicates that there is no association between stroke and health behavior. This means that stroke had no influence on health behavior of people in the urban poor communities. About 22.0 percent of stroke patients representing the highest proportion responded to have had very bad health behavior relative to those with no stroke having a percentage of 20.2 percent. No body with stroke reported to have had good health behavior while 5.9 percent with respondents without stroke reported 5.9 percent for Good health behavior. However, 27.8 percent of those with stroke had fair health behavior compared to 32.8 percent for those with no stroke. The findings of the study show that those with stroke had no Good health behavior and the highest proportion of them had very bad and bad health behavior.

Further, Table 5.9 shows the percentage distribution of hypertension and health behavior among the urban poor. The findings of the study showed that there is no significant relationship between hypertension and health behavior. However, people with no hypertension had the highest proportion (5.9 percent) for Good health behavior relative to those with hypertension (5.2 percent). About 43.0 percent and 21.5 percent of those with

hypertension had bad and very bad health behavior respectively compared to 40.9 percent and 20.0 percent with no hypertension having bad and very bad respectively.

Risk perception influences the health behavior of people. People with risk tend to behave in a different way from those with no risk. The results of the study showed that people with no risk had the highest proportion of 6.2 percent for Good health behavior while those with risk had 4.8 percent for Good health behavior. The proportions of health behavior tend to decrease from bad to Good for the two categories.

Table 5.9: Percentage Distribution of Chronic Diseases and Health Behavior

DIABETES	Health behavior (%)				Total	
	Very bad	Bad	Fair	Good		
No	19.6	42.0	32.6	5.8	729	$X^2=3.939$
Yes	30.4	30.4	32.6	6.5	46	P value=0.268
TOTAL					775	
STROKE						
No	20.2	41.1	32.8	5.9	757	$X^2= 1.577$
Yes	22.2	50.0	27.8	0.0	18	P value=0.665
TOTAL					775	
HYPERTENSION						
No	20.0	40.9	33.1	5.9	640	$X^2= 0.599$
Yes	21.5	43.0	30.4	5.2	135	P value =0.897
TOTAL					775	
RISK PERCEPTION						
No	21.2	40.5	32.1	6.2	548	$X^2= 1.710$
Yes	18.1	43.2	33.9	4.8	227	P value = 0.635
TOTAL					775	

Source: Computed from EDULINK, 2013.

CHAPTER SIX

CORRELATES OF HEALTH BEHAVIOR

6.1 Introduction

This chapter focuses on the correlates of health behavior in urban poor communities in Accra. The independent variables examined were: age, sex, level of education, religion, marital status, and ethnicity, occupation, living with chronic diseases like diabetes, hypertension and stroke and risk perception of heart diseases. The dependent variable was health behavior and this was categorized into: very bad, bad, fair and good.

6.2 Correlates of Health Behavior

The correlates of health behavior are shown in Table 6.1. The table shows that age, religion, locality and risk perception of heart diseases were correlates of health behavior. However, level of education, marital status, ethnicity, occupation, living with chronic diseases like diabetes, hypertension, and stroke were not significantly related to health behavior.

Specifically, the results in Table 6.1 show that the ordered log-odds of engaging in healthy behavior for those who were 15-24 years was 0.75 unit greater than that of those who were 45-59 years, when other variables were controlled for. Also, the ordered log-odds of engaging in healthy behavior for those who were 25-34 years and 35-44 years were greater (0.431 unit and 0.153 respectively) than that of those who were 45-59 years, when the other variables are held constant.

Further, when other variables are controlled for, the ordered log-odds of those with no religion and those in other religion to engage in healthy behavior is 0.802 lower than that

of those who were Muslims. In addition, those who were Christians had lower log-odds of engaging in healthy behavior compared to Muslims, when other variables are held constant ($\beta = -0.872$, $P < 0.05$). The results also show that for those who reside in James Town, the ordered log-odds of engaging in healthy behavior was 0.61 unit lower than that of those who reside in Agbogbloshie. Also, the ordered log-odds of engaging in healthy behavior for those who live in Ussher Town was 0.05 unit lower than that of those in Agbogbloshie. With regard to risk perception of heart diseases, the results show that the ordered log-odds of engaging in healthy behavior for those who perceived themselves to be of no risk and those who perceived themselves to have small risk were higher than that of those who perceived themselves to be of moderate/high risk, when other variables were controlled for ($\beta = 0.419$ and 0.734 respectively).

