

**UNIVERSITY OF GHANA
SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES**

**FACTORS INFLUENCING ALCOHOL CONSUMPTION AMONG ADULT
RESIDENTS OF OSU DISTRICT, GREATER-ACCRA REGION**

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AWARD OF M ASTER OF PUBLIC HEALTH DEGREE.**

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DECLARATION

I declare that this study is the result of my own investigations and that it has neither been submitted nor is being submitted for another degree anywhere else.

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DEDICATION

I dedicate this work to God Almighty, for His mercies, grace, guidance and protection throughout this study and my education so far. I also dedicate this work to my loving parents - mother, Mrs Naomi McCarthy-Boham; and father, Cdr James McCarthy-Boham (rtd.) for their support and prayers.



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Abstract

Introduction: Alcohol is a powerful psychoactive substance and nervous system depressant. Alcohol consumption is of public health concern globally. Osu is renowned for its numerous drinking centres which continues to grow in number. This study sought to investigate the factors influencing alcohol among adult residents of Osu (18 years and above) and provide current relevant knowledge on alcohol consumption in Ghana.

Method: Data on factors which influences alcohol consumption among adult Osu residents was collected using a structured questionnaire. Out of 1052 houses, 405 were randomly selected from which respondents were interviewed. The data collected were processed and analysed using Stata and Microsoft Excel computer software. The association between these factors and alcohol consumption was determined by using Pearson's chi square test of 5% confidence level and logistic regression.

Results: The proportion of respondents who currently consume alcohol was 39% out of this, 72.8% were males. Sex, employment status and income were the socio-demographic factors that were significantly associated with alcohol consumption among the respondents.

Conclusion: A greater proportion of males consume alcohol than females, corresponding with worldwide trend. Drinkers are more likely to be employed than unemployed. Beer was the most preferred alcoholic beverage among the adult residents of Osu. Funds for education on alcohol consumption should be increased.

Keywords: alcohol consumption, adult residents, Osu, Ghana

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List of Abbreviations

AUDIT	-	Alcohol Use Disorders Identification Test
GDHS	-	Ghana Demographic Health Survey
IRRG	-	International Research Group on Gender and Alcohol
JHS	-	Junior High School
NCI	-	National Cancer Institute
SHS	-	Senior High School
WHO	-	World Health Organization

Definition of Terms

Alcohol consumption: This describes alcoholic beverage use.

Alcohol dependence: It is a cluster of behavioural, cognitive and physiological phenomena that may develop after repeated alcohol-use. Typically, these phenomena include a strong desire to consume alcohol, impaired control over its use, persistent drinking despite the harmful consequences, a higher priority given to drinking than to other activities and obligations, increased alcohol tolerance, and a physical withdrawal reaction when alcohol-use is discontinued.

Beers: alcoholic beverage produced by the saccharification of starch and fermentation of the resulting sugar. The starch and saccharification enzymes are often derived from malted cereal grains, most commonly malted barley and malted wheat. This includes Club Beer, Guinness, Star Beer, Stone lager beer amongst others.

Harmful use of alcohol: defined as a pattern of alcohol use that is causing damage to health, and the damage may be physical (as in cases of liver cirrhosis) or mental (as in cases of depressive episodes secondary to heavy consumption of alcohol).

Heavy episodic drinking: consumption of 60 or more grams of pure alcohol (6+ standard drinks) on at least one single occasion at least monthly.

Former drinker: These are people who have previously consumed alcohol but who have not done so in the previous 12-month period.

Lifetime abstainers: These are people who have never consumed alcohol.

Moderate drinking: This is defined as having up to 1 drink per day for a woman and up to 2 drinks per day for a man.

Spirits: This includes distilled beverages of at least 20% of pure alcohol content.

Unrecorded alcohol: refers to alcohol that is not taxed in the country where it is consumed because it is usually produced, distributed and sold outside the formal channels under government control.

Wines: alcoholic beverages made from grapes which have about 12% of pure alcohol.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Alcohol is the general name given to a variety of related compounds characterized by the hydroxyl (-OH) group. Alcohol consumption in this study refers to the drinking of alcohol. Ethyl alcohol or ethanol is the only form of alcohol safe for consumption for man. Alcohol is a powerful psychoactive substance and nervous system depressant produced naturally on a commercial scale by anaerobic respiration of yeast cells on carbohydrates in fruits and grains. Consumption of alcoholic beverages is a practice of man that has occurred for a very long period of time in many countries one of which is Ghana (WHO, 2002).

Akpeteshie a locally produced Ghanaian alcoholic drink, was commonly distilled among the Anlo people in the Volta Region. It was formerly known as kpotomenui which translates to 'something hidden in a coconut mat face'. The Europeans on arrival in Ghana banned the use of akpeteshie due to its high alcoholic content and poisoning that sometimes arose from it. In the 1930's Akpeteshie was in such supply that schoolboys could easily buy it. Distillation of akpeteshie was legalized after Ghana obtained independence. Dzodze in the Volta Region has been an active site for akpeteshie distillation since the colonial period (Akyeampong, 2001).

Alcohol consumption is an important contributor to businesses and employment. The alcohol industry comprises of beer, wine and spirit producers and distributors as well as restaurants, pubs, bars and stores that sell to the general public (Babor et. al., 2010). Babor et al., (2003) states that alcohol inflicts harm on an individual in three main ways. The first way is by being toxic, having negative effects on organs and tissues.

The second way is by intoxication, leading to impairment of consciousness, physical coordination, perception, cognition, affect or behaviour. The third way is by dependence, whereby the drinker is addicted and cannot control his or her drinking behaviour.

Harmful consumption of alcohol is associated with increased levels of morbidity and mortality. Alcohol is related to health conditions such as mental health disorders like depression and substance dependence, tuberculosis, liver cirrhosis, breast cancer, cardiovascular diseases (Hulka and Moorman, 2008), low birth weight, spontaneous abortion and fetal abnormalities (Li et. al., 2012).

Moderate drinking has been shown to be beneficial to people with cardiovascular disease but has also increased the risk of certain cancers and other diseases in some other individuals (Babor et al., 2010; Lauer and Sorlie, 2009; Streppel et al., 2009). As of the year 2000, more disease categories such as colorectal and breast cancers, pancreatitis and atrial fibrillation had been identified as alcohol-related diseases (Rehm et al., 2013).

Harmful consumption of alcohol is also attributable to societal problems such as drink driving, leading to road traffic offences and accidents, criminal behaviour and alcohol addiction among others (Klingemann and Gmel, 2001; and GSS, GHS and ICF Macro, 2009). Alcohol is a contributing factor in relationship breakdown, domestic violence and poor parenting which includes child abuse and neglect. The Strategy Unit of the Prime Minister of Great Britain, 2003 estimated that over 1 million children are affected by parental alcohol abuse and up to 60% of child protection cases have to do with alcohol in the United Kingdom. Persons with strong alcohol addictions inflict domestic violence on their partners at higher rates than when alcohol is not involved. Studies show that 70% of men who assault their partners do so under the influence of alcohol (Murphy et al., 2005). High rates of psychiatric

morbidity are experienced by young family relatives who descend from alcohol dependent people. Also children growing with people who misuse alcohol are at higher risk of taking up alcohol early in their teenage years and developing alcohol problems themselves (Nimako, 2012).

In high and middle income countries, the costs associated with alcohol add up to more than 1% of the gross national product. Health cost is greatly constituted of costs due to social harm (Rehm et al., 2009).

1.2 Problem statement

The harmful use of alcohol is among the top five risk factors for disease, disability and death throughout the world (WHO, 2011; Lim et al., 2012). It is a causal factor in more than 200 disease and injury conditions (WHO, 2014). Drinking alcohol is associated with a risk of developing such health problems as alcohol dependence, liver cirrhosis, cancers and injuries (WHO, 2004; Baan et al., 2007; Shield, Parry & Rehm, 2013). Alcohol in a lot of cases can lead to unsafe sex, unwanted pregnancies, financial problems and homelessness. About 50% of homeless people are alcohol dependent (Gill et al., 1996). Alcohol consumption decreases productivity at workplaces through accidents and absenteeism (Nimako, 2012). Alcohol is a risk factor for mouth, pharynx, larynx, oesophagus, liver, and breast cancers which cause disability, morbidity and death (NCI, 2010). Alcohol use is a risk factor for intentions to practise unprotected sex. Risky intentions have been linked to actual risky behaviour making alcohol consumption have a possible role in the transmission of HIV and other STIs (Rehm, Shield, Joharchi and Shuper, 2012).

For most countries worldwide including Ghana, the projections of alcohol consumption indicate an increase in recorded alcohol per capita consumption. Half of

the WHO Regions are expected to have a substantial increase by the year 2025 unless the trend is intercepted by effective policy responses (WHO, 2014). The policies will tend to decrease the proportion of heavy drinkers hence decreasing the overall proportion of drinkers. This study thus sought to determine the factors influencing alcohol consumption among adult (18 years and above) residents of Osu district, Greater-Accra Region which may be useful in creating policies to counter a rise in alcohol consumption in Ghana.

1.3 Justification

The study will add to the body of information on alcohol consumption. This study provides current information about alcohol consumption among adults living in Osu. It can be used to develop intervention strategies for the reduction of alcohol consumption and provide information for future research on alcohol use in Ghana.

1.4 Research questions

- What proportion of the Osu adult population consumes alcohol?
- How much does an adult in Osu spend averagely on purchasing alcohol?
- What are the reasons for alcohol consumption among adults in Osu?

1.5 Objectives

1.5.1 General objective

To determine the factors that influence alcohol consumption among adult residents of Osu district, Greater-Accra Region.

1.5.2 Specific objectives

- To determine the proportion of the adult residents who consume alcohol.
- To determine the socio-demographic, economic and environmental factors that influence alcohol consumption among adult residents in Osu district, Greater-Accra Region.
- To determine the different types and preference of alcoholic beverages consumed by the adult residents of the Osu district, Greater-Accra Region.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Alcohol consumption

Room et al., (2002) noted that alcohol consumption has been a part of history in village and tribal communities all over the world apart from Australia and other countries in the continents of Oceania and North America. Alcohol fermentation was done on small scale in the homes of villagers, particularly when there was an abundance of agricultural supplies. The small scale production of alcohol meant that alcohol was not consumed frequently but mostly during communal activities such as festivals.

Alcohol consumption is commonly measured using one of two units which are: alcohol consumption in grams of pure alcohol per person per day and alcohol per capita consumption in litres of pure alcohol per year. In 1993, the organization of International Research Group on Gender and Alcohol (IRGGA) was formed to develop standard reporting units of alcohol consumption that could be used for comparing most or all of the survey data sets compiled by IRGGA members. This enables comparable measures of data collected on women's and men's drinking behaviour from all countries (Wilsnack and Wilsnack, 2003).

2.1.1 Global Status

According to WHO (2014), the alcohol consumption rate worldwide in 2010 was 6.8 litres per capita for persons 15 years and older. The proportion of persons 15 years and older who consume alcohol is 34.1% worldwide. Globally, a greater proportion of women (71.1%) abstain from alcohol more than men (52.3%). Generally, lifetime

abstainers dominate populations worldwide (15 years and older) for both sexes. Lifetime abstention is particularly very high in North African and South Asian countries where Muslim populations are comparatively very large to non-Muslim populations. Also women generally drink less volumes of alcohol than men (WHO, 2014).

Globally, about a quarter of the amount of alcohol consumed was unaccounted for, this is due to homemade alcohol which is made illegally or sold beyond government control. About 16% of people who drink alcohol are heavy drinkers (WHO, 2014). Generally, the consumption of heavy drinkers increases as the per capita consumption increases. The number of heavy drinkers increases as well as the rate of alcohol related harm (Skog, 2001). Alcohol is globally the third top most risk factor to health after childhood underweight and unsafe sex (WHO, 2009). In some developing economies such as China, harmful alcohol consumption ranks first among other risk factors (Babor et al., 2010). As at 2005, it was estimated that 2.5 billion people consume alcoholic beverages worldwide. When comparing the impact of alcohol consumption in the year 1990 and 2010, burden of disease due to alcohol use increased in absolute and relative figures (Lim et al., 2012). The deaths caused by consumption of alcohol has increased from 1.8 million annually; to approximately 3.3 million deaths annually (Owusu, 2008; WHO, 2014).

Alcohol consumption patterns and quantities vary for different communities and cultures. Alcohol has been consumed for thousands of years, and during the past 20 years its consumption has changed significantly (Room et al., 2002). One of such changes is the replacement or complementing of locally produced beverages with industrially manufactured alcoholic ones; particularly western-style brewed beer (Riley and Marshall, 1999). Different countries have different production standards

with regards to the volume of each drink and units equal to a specified amount of pure ethanol.

2.1.2 Situation in Ghana

The proportion of the population of 15 year olds and above in Ghana who consume alcohol is 23.3% (WHO, 2014). The Upper West Region has the highest proportion (36.3%) of individuals 15 years or older who consume alcohol followed by the Volta Region with 32.7% (GSS, GHS and ICF Macro, 2009). The Northern Region has the lowest proportion of drinkers to non-drinkers among all the regions with a percentage of 14.6% consuming alcoholic drinks. The average consumption rate in 2010 was 4.8 litres per capita for persons 15 years and older, with 3.0 litres being unaccounted for.

2.1.3 Patterns of drinking score

This is a measure of drinking patterns of a population which composes of various attributes in relation to the alcohol consumption of the population. Patterns of drinking score; reflects how people drink. The scale grades from: 1 (least risky pattern of drinking) to 5 (most risky pattern of drinking). Elements used to create this indicator include quantity of alcohol consumed per occasion, festive drinking, the proportion of drinking events when getting drunk, the proportion of drinkers who drink daily, drinking with meals, and drinking in public places (WHO, 2014). Volume of drinking is not incorporated into the estimation of patterns of drinking score. Countries that exhibit risky patterns of drinking are: Belarus, Belize, Grenada, Guatemala, Kazakhstan, Mexico, Namibia, the Russian Federation, South Africa, Ukraine, and Zimbabwe. Ghana has a patterns score of 3, indicating a neutral perspective (not at risk and at the same time not safe) regarding drinking patterns (WHO, 2014). There is a positive association between drinking patterns score and

alcohol-related consequences at both individual and country levels (Astudillo, Kuntsche, Graham, and Gmel, 2010).

2.2 Factors influencing alcohol consumption

Factors that influence alcohol consumption can generally be grouped under two types; they are either internal or external factors. The internal factors are associated with a person's beliefs, values, attitudes, life experiences, perception of morality and personality factors. The external factors involve the structural environment which is the available sources of alcohol or sale points of alcohol and the socio-cultural surroundings of an individual. The socio-cultural surroundings include the family, friends and members of other social groups an individual is a part of (Pettigrew and Donovan, 2003).

Alcohol consumption currently varies with respect to different factors such as religion, age, sex, marital status, education level and others. There is no main risk factor that influences people's alcohol consumption levels and ultimately affects their health. Studies however; have shown that vulnerability to health problems increases with exposure to more risk factors (Schmidt et al., 2010). A study by Luginaah and Dakubo (2003) showed that political, economic and cultural factors influence the use and abuse of alcohol.

2.2.1 Age

Persons that are introduced to alcohol consumption at an early age (usually below the age of 14 years) suffer a poorer health status as it associated highly with alcohol dependence and abuse at later ages of life (Sartor et al., 2007) and accidental injuries (Cherpitel, 2013). Alcohol consumption generally decreases with age; higher

proportion of younger age groups consumes alcohol as compared to older age groups. Adolescents (15 – 19 years) have a higher prevalence (11.7%) of heavy episodic drinking as compared to the total population aged 15 years and above. As an individual grows older his or her body's ability to handle a certain amount of alcohol decreases thus with regular consumption of alcohol old aged drinkers suffer high burden from unintentional injuries, such as alcohol-related falls (Grundstrom et al., 2012). Alcohol related burden of disease among old aged persons is a major public health concern because of the increasing population of old age individuals worldwide (WHO, 2012). According to the GDHS conducted by GSS, GHS and ICF Macro (2009); a greater percentage (51.7%) of men from the ages of 40 – 44 years consumes alcohol in Ghana. This age group of men has the highest percentage of drinkers among all age groups. A smaller percentage (7.5%) of men from the ages of 15 – 19 years consumes alcohol. This age group of men has the lowest percentage of drinkers among all age groups. Similarly, a smaller proportion (6.6%) of women from the ages of 15 – 19 years consumes alcohol. This age group of women has the lowest percentage of drinkers among all age groups. The 45 – 49 years age group of women have the highest percentage (26%) of drinkers among all age groups.

2.2.2 Sex

Generally, men always exceed women in drinking frequency and episodes of heavy drinking as well as consequences of alcohol consumption. Concurrently, women are generally found to have higher proportions of abstainers of alcohol than men (Wilsnack, Wilsnack and Obot, 2005; Wilsnack et. al., 2000). The total alcohol per capita consumption in 2010 among male and female drinkers worldwide was averagely 21.2 litres and 8.9 litres of pure alcohol respectively (WHO, 2014). In

Ghana, a greater proportion of women (86%) abstain from drinking than men (66.9%). Only 9.6% of the female population are former drinkers, 76.9% of the female population (15 years and above) are lifetime abstainers (WHO, 2014). A reported 2 in 10 women consume alcoholic beverages in Ghana (Tampah-Naah and Amoah, 2015). Heavy drinking among women in Ghana is reported to be among the lowest proportions (4%) in heavy drinking among women in African states (Martinez, Røislien, Naidoo, and Clausen, 2011). A study by Adusi-Poku, Bonney and Antwi (2013) found out that about 20% of pregnant women in the Bosomtwe district of Ghana consume alcohol with the most popular drink among them being akpeteshie. The Volta Region had the highest proportion of male drinkers to non-drinkers among all the regions; with 42.5% of the men from that region consuming alcohol. The Northern Region had the smallest with 14% of the men in the Region consuming alcoholic beverages (GSS, GHS and ICF Macro, 2009). For women, the Upper West Region has the highest proportion of drinkers to non-drinkers among all the Regions with 37.3% of the women from that Region consuming alcohol. The Brong Ahafo has the lowest with 8.6% of the women from that Region consuming alcohol. Ghosh et. al. (2012) used Alcohol Use Disorders Identification Test (AUDIT) questionnaires to determine the patterns of alcohol consumption among adult males in a region of India. Their results revealed that 65.8% of the men consumed alcohol. About 14% of the men were alcohol dependent and 8% exhibited harmful use of alcohol. About 62% of the men that exhibited alcohol dependence showed clinical signs of chronic alcohol use. But only 16% of the alcohol dependent persons expressed concerns for their drinking habits mostly because of illness in the past.

2.2.3 Marital status

A study conducted by Ibanga et. al. (2005) in Nigeria, found that 50% of divorced individuals consume alcohol of which 58.3% drank heavily. Nearly half (48.6%) of persons who were married but separated consume alcohol, of which 82.4% drank heavily. Of the widowers and widows, 35.5% consume alcoholic beverages. Married individuals who were together, single persons and people who were cohabiting with partners have proportions of 32.4%, 30.2% and 23.9% respectively consuming alcohol. More than half (52.6%) of married persons who consume alcohol are heavy drinkers. One – fifth of the drinking cohabiting individuals are heavy drinkers. According to GSS, GHS and ICF Macro, 2009; 42% of both married and divorced men consume alcohol whilst 21% of men who have never been married are drinkers. Similarly, women who are married and women who are divorced have greater proportions of drinkers, 20% and 26% respectively; than women have never been married (11%).