The results further show that for males, the ordered log-odds of engaging in healthy behavior was 0.24 lower than that of females, although this was not significant. Also, the ordered log-odds of engaging in healthy behavior for those with no education/primary education and those with middle/JHS education was higher than that of people with secondary/higher education ($\beta = 0.217$ and 0.200 respectively). With regard to marital status, while those who were never married had higher log-odds of engaging in healthy behavior compared with those who were currently married, those who were formerly married had lower log-odds, when other variables are held constant ($\beta = 0.353$ and -0.042 respectively). For ethnicity, the ordered log-odds of engaging in healthy behavior for those who were Akan were 0.01 unit higher than that of those who belong to other ethnic groups. In addition, while those who were Ga-Dagme had lower log-odds of engaging in healthy behavior, those who were Ewe had higher log-odds compared to those belong to

other ethnic groups ($\beta = -0.269$ and 0.480 respectively). Those who were not living with chronic diseases such as diabetes, hypertension and stroke had higher log-odds of engaging in healthy behavior compared with their respective counterparts (Table 6.1).

Table 6.1 Ordinal Logistic Regression showing the determinants of Health Behavior

Variables	β	Std Error	P-Values
Age Group			
15-24	0.750	0.266	0.005
25-34	0.431	0.236	0.068
35-44	0.153	0.248	0.537
45-59 (RC)	-	-	-
Sex			
Male	-0.240	0.147	0.101
Female (RC)	-	-	-
Level of education			
No education/Primary	0.217	0.201	0.281
Middle/JHS	0.200	0.165	0.224
Secondary/Higher (RC)	-	-	-
Religion			
No religion/Others	-0.802	0.333	0.016
Christian	-0.872	0.249	0.000
Muslim (RC)	-	-	-
Marital Status			
Never married	0.353	0.184	0.055
Formerly married	-0.042	0.201	0.834
Currently married (RC)	-	-	-
Ethnicity			
Akan	0.011	0.321	0.974
Ga-Dagme	-0.269	0.302	0.373
Ewe	0.480	0.380	0.206
Other (RC)	-	-	-
Occupation			
No occupation	0.285	0.273	0.296
Professionals	0.250	0.324	0.439
Skilled manual	-0.342	0.279	0.220
Sales	-0.246	0.252	0.328
Others (RC)	-	-	-

Locality			
Agboghloshie (RC)	-	-	-
James Town	-0.606	0.237	0.010
Ussher Town	-0.053	0.162	0.741
Diabetes			
No	0.066	0.298	0.825
Yes (RC)	-	-	-
Hypertension			
No	0.212	0.191	0.267
Yes (RC)	-	-	-
Stroke			
No	0.328	0.461	0.476
Yes (RC)	-	-	-
Risk perception of heart diseases			
No risk	0.419	0.222	0.059
Small risk	0.734	0.260	0.005
Moderate/high risk (RC)	-	-	-

RC= Reference Category

6.3 DISCUSSIONS

The results showed specifically that those who were in the younger age groups had higher likelihood of engaging in healthy behavior compared to those who were 45-59 years, when other variables were controlled for. Studies have shown that age is related to alcohol consumption for instance, but the patterns differ in different societies (Smart, 1986; Roman, 1988; Leer et al.1994; Woodward & Tunstall-Pedoe, 1995; Grant & Dawson, 1997; Katyal et al. 2014). The finding from this study is consistent with some other studies which have shown that healthy behavior reduces with age (Sulander, 2005). Another study shows that insufficient physical activity increases with age (Burton et al. 2000).

On the other hand, some studies have shown that good health behavior (e.g non consumption of alcohol) increases with age (Midanik & Clark 1994; Geenfield, Midanik & Rogers 2000; Borsari& Carey, 2006; Kuntsche et al., 2004). Kuntsche et al (2004)

shows that alcohol intake usually reaches its peak among the young age groups (those in the universities), and they end up taking more alcohol. On the other hand, some show that it decreases with age (Midanik & Clark 1994; Geenfield, et al, 2000).

Some studies show that age is not related with drinking. Ahlström (2001) specifically argued that age per se does not predict alcohol consumption as this is more of historical effects. For instance, in societies with alcohol control policy, the impact of age on alcohol consumption is not there. However, in societies in which there has been little or no alcohol control policy, monthly alcohol consumption and heavy drinking increased by age. One reason why there is a kind of varied relationship between age and health behavior is that all of these studies are cross sectional studies and they study different populations. In order to really see the effect of age on healthy behavior, it may be good to conduct a longitudinal study by studying people's health behavior over time. Further, the log-odds of engaging in healthy behavior was lower among those with no religion/other religion and those who were Christians compared with those who were Muslims. This may be because the Islamic religious practices forbid alcohol consumption.