2.2.4 Educational level

Men (15 years and older) that had their highest level of education at JHS or Middle school had the highest proportion of drinkers to non-drinkers with 35.3% of them consuming alcohol. They were closely followed by those who had no education (34.9%) and those that had SHS and higher form of education (34.1%). Men who had primary education as their highest level of education had the lowest proportion of drinkers to non-drinkers with 32.3% (GSS, GHS and ICF Macro, 2009). Contrary to men, women in Ghana (15 years and older) who had their highest level of education at JHS or Middle school had the lowest proportion of drinkers to non-drinkers (14.5%). Women who had no formal education throughout their lives have the highest

proportion of drinkers (21.3%), followed by those of SHS and higher forms of education (19.5%), those that had primary education (18%) and then those that had had JHS or Middle school education (GSS, GHS and ICF Macro, 2009).

2.2.5 Employment status

Men who have employment are more likely to be drinkers (40.7%) than men who are unemployed (8.7%). Women who are employed are more likely to consume alcohol (19.7%) than women who are unemployed (10%) (GSS, GHS and ICF Macro, 2009). A study conducted by Booth and Feng, (2002) in 6 southern states of the United States of America; showed that the likelihood of unemployment was increased when one drinks 7 or more alcoholic beverages in a drinking day and for those working, reduced the weeks of employment.

2.2.6 Economic factors

According to WHO, (2014); countries with higher economic wealth have higher volumes of alcohol consumed and fewer abstainers. Also countries with higher economic wealth have less consumption of unrecorded alcohol and higher prevalence of heavy episodic drinking. Economic wealth of countries is categorized into low income, middle low income, upper middle income and high income. Ghana is identified as a middle low income country (WHO, 2014).

2.2.7 Religion

In Nigeria, Individuals that practise African traditional religion were most likely to be drinkers (50%) as compared to other persons adhering to other religions: Christians

(36.1%) and Muslims (8.8%) (Ibanga et al., 2005). A study by Wallace, Brown, Bachman and LaVeist (2003) showed that religion had an influence on African-American 10th graders (youth) at group level rather than individual level. Religion is a protective factor against alcohol use. Religiosity may have direct and indirect influences that reduce drinking alcohol among college students in the United States of America (Galen and Rogers, 2004). Incorporation of religious or spiritual values can significantly decrease alcohol consumption among college and undergraduate students (Johnson, Sheets and Kristeller, 2008; Neighbors et. al., 2013). A study by Holt, Roth, Huang and Clark (2015) on African-Americans found out that there is a positive association between religious behaviours and decreased alcohol use in women. The study also found that for men, there was an increase in alcohol consumption with reduced religious beliefs.

2.2.8 Environmental factors

Various environmental factors have been shown to have an influence on alcohol consumption as well as alcohol-related harm. Factors such as availability of alcohol, culture, advertisement, economic development and policies on alcohol are related to the different trends in alcohol consumption of different areas (Babor et al., 2010).

In Ghana, a slightly higher proportion of men (35.4%) in the rural areas consume alcohol than in the urban areas (33.4%). Similarly for women, a slightly higher proportion (18%) in the rural areas consumes more alcohol than in the urban areas (17%).

Advertisement is a factor that influences alcohol consumption. Advertisement of alcoholic beverages has broadened throughout Ghana. Alcoholic beverages are advertised on a large spectrum of commercial media such as radio, television,

billboards amongst others, with the most popular theme depicting alcohol consumption as fun and an enhancing element for socialisation (Frimpong-Mansoh, 2013). In the Greater Boston Region of the United States of America, alcohol advertisements reached the equivalent of every adult and every 5th to 12th grade public school students each day. More advertisements were placed in subway stations of areas of high poverty rates than areas with low poverty rates (Gentry et. al., 2011).

Assanangkornchai, Geater, Saunders and McNeil (2002) found that in Thailand there was a significant association between having a drinking father and harmful use of alcohol. Having a drinking father increases the risk of a child being alcohol dependent. Studies have also shown that parents and siblings significantly influence the alcohol consumption of young individuals (Poelen et al., 2007; Mares et al., 2012). According to Wood et al., (2004) states that parental dissent towards alcohol consumption of adolescents is related to reduced peer influence. Under aged children who are prevented from drinking alcohol at home by their parents drink less in future (Yu, 2003).

2.3 Reasons for alcohol consumption

Patrick et al. (2011) states that studies have shown reasons for alcohol consumption can be grouped into four major categories: social, enhancement, coping, and conformity. Social motives behind drinking alcohol include drinking to have fun with friends. Enhancement covers drinking to get high and for excitement, and this is the commonest reason for alcohol consumption among heavy drinkers. Very few individuals drink to cope with difficult situations in their lives, however this group of people most likely tends to drink heavily. Some persons also consume alcohol with conformity motives. They drink to fit into certain peer groups.

In Ghana, people drink for various reasons. Some of the main reasons include celebrating an achievement, coping with stress such as matters that brings sorrow; and socialising in peer groups which is common among young men that migrate from rural to urban areas in search of jobs (Akyeampong, 1996).

2.4 Alcoholic beverages consumed

The most common consumed alcoholic drinks around the world as of 2012 are beer, wine and spirits. Other alcoholic beverages are also consumed in quite large proportions which include fortified wines, rice wine or other fermented beverages made of sorghum, millet or maize. Alcoholic beverages are normally sold in standard volumes. Definitions for what represent a standard drink or units for a specific percentage of pure ethanol, differs in countries across the world. In most cases, a standard drink is defined as 350ml of regular beer of 5% alcohol, 150ml of wine of 12% alcohol and 44ml of distilled spirits of 40% alcohol. A standard drink always contains the same volume of ethanol regardless of the size of the bottle or container. Researchers can now estimate the volume of alcohol consumed with these measures (Frimpong-Mansoh, 2013).

Worldwide, 50.1% of alcohol consumed was in the form of spirits (WHO, 2014). A WHO report showed that in Ghana, 2010; 30% of alcohol consumed was in the form of beer, 10% as wine, 3% as spirits and 57% in the form of other drinks (WHO, 2014). The other alcoholic drinks include locally manufactured drinks such as akpeteshie and pito.

CHAPTER THREE

3.0 METHODS

3.1 Study design

A cross sectional study of respondents aged 18 years and above was carried out. A sample representative of the population was randomly selected. Cross tabulations were done, Pearson's chi square test and logistic regression was used to determine the relationship between alcohol consumption and the factors which were under investigation.

Inclusion criteria

Residents of Osu aged 18 and above.

Exclusion criteria

There were no exclusion criteria.

3.2 Study area

The population under study was the adult residents of Osu district, Greater-Accra Region. Osu is located about 3km off the east of the central business district. It is bordered by the Gulf of Guinea at the south, the independence avenue at the west and Ring road east at the north and east. Osu is one of the eleven sub-metropolitan areas of Accra. The Osu district consists of seven electoral areas namely: Kinkawe, Osu Doku, Ringway Estate, Alata, official Town/Odorna, Adabraka/Tudu and Asylum Down. Osu has a total population of approximately 121,723, of which 58,457 are men and 63,266 are women. The district has a total of 35,308 houses with an average household capacity of 3.2 persons per house (GSS, 2012). Osu has an economic group

percentage of 69.5% with 40,124 males and 44,462 females (GSS, 2012). Osu is best known for its restaurants, shops and high night time activity. Osu was chosen for the study because it a centre for pubs and clubs activity of which alcohol consumption takes place regularly.

3.3 Variables

The dependent variable is alcohol consumption. The independent variables are: Socio-demographic factors (sex, age, level of education, employment status, occupation, marital status and level of income), economic factors (money spent on alcohol) and environmental factors (number of alcohol sale points).

Table 1: Operational definitions and scale of measure of variables.

Variable	Type of variable	Operational definition	Scale of measure
Alcohol consumption	Dependent	Whether or not participant consumes alcohol	Yes No
Sex	Independent	Sex of participant	Male Female
Age	Independent	Age of participant	Years
Level of Education	Independent	Highest level of education obtained by participant	No Education Primary JHS/Middle SHS/Vocational Tertiary
Employment status	Independent	Whether the participant has a job or not	Employed Unemployed
Occupation	Independent	Type of job of participant	Trader Artisan Professional Other
Marital status	Independent	Whether the participant is married or not	Married or living together Not married
Amount of money spent on alcohol	Independent	Average amount of money participant spends on alcoholic beverages in an outing	Ghana cedis (GHC)
Level of income	Independent	Amount of money participant earns monthly	Ghana cedis (GHC)

3.4 Study population

The study involved individuals aged 18 and above who have Osu as their permanent home address and reside there. This study population was chosen because the minimum legal age for consuming alcohol in Ghana is 18 years. The population was also chosen so that interviewees felt safer answering the questionnaire as they are of legal drinking age.

3.5 Sampling and Sample size

The prevalence of alcohol consumption in Osu is not known. It was however assumed to be 50%. The sample size was calculated using the Cochran, 1977 formula:

$$n = z^2 pq / d^2 \text{ at 95\% confidence level}$$

Where n = sample size, z is the value for the selected alpha level. p is the estimated proportion of an attribute that is present in the population. q is $1-p$. d is the acceptable margin of error for proportion being estimated.

For the study, $p=0.5$ since the prevalence of alcohol consumption was assumed to be 50%, $d=0.05$, as the margin of error within 5% of the population prevalence and at 95% confidence level $z=1.96$.

$$\text{Thus } n = \frac{1.96^2 \times 0.5 \times (1-0.5)}{(0.05)^2} = 384.16 \approx 385$$

$$(0.05)^2$$

An upward adjustment of 15% made the sample size increase to 442.75 which is approximately 443. The adjustment sought to take care of refusals to answer certain questions on the questionnaire and participants that would opt out of the study.

3.5.1 Sampling method

Data collection was done at Kinkawe and Osu Doku electoral areas of Osu. These areas were chosen because of their close proximity to the areas of majority of the drinking centres. Also it would have taken a very long time to visit all the houses if the houses were selected randomly from all the houses in Osu. Houses were assigned numbers in ascending numerical order starting from 1 and were numbered according to the order the houses were spotted and the households to be visited for interviewing

were generated from a total of 1052 houses using a randomizer from: <https://www.randomizer.org/> . The first house member 18 years or above in a household that was met was given a questionnaire for interviewing (one participant was interviewed from each house).

3.6 Data collection method and tools

Data was collected from study subjects by using questionnaires. Show cards with pictures and examples of the types of alcoholic drinks were used to demonstrate the standard drink if needed. Information on the show cards were derived from: <https://www.nhmrc.gov.au/health-topics/alcohol-guidelines>

3.6.1 Quality control

The questionnaire was constructed by modifying questions from International Research Group on Gender and Alcohol (IRRGGA). The questionnaire was pretested at Ringway Estates, another site in Osu. This was to help correct any disparities and to remove ambiguous information from the questionnaire.

3.6.2 Data collection

Five (5) research assistants were trained to administer questionnaires. The principal investigator and the five research assistants collected data from the field. Completed questionnaires were audited right after data collection by the field workers (principal investigator and research assistants) administering the questionnaires to enable them to obtain feedback from participants on unclear responses, omissions or blanks.

3.7 Data entry

Completed questionnaires were included in the processing and analysis. The questionnaires were coded and serialized. Data was entered and cross checked to do away with all errors before analysis.

3.8 Data processing and analysis

Data analysis was carried out using Stata version 13 and Microsoft Office Excel 2010 computer statistical software. Responses to questions were coded before data entry. Frequencies and percentages were run to determine the proportion of adults who consume alcohol. Cross tabulations were performed and Pearson's chi square test was used to determine the association between alcohol consumption and the factors that influence alcohol consumption. A significance level of 5% was considered for all associations.

Logistic regression was run to determine the strength of association between alcohol consumption and factors influencing it. Odds ratio estimates of the associations between the significant factors and alcohol consumption was then determined at 95% confidence interval.

3.9 Ethical considerations

Ethical clearance was sought from the Ethical Review Committee of Research and Development Division of Ghana Health Service. Permission to conduct the study was obtained from the Osu Sub Metropolitan District Council.

Written informed consent was sought from all participants. The consent form included the purpose of the study, benefits, potential risk, privacy, confidentiality and conflict

of interest. Participation was voluntary. Each participant was given the option of refusing to partake in the study during any period of the interview.

Individuals were contacted individually and privately. Data was collected such that there was a reduced possibility of tracing the information back to respondents. All information was treated as confidential.

Filled questionnaires were stored in a cabinet under lock and key until after 3 months after submission of the final hard bound dissertation upon which they will be destroyed. Softcopy entered data will be stored on an external hard drive and will be password protected. The softcopy data will then be deleted after submission of final hard bound dissertation. The data collected will be accessed only by the principal investigator and the supervisor.

3.10 Pre-test

Pre-testing was done at Ringway estates, another site within Osu which has similar features to the site where data were collected. Ten questionnaires were pre-tested to ensure that the questionnaires derive the data required to produce results for the study.

CHAPTER FOUR

4.0 RESULTS

4.1 Socio-demographic characteristics of respondents

A total of 405 respondents were involved in the study. Most of the questionnaires were filled in Osu Doku as Osu Doku has more houses than Kinkawe. Four persons did not participate in the study at all and 1 person opted out during the filling of the questionnaire.

4.1.1 Sex

The males constituted 59% (239) of the respondent sample while the females constituted 41%.

4.1.2 Age

The respondents were grouped under the following categories: 18- 29, 30 – 39, 40 - 49, 50 – 59 and 60+ years. The first group, 18 – 29 years comprised of 47.9% (194) of the respondents. The 30 – 39 years group was represented by 25.43% (103) of the sample. The 60+ year group had 5.43% (22) of the respondents. The mean age for males was 34.64 and the mean age for females was 32.66. These results are shown in Table 2.

4.1.3 Other demographics

Exactly 40% (162) of the respondents were married. Majority of the respondents (70.1%) had employment with 36.6% (104) of them being artisans or labourers. Only 2.96% (12) respondents had no formal education. Results referring to this topic are shown in Table 2.

Table 2: Socio-demographic characteristics of respondents

Variable	Frequency	Percentage (%)
	N = 405	
Sex		
Male	239	59.01
Female	166	40.99
Age category (years)		
18 – 29	194	47.90
30 – 39	103	25.43
40 – 49	50	12.35
50 – 59	36	8.89
60+	22	5.43
Educational level		
No education	12	2.96
Primary	10	2.47
JHS/ Middle	112	27.65
SHS/ Vocational	171	42.22
Tertiary	100	24.69
Employment status		
Employed	284	70.12
Unemployed	121	29.88
Occupation		
	N = 284	
Trader	98	34.51
Artisan/ Labourer	104	36.62
Professional	66	23.24
Other	16	5.63
Income category (GHC)		
0 – 299	222	54.81
300 – 599	110	27.16
600 – 899	36	8.89
900 – 1199	13	3.21
1200+	24	5.93

4.2 Alcohol consumption

4.2.1 Drinking status

The proportion of respondents who currently consume alcohol was 39% (158). One-third (135) of the respondents were lifetime abstainers. Two thirds (270) of the respondents had consumed alcohol before, out of which 58.5% (158) were current drinkers. A greater proportion of drinkers were males (72.8%). Females formed 27.2% of the drinkers. Respondents in the 18 – 29 year category had the most number of current alcohol consumers (40.5%) and the 60+ year group had the least (6.9%). Respondents who had SHS or vocational studies as their highest level of education attained, had the greatest proportion of current alcohol consumers (41.8%). A greater proportion of the respondents who currently consume alcohol were not married (56%). Of the respondents who currently drink alcoholic beverages, 76.7% (122) had employment, of which 38.5% were artisans or labourers. Respondents that earn within the GHC 0 – 299 range had the most of the current drinkers (46.8%).

Some respondents in the study had more than one reason for not consuming alcohol. However, 36.8% (93) of the responses had no reason for not drinking alcoholic beverages. Whilst 18.6% (47) of the responses of the non-drinkers were because of health reasons, 19% (48) were for religious reasons, 24.1% (61) were for knowledge on the effects of alcohol on health or lifestyle and 1.6% (4) for other reasons. Other reasons included unpleasant taste, spending too much money on other items and bad experience from the past (Figure 1).

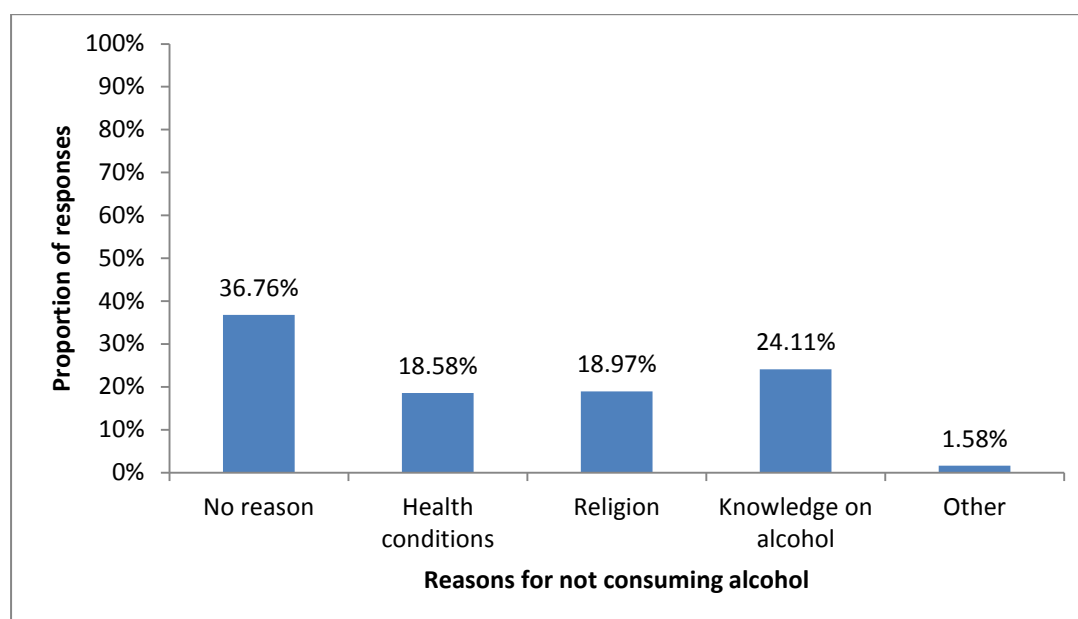


Figure 1: Reasons for not consuming alcohol (Multiple responses accepted)

4.2.2 Factors influencing alcohol consumption

Factors influencing alcohol consumption investigated were socio-demographic, economic and environmental factors.

4.2.2.1 Socio-demographic factors

Sex, employment status and income were the socio-demographic factors which were significantly associated with alcohol consumption (Table 3).

Majority (72.8%) of the current alcohol consumers were males (Table 3). Being a female was protective (OR = 0.386, 95% CI 0.248 - 0.601). This implies that being a female decreases the odds of an adult Osu resident being a consumer of alcoholic beverages by 61% (Table 4).

Most of the current alcohol consumers (76.7%) were employed (Table 3). Being unemployed was protective (OR = 0.604, 95% CI 0.366 - 0.995). This implies that being unemployed decreases the odds of an adult Osu resident being a consumer of alcoholic beverages by 40% (Table 4). Respondents that earned within the GHC 0 –

299 range had the most current drinkers (46.5%). It was followed by 300 – 599 (28.5%), 600 – 899 (10.1%), 1200+ (9.5%) and then 900 – 1199 (5.1%) (Table 3).