The results further showed that the ordered log-odds of engaging in healthy behavior for those living in James Town and Ussher Town were lower than that of those in Agbogbloshie. This indicates that those in Agbogbloshie have better health behavior compared with the other two communities. This result is contrary to what was expected. It was expected that people in Agbogbloshie would rather have bad health behavior because it is a migrant community. Several studies have reported that there are increasing incidence of chronic diseases and risky health behavior among migrant communities, refugees and asylum seekers (Hodges et al, 2004; Sheth et al, 1991; Peer, 2015; Remais

et al, 2013). Numerous studies in sub-Saharan Africa have also demonstrated a close relationship between lifestyle of migrants and chronic disease occurrence (Owen et al, 2010; Stern, Puoane and Tsolekile, 2010; Poulter et al, 1990; Unwin et al, 2010). Agbogloboshie has one of the largest markets in the capital of Ghana, therefore it is possible that the inhabitants might have access to fresh food product. Moreover, residents in these communities predominantly engage in mobile, street vending or are head porters (popularly known as “Kayayo”) which makes them physically active.

A plausible explanation for why the other two communities had poorer health behaviors may be because they are Ga communities and alcohol consumption plays a major role in their day to day activities. Also, these communities are closer to the sea and so use alcohol and smoking as forms of keeping the cold away. Anecdotal evidence has shown that parental control of young adults in these Ga communities is low because many of the children engage in aberrant behavior due to peer pressure. Another reason is that the two Ga communities have some historical monuments which attract a lot of foreigners who come there as tourists. Hence, it is easier for the residents of these communities to experience culture hybridization by adopting western unhealthy lifestyles such as high alcohol intake and smoking. Further, since the Ga communities (James Town and Ussher Town) are fishing communities. They use salt a lot to preserve the fish and so they may have become used to using a lot of salt in their foods.

In addition, when other variables were controlled for, this study showed that the ordered log-odds of engaging in healthy behavior for those who perceived themselves to be of no risk and those who perceived themselves to have small risk were higher than that of those who perceived themselves to be of moderate/high risk. This finding is contrary to what

was expected. It was expected that those who perceived themselves to be of high risk of heart diseases would rather engage in good healthy behavior but this was not the case in these communities. For instance, a study by Lundborg & Lindgren (2002) on alcoholic risk perception among Swedish adult's shows that that individual with higher perceived risks was less likely to consume alcohol. However, research has shown that there is a common belief that people who are unaware of the risks associated with engaging in risk behaviors can be easily lured into such behaviors (Orphanides and Zervos, 1995). Hence, it may be that those who perceived themselves to be at high risk of heart diseases may not know that smoking, alcohol consumption, lack of physical activities and high salt intake are risk factors for heart diseases.

In addition, another reason why those with low risk perception of heart diseases had higher odds of engaging in good health behavior may be because they have perceived their risks wrongly. For instance, Lundborg & Lindgren (2002) shows that education about alcohol, narcotics and tobacco leads individuals to perceive risks more correctly and to have lower risk beliefs. Also, another explanation for this finding may be a time sequence issue. It is possible that those who perceived themselves to be at low risk of heart diseases may do so because they have already changed to good health behavior. Hence, the good health behavior that they practiced may have preceded the risk perception,

The results showed that there was no significant difference between those living with chronic conditions like stroke diabetes and hypertension and those who were not living with these conditions. Although, it is expected that anyone who has been diagnosed with these conditions will practice healthier behavior so that they can better manage the

conditions well. Hence, the similarity between those with chronic diseases and those without has implication for increased complications and increased mortality for those with chronic diseases



CHAPTER SEVEN

SUMMARY FINDINGS, CONCLUSION AND RECOMMENDATIONS

7.1 Summary of Findings

The main objective of this study was to determine the correlates of health behavior in urban poor communities in Accra. Specifically, the study sought to describe the demographic characteristics of people living in urban poor communities (James Town, Ussher Town and Agbogbloshie) in Accra. Secondly, the study described the health profiles of people living in these communities and examined the correlates of health behavior in these communities.

Four health behaviors were examined and these were: smoking, alcohol consumption, salt intake and engagement in physical activity. Dummies were created for these variables and a composite score was generated adding all the four variables. The scores ranged from 0 to 4 and the higher the score, the better the health behavior. The categories of health behavior based on the scores were: very bad health behavior, bad behavior, fair health behavior and good health behavior.