Table 3: Socio-demographic factors influencing alcohol consumption (Univariate analysis)

Variable	Proportion that currently consumes alcohol (n) N=158	Chi-square, p value	Odds ratio	95% confidence interval
Sex		20.8,		
Male	72.8% (115)	p<0.0001	Ref	
Female	27.2% (43)		0.377	0.245 - 0.580
Age		6.9, p>0.05		
18 – 29	40.5% (64)			
30 – 39	28.5% (45)			
40 – 49	12.7% (20)			
50 – 59	11.4% (18)			
60+	7.0% (11)			
Educational level		0.25, p>0.05		
No education	1.9% (3)			
Primary	2.5% (4)			
JHS/ Middle	28.5% (45)			
SHS/ Vocational	41.8% (66)			
Tertiary	25.3% (40)			
Marital status		1.5, p>0.05		
Married	44.0% (89)			
Not married	56.0% (69)			
Employment status		5.3, p<0.05		
Employed	76.7% (121)		Ref	
Unemployed	23.3% (37)		0.593	0.377 - 0.933
Income		12, p<0.05		
0 – 299	46.8% (74)		Ref	
300 – 599	28.5% (45)		1.385	0.864 - 2.219
600 – 899	10.1% (16)		1.6	0.783 - 3.268
900 – 1199	5.1% (8)		3.2	1.012 - 10.123
1200+	9.5% (15)		3.333	1.393 - 7.974
Occupation	(N = 121)	5.4, p> 0.05		
Trader	27.3% (33)			
Artisan/ Labourer	38.8% (47)			
Professional	27.3% (33)			
Other*	6.6% (8)			

Other * included: student, security man, taxi driver, bus conductor, bar attendant and waiter

Table 4: Socio-demographic factors influencing alcohol consumption (Multivariate analysis)

Variable	Adjusted Odds Ratio	95% confidence interval
Sex		
Male	Ref	
Female	0.386	0.248 - 0.601
Employment status		
Employed	Ref	
Unemployed	0.604	0.366 - 0.995
Income		
0-299	Ref	
300-599	1.197	0.723 - 1.982
600-899	1.335	0.624 - 2.857
900-1199	2.217	0.673 - 7.311
1200+	2.262	0.919 - 5.572

4.2.2.2 Economic factors

From Table 3, income was significantly associated with alcohol consumption. Respondents that earn within the GHC 0 – 299 range had the most current drinkers (46.5%). From the respondents who are drinkers, 76% (120) purchased their drinks. Respondents who spent within the range of GHC 11 – 30 on alcohol in an outing had the highest proportion (37.5%) of current drinkers who purchase alcoholic beverages. Respondents who spent within GHC 51 – 70, had the least number of current drinkers who purchase alcohol (2.5%) (Figure 2). The average amount of money spent in an outing by a respondent who purchases alcohol was GHC 34.20. Of the respondents who were drinkers, 103 (52.8% of the responses) obtained alcoholic beverages at social events, 33 (16.9% of the responses) through gifts and 59 (30.3% of the

responses) by another person paying for the drink (Figure 3).

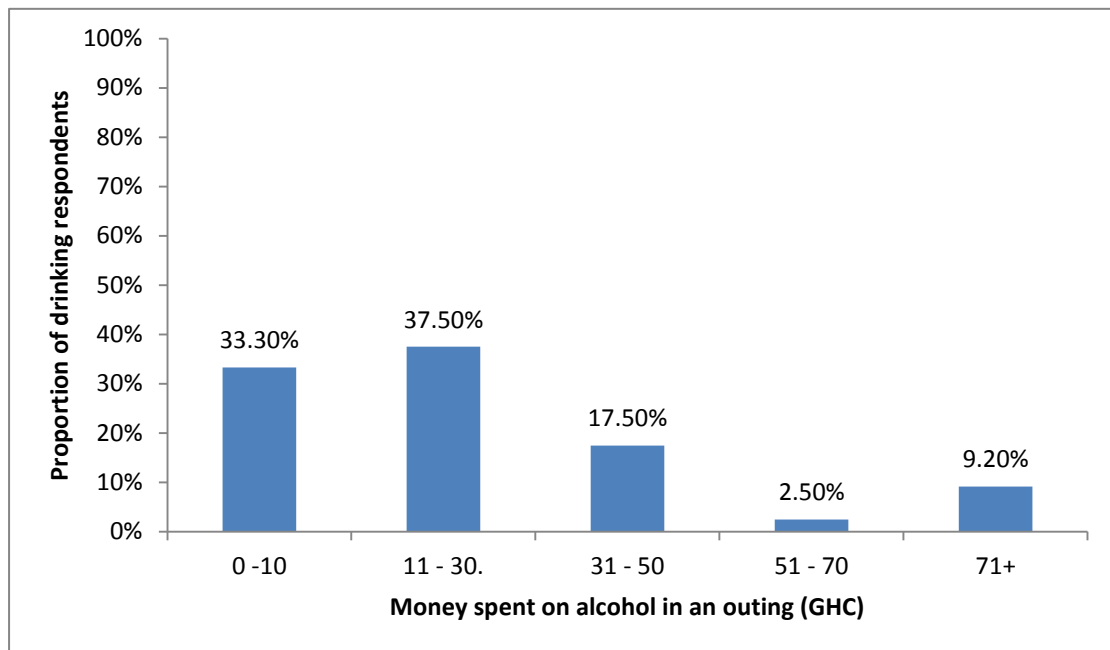


Figure 2: Money spent on alcohol in an outing

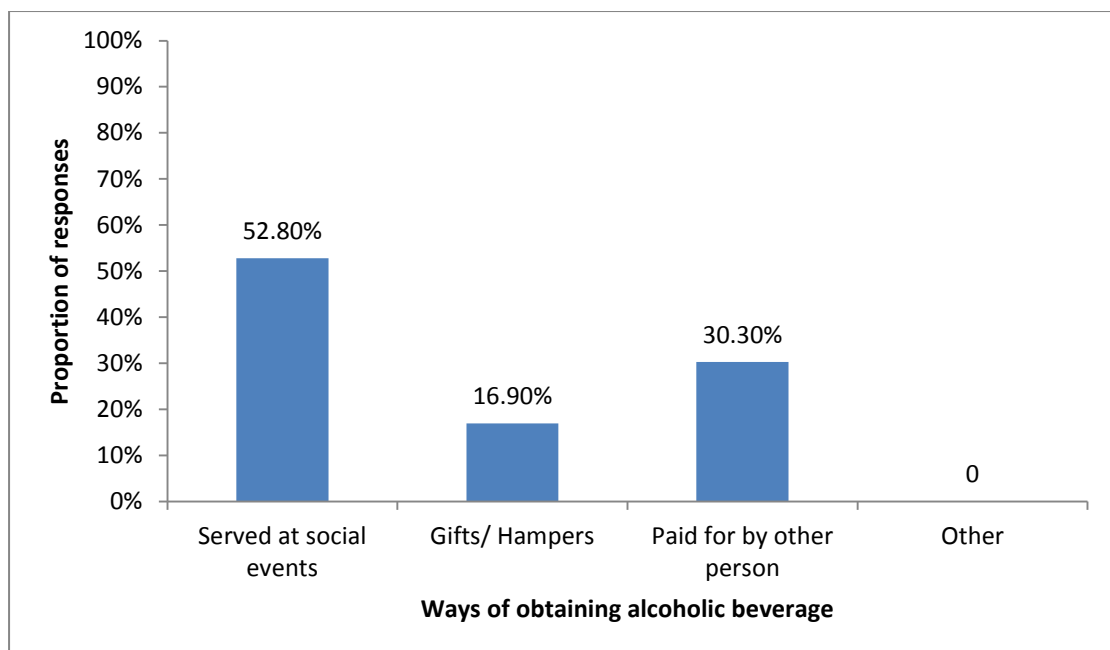


Figure 3: Ways of obtaining alcoholic beverages (Multiple responses accepted)

4.2.2.3 Environmental factors

Of the respondents that drank alcoholic beverages, 22.2% (35) did not visit any drinking centre, 15.2% visited 1 centre, 17.7% visited 2 and 44.9% visited 3 or more. Out of the 123 drinking respondents that visited drinking centres, 81.3% (100) were not affected by the distance between their homes and the drinking centres (Figure 4).

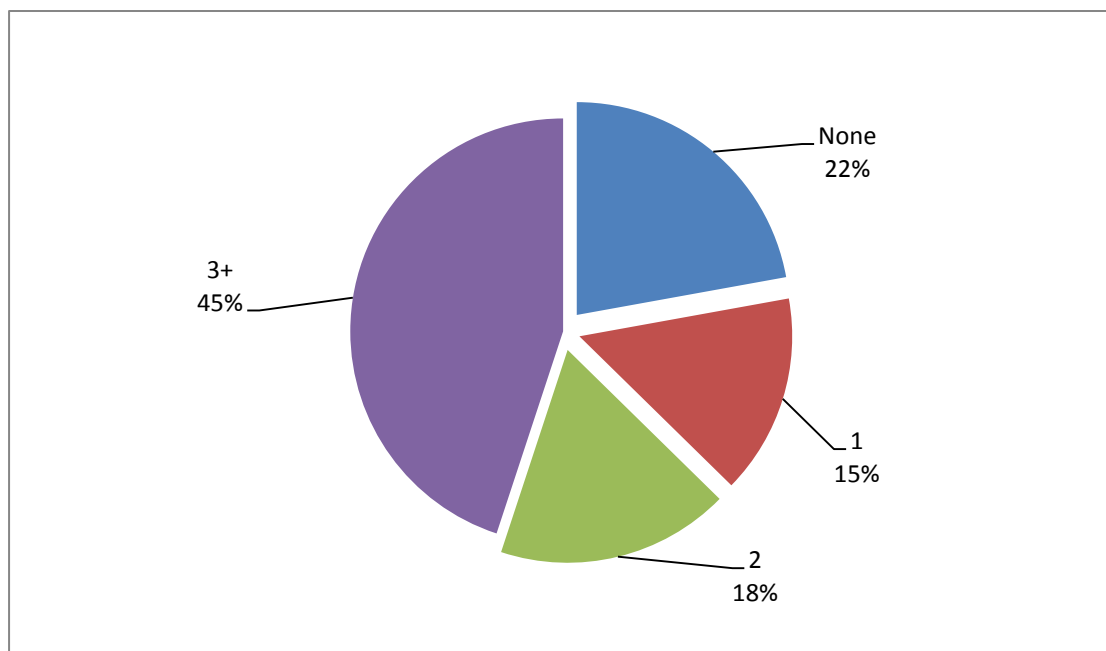


Figure 4: Number of regular drinking centres visited in Osu by respondents

Majority of the drinkers (74.7%) encountered advertisements on alcohol every day, 10.1% once a week, 2.5% twice in a week, 5.7% three or more times in a week and 7% not at all. Most of the drinkers that encountered advertisements on alcohol (72.8%) did not have their drinking influenced by the advertisements, 23.8% were influenced by increasing their intake and 3.4% by decreasing their intake (Table 5).

Table 5: Frequency for variables concerning advertisement of alcohol

Variables concerning Advertisement	Frequency (n)
N = 158	
Frequency of encountering advertisements	
Every day	74.7% (118)
Once a week	10.1% (16)
Twice a week	2.5% (4)
Three or more times weeks	5.7% (9)
Not at all	7% (11)
Influence by Advertisement	
N = 147	
Influenced by increasing intake	23.8% (35)
Influenced by decreasing intake	3.4% (5)
Not influenced	72.8% (107)

4.2.3 Type of alcoholic beverage consumed

Some respondents drank more than one type of drink. Approximately 46% (125) of the responses of the current drinkers were beers, 20% (54) for wines, 27% (72) drank spirits and 7% (19) drank other alcoholic beverages. Other alcoholic beverages included: Akpeteshie, Bitters (Alomo, Herbal, Opemu and Root; which are all locally distilled alcoholic beverages), Irish Cream, Palm wine and Pito. Palm wine and pito are also locally produced drinks (Figure 5).

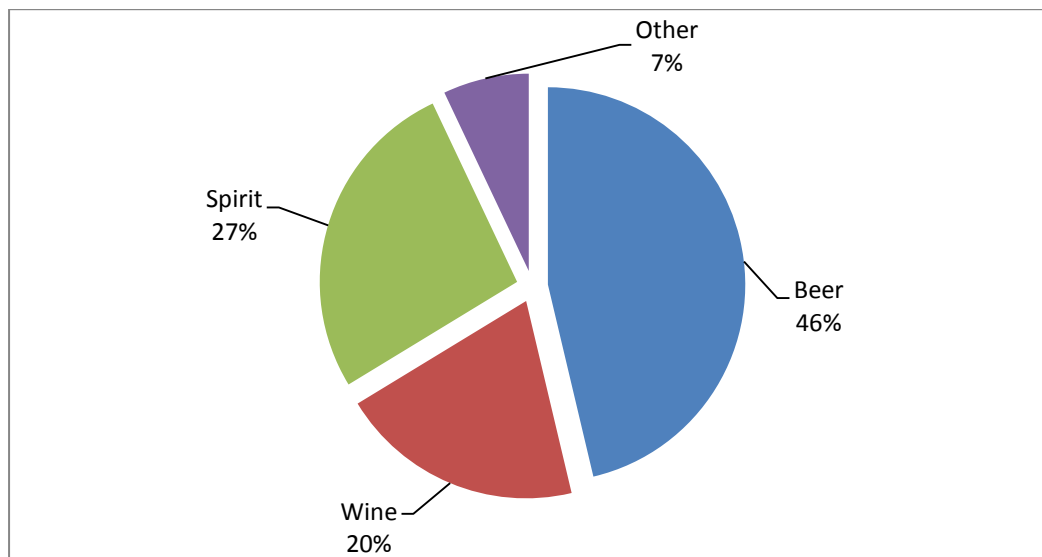


Figure 5: Alcoholic beverages drunk by respondents (Multiple responses accepted)

4.2.4 Consumption Frequency

Respondents who drank 1-2 times a month had the highest frequency (29.1%) among the categories for frequency for drinking alcoholic beverages. The other categories being: daily, once a week, 2-3 times a week and less than 1 time a month had almost equal number of respondents at 17.7% (28), 17.7% (28), 18.4% (29) and 17.1% (27) respectively (Figure 6).

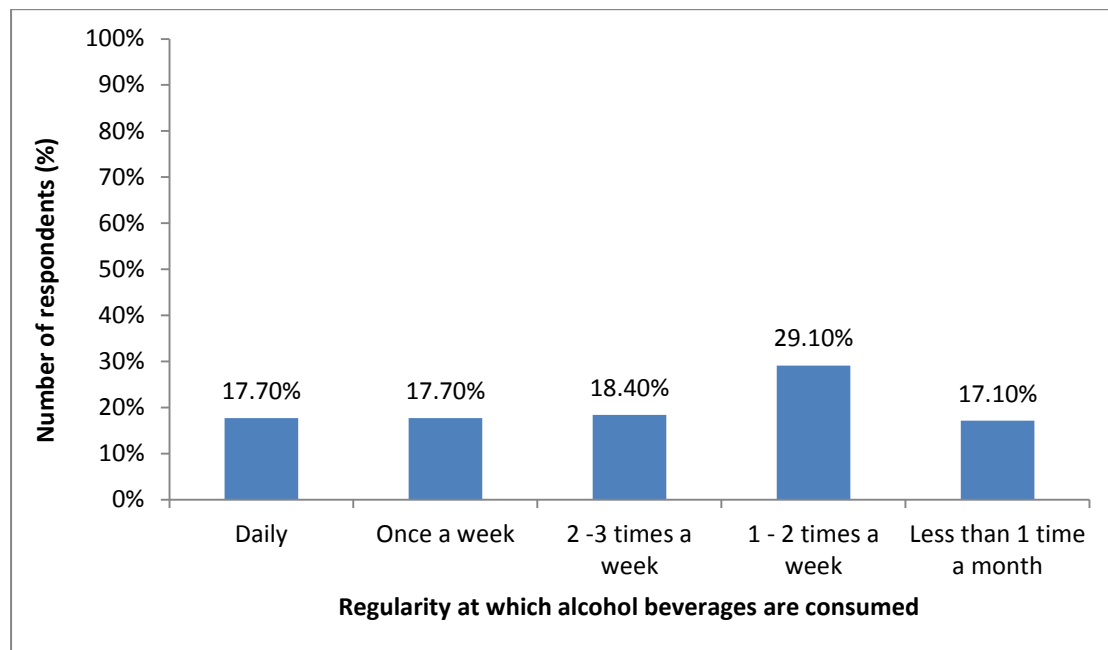


Figure 6: Regularity at which alcoholic beverages are consumed

4.2.5 Parental influence

About 49.4% (78 out of 158) of the alcohol drinking respondents had parent(s) who consumed alcohol. Majority (91.1%) (144) of the drinkers were not influenced by their parents' drinking status. Out of the 8.9% (14) who were influenced by the drinking status of their parents, 7 of them had parent(s) who consumed alcoholic beverages. Out of these 7, 3 were influenced by increasing their intake only, 3 by decreasing their intake and 1 by increasing the intake and the type of drink he consumed. For the 7 respondents whose drinking was influenced by their parents not consuming alcohol, all of them were influenced by decreasing their intake.

4.2.6 Peer pressure

Out of the 158 respondents who consumed alcoholic beverages, 94.3% (149) had friends who drank alcoholic beverages. All respondents whose drinking was influenced by the drinking status of their friends had friends who drank alcoholic

beverages. About a quarter, 28.9% (43) were influenced, 31 by increasing their intake, 2 by decreasing their intake and 16 by the type of drink they consume.

4.2.7 Reasons for alcohol consumption

Some respondents consumed alcohol under different circumstances. Out of the responses of the 158 drinking respondents, 32.8% (89) drank alcoholic beverages because they were at social events, which included gathering of friends, funerals, weddings and other forms of ceremonies; 15.5% (42) to ward off stress, 20.3% (55) when taking meals, 26.6% (72) to relax and 4.8% (13) for other reasons. Other reasons included no particular reason, craving, doctor's advice (for hypertension and blood pressure), to sleep, to free bowels, happiness, when paid or gets money (Figure 7).