The health behavior was classified into four categories: very bad, bad, fair and good. The results showed that one –fifth of the respondents (20.3%) engaged in very bad health behavior, more than four out of ten (41.3%) engaged in bad behavior, 32.6% had a fair health behavior while less than one-tenth (5.8%) had a good health behavior. This indicates that a higher proportion of people living in these communities engage in unhealthy behaviors. Since studies have shown that smoking, alcohol consumption, lack of physical activities and high salt intake are modifiable risks of cardiovascular diseases, the prevalence of these conditions may continue to rise in the near future if proper

interventions are not put in place (Pampel, 2008, Yach et al., 2000; WHO, 2011; Thompson et al., 2003).

With regards to the socio-demographic characteristics of the respondents, the study showed that more than half (55.2%) were males and the highest proportion (36.8%) were 15-24 years and the least proportion (13.2%) were 45-59 years. In terms of the level of education, the highest proportion (42.7%) had middle/JHS education and more than one-fifth (23.5%) had no education. Many of the respondents (79.0%) were Christians and majority was Ga-Dagme (60.4%). With respect to occupation, close to thirty percent had no occupation while more than one-third (36.5%) were in sales related jobs. More than half (58.5%) of the respondents were living in Ussher Town and slightly more than 10% were living in Agbogbloshie. The highest proportion (43.4%) was currently married. Further, with regards to chronic conditions, 2.3% were living with stroke (5.9%) with diabetes and (17.4%) with hypertension. Despite the seemingly high prevalence of heart diseases in these communities, more than seven out of ten (70.7%) said they were not at risk of heart diseases. This has serious public health implications because in as much as people do not see themselves at risk of these diseases, they may continue to engage in unhealthy lifestyles which consequently predisposes them to heart disease.

At the bivariate level of analysis, the aim was to determine the association between the background characteristics and health behavior. At this level, Pearson Chi-Square test was used to examine the association between the variables at 95% significance level. The results showed that age, sex, religion, marital status and occupation were significantly associated with health behavior. Specifically, while very bad behavior increases with age,

good health behavior reduced with age. For instance, while slightly more than one-tenth (12.6%) of respondents aged 15-24 had very bad health behavior, more than one-fifth of those who were 25-34 years, 35-44 years and 45-59 years engaged in bad health behavior (21.6%, 27.6% and 27.5% respectively).

Further, good health behavior was higher among females compared to males (8.6% and 3.5% respectively). With regards to religion, good health behavior was highest among the Muslims (10.4%) compared to their counterparts who were Christians and those with no religion or those in other religion (5.2% and 4.7% respectively). In addition, good health behavior was highest among those who were never married and lowest among those who were formerly married (11.1% and 1.6% respectively). Those who had no occupation had the highest proportion of those who engaged in good health behavior (11.1%) and they had the lowest proportion of people with very bad health behavior (11.9%). On the other hand, while the lowest proportion of those who engaged in good health behavior (1.4%) were those in sales related jobs, the highest proportion of those who engaged in very bad health behavior (27.0%) were those in skilled manual jobs.

At the multivariate level, ordinal logistic regression was used to determine the correlates of health behavior and the confidence level was set at 95%. The results showed that age, religion, locality and risk perception of heart diseases were correlates of health behavior. On the other hand, level of education, marital status, ethnicity, occupation, living with chronic diseases like diabetes, hypertension, and stroke were not significantly related to health behavior.

7.2 Conclusion

This study investigated the correlates of health behavior in urban poor communities in Accra. A larger proportion of people living in these communities engaged in bad or very bad health behavior. The study found that age, religion, locality and risk perceptions of heart diseases were correlates of health behavior in James Town, Ussher Town and Agbogblojie. This study showed that socio-demographic characteristics matter with regard to enhancing health behavior. However, living with chronic conditions was not a determinant of health behavior.

7.3 Recommendations

Based on the findings from this study, the following recommendations are made. These recommendations broadly focus on research, policy and practice. This study showed that clearly, some socio-demographic variables have relationship with health behavior. Since, unhealthy behavior is common among those in the older age-group, it is important that policy targets people in the older age by giving them effective education on healthy behavior. This information can be couched in the local languages so that lay people can understand and apply this in their daily lives.

With regards to research, this study recommends future study to adopt a longitudinal approach in the study of the correlates of health behavior. This is because some of the findings in this study are contrary to some other studies in different communities. It will be good to conduct a longitudinal study on health behavior so as to be able to establish the causes of good health behavior.

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