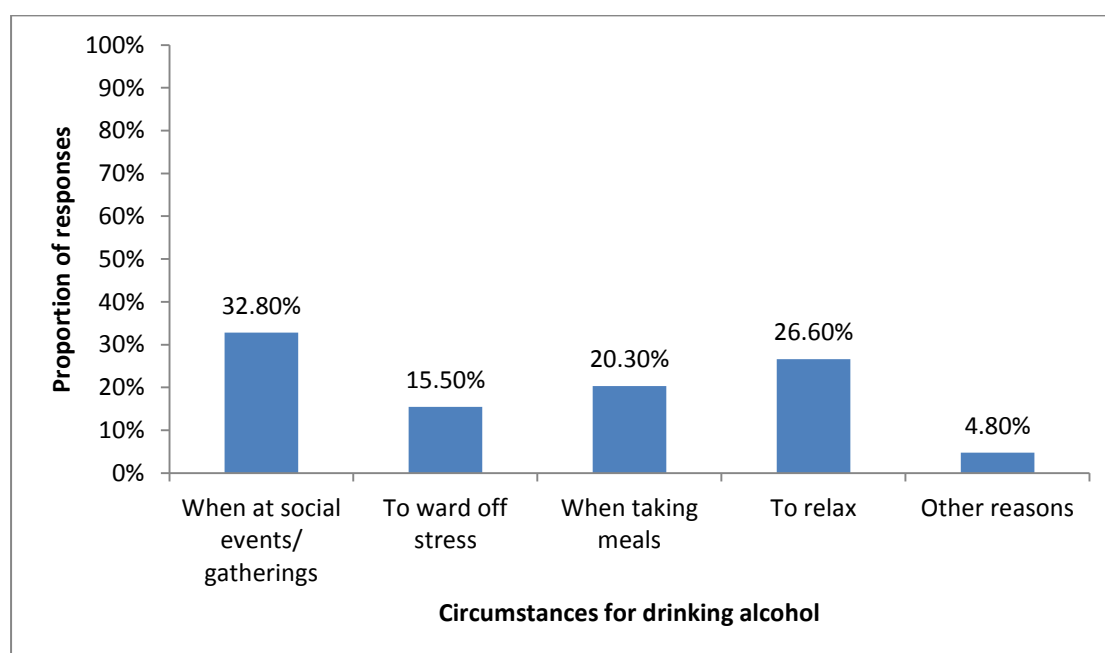


Figure 7: Circumstances for drinking alcohol (Multiple responses accepted)

The taste of the alcoholic beverage consumed was the most popular reason for choice of drink amongst all the responses (48.2%). Advertisements of alcoholic beverages

informed 19 (8.5% of the responses) of the drinking respondents of the choice of drink. The cost of the drink was the reason for 25 (11.2% of the responses) of the respondents' choice of drinks. The people they drank with; was the reason for 35 (15.6% of the responses) of the respondents' choice of drinks. Other reasons motivated 37 (16.5% of the responses) of the respondents' choice of drinks. Other reasons included: nothing, does not make him/her drunk easily, makes him drunk , alcohol content, no hangover, contents of drinks (herbal ingredients), popularity of drink, the weather, doctor's recommendation, brand of drink, will give him energy and information from family members (Figure 8).

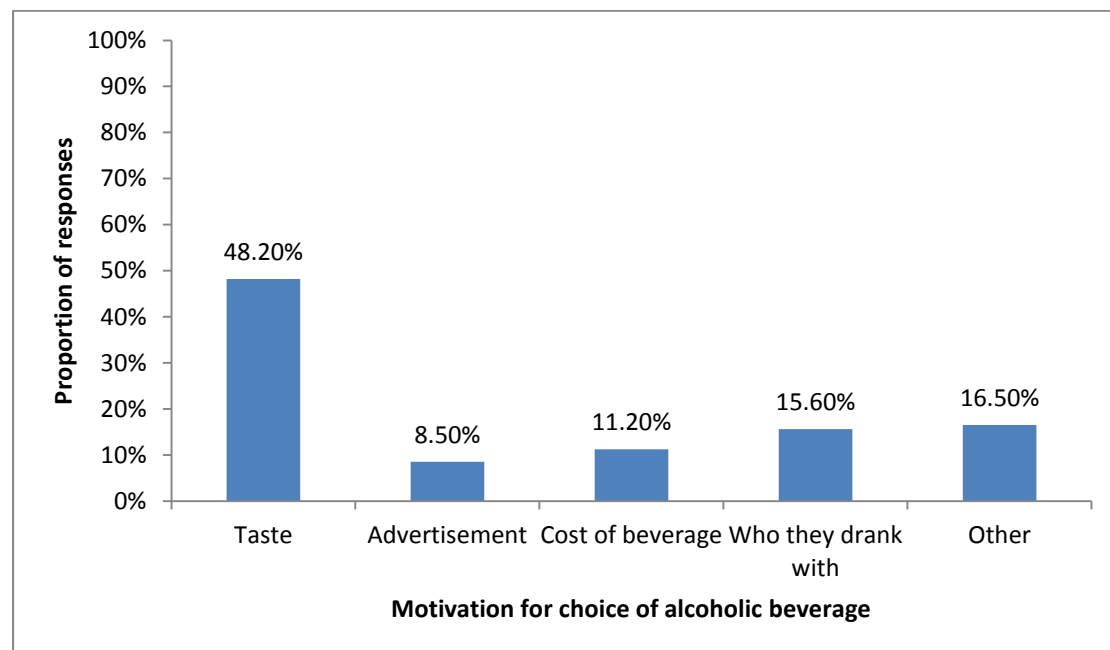


Figure 8: Motivation for choice of beverage (Multiple responses accepted)

Linear regression was carried out between the proportion of alcoholic beverage preferred and motivation for choice of beverage to determine which reason was significantly associated with alcoholic beverage preferred. At a significance level of

5%, there was a significant linear association between proportion of alcoholic beverage preferred and taste as determinant for choice of beverage ($R^2 = 98.8\%$) (Table 6).

Table 6: Linear regression between preference of alcoholic beverages and motivation for choice of beverage

Beverage	Proportion by preference	Taste	Advertisement	Cost	Who they drink with	Other
Beer	46%	48.2% (91)	41.5% (17)	41.8% (23)	41% (34)	42.1%(24)
Wine	20%	22.2% (42)	29.3% (12)	27.3% (15)	27.7% (23)	14% (8)
Spirit	27%	25.4% (48)	26.8% (11)	29.1% (16)	26.5% (22)	28.1% (16)
Other	7%	4.2% (8)	2.4% (1)	1.8% (1)	4.8% (4)	15.8% (9)
Statistical Summary		$R^2 = 98.8\%$	$R^2 = 84.6\%$	$R^2 = 88\%$	$R^2 = 88.9\%$	$R^2 = 85.2\%$

Numbers in parentheses indicate number of respondents.

CHAPTER FIVE

5.0 DISCUSSION

5.1 Level of alcohol consumption

The study involved 405 participants sampled from 1052 houses in the Kinkawe and Osu Doku electoral areas of Osu. A higher proportion of the male respondents (72.8%) were current drinkers as compared to the female respondents (27.2%). This is similar to the findings on worldwide data and Ghana by WHO (2014).

From the study, the non-drinking participants chose not to consume alcoholic beverages for six different reasons. However, the highest number of non-drinking respondents that answered the questionnaires did not have a reason for consuming alcohol (93). About a quarter of the non- drinking respondents (24.8%) did not take alcoholic beverages because of their knowledge on the effects of alcohol on health or lifestyle.

Beer was the most preferred (46%) of alcoholic beverages, followed by spirits (27%), wines (20%) and then other drinks (7%). This corresponds with similar findings by Frimpong-Mansoh, 2014 in Tema, Community One in the Greater-Accra Region where beer had the highest preference (51%) followed by spirits (24%) and wines (18%). Preference may be due to taste as there was a significant linear correlation between proportion of alcoholic beverage preferred and taste as a determinant for choice of beverage.

More of the current drinkers (29.1%) drank 1- 2 times a week as compared to the other categories for frequency of consuming alcoholic beverages. The other categories for frequency of consuming alcoholic beverage: daily, once a week, 2 – 3 times a

week and less than 1 time a month; had almost equal number of respondents. Thus it may reflect in the adult population of Osu that, there is no major frequency at which the adult residents of Osu consume alcohol. There may however be a stand out group of more adult residents that consume alcohol 1 – 2 times a week.

Majority (91.1%) of the respondent drinkers drinking was not influenced by their parents' drinking status. Hence the drinking status of parents of most adult residents may not have an influence on the drinking status of the adult residents (18 years and above).

The respondents whose drinking was influenced by the drinking status of their friends; all had friends who drank alcoholic beverages. Therefore, the possibility of an adult resident of Osu having his or her drinking influenced may increase if he or she has friends who drink alcoholic beverages.

Most (74.7%) of the drinking respondents watched, saw or listened to advertisements on alcohol on a daily basis. However; the same proportion (74.7%) of the drinkers claims they were not influenced by the adverts. Although a lesser proportion of drinkers were influenced by advertisements on alcohol, most of the persons influenced were influenced by increasing their intake of alcohol.

More than two thirds of the drinking respondents (68.7%) stated taste of the alcoholic beverage consumed, as the reason for choice of drink. Taste of alcoholic beverage was significantly associated with choice of alcoholic beverage. Respondents thus likely made their choice of alcoholic beverage consumed due to the taste of the drink.

5.2 Factors influencing alcohol consumption

5.2.1 Socio-demographic factors

Sex, employment status and income were the socio-demographic factors that were significantly associated with alcohol consumption among the respondents. There is hence enough statistical evidence not to reject the claim that sex, employment and income are factors which influence alcohol consumption among adult residents of Osu.

Being a female was protective (OR = 0.386, 95% CI 0.248 - 0.601). This means that there was a 61% greater odds of an adult resident of Osu who drinks alcohol to be a male rather than a female. This gives credence to global and country based finding by WHO (2014) that generally a greater proportion of drinkers are males rather than females.

Being unemployed was protective (OR = 0.604, 95% CI 0.366 - 0.995). This means that there is a 40% greater odds of an adult resident of Osu who drinks alcohol to be employed rather than a unemployed. This is consistent with information gathered from the GDHS by GSS, GHS and ICF Macro (2009) that more employed persons consume alcohol than unemployed persons.

5.2.2 Economic factors

The income of adult residents may be associated with their alcohol consumption. The income may have a confounded effect on the association between the socio-demographic factors (sex and employment status) as there is a considerable difference between the crude and adjusted odds ratios.

Almost two thirds (65.2%) of the drinking respondents obtained alcoholic drinks from social events, this finding may be similar for the adult Osu residents who consume

alcohol. The average amount of money spent in an outing by an adult resident (18 years and above) of Osu may be about GHC 34.20.

5.2.3 Environmental factors

The respondents who visited 3 or more drinking centres had the highest proportion (44.9%) of current drinkers. The highest proportion of drinking adult residents of Osu may be visiting 3 or more drinking centres as compared to visiting none, 1 and 2 drinking centres. Out of the 123 drinking respondents that visited drinking centres, 100 (81.3%) stated that the distance between their homes and the drinking centres would not affect their drinking.

5.3 Limitations

1. Some of the respondents were quite hesitant on providing information to fill the questionnaires therefore there is suspicion of provision of incorrect data by some of the respondents.
2. Study participants had to recall on how often they drink alcoholic beverages and how often they watch, see or listen to advertisements on alcohol hence subjecting the study to recall bias.
3. Data collection was mostly carried out on weekdays which would exclude most of the participants that work away from home thereby subjecting the study to selection bias.
4. The study was also subject to selection bias as the participants were selected from areas close to majority of the drinking centres.

CHAPTER SIX

6.0 CONCLUSION

The proportion of adult residents of Osu who drink alcoholic beverages is 39%, with 72.8% males and 27.2% females.

The socio- demographic factors that are significantly associated with alcohol consumption of the resident adults of Osu are sex, employment status and income.

Adult residents who buy alcoholic drinks spend within the range of GHC 11 – 30 more than other expenditure ranges.

The average amount of money spent in an outing by an adult resident of Osu is about GHC 34.20.

The highest proportion of drinking adult residents of Osu are visiting 3 or more drinking centres as compared to visiting none, 1 and 2 drinking centres.

The different types of alcoholic drinks that the residents of Osu consume can be categorized into: beer, wine, spirit and other drinks. The proportion of preference of the drinks was beer – 46%, wine – 20%, spirit – 27% and other – 7%. This is due to taste of the alcoholic beverage being the motivator for choice of beverage.

Majority of the adult residents of Osu consume alcoholic beverages when at social gatherings.

6.1 Recommendations

1. There should be a greater input of funds from the government, through the Ministry of Health into :
 - a. Routine data collection and analysis of alcohol consumption of many communities to be able to regularly assess the alcohol consumption levels

of different areas of Ghana and implement necessary control actions required.

- b. Education and advocacy of information to bring to the minds of individuals the health hazards of harmful alcohol use.

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Appendices

1. Consent form

Research topic: Factors influencing alcohol consumption among adult residents of Osu district, Greater-Accra Region.

Principal investigator: Larrymore McCarthy-Boham.

Address: School of Public Health, College of Health Sciences, University of Ghana, Legon. Tel: 0244104454. E-mail: larryboham@yahoo.co.uk

In the event of someone needing to call or withdraw from the study, the principal investigator may be contacted on the above number and address. If any respondent needs any further information the person can contact the

Ghana Health Service Ethical Review Committee Administrator:

Mrs Hannah Frimpong (+233507041223)

General information

The research stated above is being conducted among adult residents of Osu district. The study is to find out the factors influencing alcohol consumption among the adult residents.

The following shall be observed:

Confidentiality- the identity of the participants will not be made known. Any information from the respondents will not be linked to them.

Anonymity: No name will be written on the questionnaire, ensuring that the respondents' privacy is respected.

Benefits and risks: there is no risk associated with participation in the study. The district however would rather benefit from the study as findings would be disseminated to them and any public health interventions.

Respondents are at liberty to ask questions about the research they would be participating in and gain satisfactory explanation before joining the study at any point with no consequences to them.

This document describing the benefits, risks and procedures for the study has been duly explained to me. I, of my own volition agree to participate in the study.

.....

Signature/Thumb print of participant

.....

Date

I certify that the nature and purpose, potential benefits and possible risks of the study have been properly explained to the above individual.

.....

Signature/Thumb print of person

who is obtaining consent

.....

Date

2. Questionnaire on alcohol use

Dear respondent,

This is a research carried out on the factors influencing alcohol consumption in Osu District in the Greater Accra Region. I will therefore like to take a little time with you to answer these questions. You are assured that the answers you give will be strictly confidential and would not be held against you.

		Respondents ID	
	Demographic Information		
	Questions	Response (Please tick (√))	Remark
Q1	Sex	1. Male ☐ 2. Female ☐	
Q2	Age	In years []	
Q3	What is your highest level of education obtained?	1. No education ☐ 2. Primary ☐ 3. JHS/Middle ☐ 4. SHS/Vocational ☐ 5. Tertiary ☐	
Q4	What is your marital status?	1. Married or living together ☐ 2. Not married ☐	
Q5	What is your employment status?	1. Employed ☐ 2. Unemployed ☐ (skip to Q7)	

Q6	What is your current occupation?	1. Trader ☐ 2. Artisan/Labourer ☐ 3. Professional ☐ 4. Other (please specify) ☐	
Q7	What is your average income in a month? (GHC)	1. 0 – 299 ☐ 2. 300 – 599 ☐ 3. 600 – 899 ☐ 4. 900 – 1199 ☐ 5. 1200 + ☐	
Alcohol consumption			
Drinking Status			
Q8	Have you ever taken any alcoholic beverage before?	1. Yes ☐ 2. No ☐	If No to Q8, tick No for Q9 and discontinue after Q10
Q9	Do you currently drink alcoholic beverages?	1. Yes ☐ 2. No ☐	If No, discontinue after Q10
Q10	If no, is there any particular reason for not drinking alcoholic beverages?	1. No reason ☐ 2. Health conditions ☐ 3. Religion ☐ 4. Knowledge on alcohol (effects of alcohol on health, lifestyle etc.) ☐ 5. Other (please specify) ☐	
Q11	Which of the alcoholic beverages do you drink?	1. Beer ☐ 2. Wine ☐ 3. Spirit ☐ 4. Other(s) (please specify) ☐	Participant can tick more than one (1) option

Q12	How often do you drink alcoholic beverages?	1. Daily ☐ 2. Once a week ☐ 3. 2-3 times a week ☐ 4. 1-2 times a month ☐ 5. Less than 1 time a month ☐	
Financial influence/ Purchasing Power			
Q13	On average, how much do you spend on alcoholic drinks in an outing?	GHC -----	
Q14	Apart from purchasing, is there any other way you obtain alcoholic beverages?	1. Served at social events ☐ 2. Gifts/ Hampers ☐ 3. Paid for by other person (e.g. friends) ☐ 4. Other (please specify) ☐	
Parental influence			
Q15	Do/Did your parents/guardians drink alcohol?	1. Yes ☐ 2. No ☐	
Q16	Has this influenced your drinking?	1. Yes ☐ 2. No ☐	If No Skip to Q18
Q17	If yes, in what way?	1. Increased alcohol intake ☐ 2. Decreased alcohol intake ☐ 3. Influenced type of drink ☐ 4. Other (specify) ☐	Participant can tick more than one (1) option, but only one between option 1. and 2.

Peer pressure			
Q18	Do you have friend(s) who drink?	1. Yes ☐ 2. No ☐	
Q19	Has this influenced your drinking?	1. Yes ☐ 2. No ☐	If No, skip to Q21
Q20	If yes, in what way?	1. Increased alcohol intake ☐ 2. Decreased alcohol intake ☐ 3. Influenced type of drink ☐ 4. Other (specify) ☐	Participant can tick more than one (1) option, but only one between option 1. and 2.
Advertisement			
Q21	How often do you listen to, see or watch an advert on alcohol?	1. Everyday ☐ 2. Once a week ☐ 3. Twice in a week ☐ 4. Thrice or more in a week ☐ 5. Not at all ☐	
Q22	How did the advert affect your drinking life?	1. Increase my intake ☐ 2. Decrease my intake ☐ 3. No influence ☐	
Environmental information			
Q23	Number of regular drinking centres (bars, night clubs etc.) in Osu (the area) that you visit	1. None ☐ 2. 1 ☐ 3. 2 ☐ 4. 3+ ☐	

Q24	Does the distance from your home to a drinking spot/ sale point influence how often you drink?	1. Yes ☐ 2. No ☐	
<i>Reasons for alcohol consumption</i>			
Q25	Under what circumstances do you often take alcohol?	1. Social events (weddings, funerals, parties, gathering of friends etc.) ☐ 2. To ward off stress ☐ 3. When taking meals ☐ 4. Relaxation ☐ 5. Other (please specify) ☐	Participant can tick more than one (1) option
Q26	What informs/ motivates your choice of alcoholic beverages?	1. Taste ☐ 2. Advertisement ☐ 3. The Cost ☐ 4. Who I drink with ☐ 5. Other (please specify) ☐	Participant can tick more than one (1) option

3. Show cards

STANDARD DRINKS – BEER



STANDARD DRINKS – WINE



Champagne,
Cider

STANDARD DRINKS – SPIRITS



Brandy
Gin
Rum
Schnapps
Tequila
Vodka
Whiskey

4. Letter of ethical approval

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

*In case of reply the
number and date of this
Letter should be quoted.*

My Ref. :GHS-ERC: 3
Your Ref. No.



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6th August, 2015

M^cCarthy-Boham Larrymore
School of Public Health
University of Ghana
Legon, Accra

ETHICS APPROVAL - ID NO: GHS-ERC: 37/02/15

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol titled:

“Factors Influencing Alcohol Consumption among Adult Residents of Osu District, Greater Accra Region”

This approval requires that you inform the Ethics Review Committee (ERC) when the study begins and provide Mid-term reports of the study to the Ethics Review Committee (ERC) for continuous review. The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Please note that any modification without ERC approval is rendered invalid.

You are also required to report all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.

You are requested to submit a final report on the study to assure the ERC that the project was implemented as per approved protocol. You are also to inform the ERC and your sponsor before any publication of the research findings.

Please note that this approval is given for a period of 2 months, beginning August 6th 2015 to October 6th 2015.

However, you are required to request for renewal of your study if it lasts for more than 2 months.

Please always quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra