ALCOHOL ABUSE AMONG TERTIARY STUDENTS IN GABORONE

by

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MASTER OF PUBLIC HEALTH

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SUPERVISOR: Dr Thuledi Makua

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Student number: 4858-167-4

DECLARATION

I declare that **ALCOHOL ABUSE AMONG TERTIARY STUDENTS IN GABORONE** is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

MOITSHEPI GALEEMELWE (MR.)	**SIGNATURE**	**DATE**

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ABSTRACT

ALCOHOL ABUSE AMONG TERTIARY STUDENTS IN GABORONE

BACKGROUND: Harmful Drinking among students in tertiary institutions has become a major public health issue worldwide. Botswana is among the countries that are experiencing this problem. Abuse of alcohol amongst students is linked to road crushes, intentional and unintentional injuries, raping and an array of communicable diseases notably HIV/AIDS. Drinking among students could be a function of personal and environmental factors.

PURPOSE: The purpose of the study was to identify factors that are consistent with abuse of alcohol among students in tertiary institutions in Gaborone.

METHOD: This is a quantitative, non-experimental, cross sectional descriptive study. Data were collected from a sample of students in tertiary institutions. SPSS was used for the analysis of data.

RESULTS: The study has revealed hazardous drinking among students. The use ofalcohol was predicted on demographic, psychological and environmental factors of respondents. Influence from a close friend, year level of study and area of residence were correlates of drinking among students. Institution based educational interventions that focus on building leadership skills of students are critical in addressing issues of alcohol in tertiary institutions. Statutory measures are necessary to limit students' access to alcohol.

CONCLUSION:

The study has identified factors that are related to abuse of alcohol among students. The findings could be used to strengthen evidence based planning and implementation of interventions for tackling issues of alcohol in tertiary institutions. There is a need for future research on this area using qualitative approach.

Key Terms: Alcohol abuse, Alcohol consumption, Alcohol and university, Drinking pattern, Harmful drinking pattern, Public health, Students' perceptions of alcohol, Tertiary institutions, Tertiary students,

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My special recognition is also directed to all the four institutions; The University of Botswana, Botho University, ABM University and Tlokweng College of Education for permission to conduct the study in these institutions.

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DEDICATION

I dedicate this study to

My two sons, Baisi and Morena for their tolerance of my persistent late coming at home and extensive weekend commitments. Without their kindness of preparing dinner during the week I would not have achieved this mammoth project.

My supervisor and work colleagues for their motivational support throughout the MPH program. Dr John Chambo was always available to talk to during days of heightened frustration.

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ABBREVIATIONS USED IN THE STUDY

APC:	Adult per Capita Consumption
HBM:	Health Belief Model
HED:	Heavy Episodic Drinking
HIV/AIDS:	Human Immuno-Deficiency Syndrome
PDS:	Patterns of Drinking Scores
WHO:	World Health Organisation

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Alcohol is a colourless, volatile and flammable liquid that is produced by fermentation or distillation of carbohydrates. The type of alcohol referred to here is ethyl. Ethanol is the main psychoactive ingredient in alcohol beverages causing addiction (Freshwater &Maslim-Prothero 2005:22). Addiction is the loss of control over the mood-altering substance (Tierney *et al.* 2003:1052). Alcohol is rapidly absorbed in the small intestines before it is fully metabolised. Therefore, a small amount of alcohol in the blood is excreted unchanged in the urine, sweat and exhaled air (Buddy 2014:6).When taken internally in small quantities alcohol acts as the nervous system and cardiac stimulant (Freshwater & Maslim-Prothero 2005:22). On the contrary, when taken in large volumes alcohol immediately depresses brain functions and affects other parts of the body. It is stated that the blood alcohol concentration of less than 50 mg/dl would rarely cause any significant harm to the body. The severity of the harmful effects depends on the weight of the person (Tierney *et al* 2003:1052). If the person with the body weight of 70kg takes four beers the blood alcohol concentration will only raise by 25 mg/dl while for an individual with 50kg who consumed the same amount will experience a 35 mg/dl rise in blood alcohol concentration. Intoxication results from a blood alcohol level of more than 150 mg/dl. The blood alcohol concentration of 350 to 900 mg/dl represents lethal level (Tierney *et al* 2003:1052).The safe drinking levels of alcohol beverages is one drink for women and two for men daily (Buddy 2014:1).

The use of alcohol was previously confined to adult people population. Currently, drinking is rife across all age groups. Lately, harmful drinking has been observed among youth world-wide. Disturbingly, the use of alcohol is high among youth especially those in institutions of high learning category. Explosive use of alcohol among youth could be attributed to its wider availability. Botswana is one the countries experiencing harmful use of alcohol among students in tertiary institutions. To this end, this study was exploring the abuse alcohol among students in tertiary institutions located in Gaborone.

Alcohol abuse will be used interchangeably with harmful drinking, hazardous and problem drinking through the document.

1.2 BACKGROUND

This section will cover global and regional patterns of alcohol consumption. Alcohol related public health issues will be discussed in detail. The use of alcohol among students in tertiary institutions will also be explored with special reference to Botswana.

1.2.1 Alcohol consumption by World Health Organisation Regions

Worldwide, the average adult per capita consumption (APC) of alcohol is 6.13 litres of pure alcohol per person aged 15 years and above (WHO 2011:2). It is observed from table 1.1 that the highest consumption levels have been recorded in the developed world in the northern hemisphere. Other countries with high consumption levels include: New Zealand, Australia and Argentina (WHO 2011:2). Medium consumption levels were established in Southern Africa with Namibia and South Africa showing the highest levels. North Africa, Sub-Saharan Africa, East Mediterranean, South East Asia and the Indian Ocean have the lowest consumption APCs. This region is dominated by Muslim religionwhere alcohol consumption is considered to be sinful and criminal (WHO 2011: 5).Countries with low APC have the highest proportion of alcohol consumed being homemade (WHO 2011:4). It is clear from table 1.2 that regions with low total APC such as Africa, East Mediterranean, and South East Asia have the highest proportions of unrecorded APC. Possibly, recorded alcohol in these countries is not affordable.

Table1.1: Proportion of unrecorded APC to total APC, in litres of pure alcohol.

WHO Region	Total APC	Unrecorded APC	% Unrecorded APC
Africa	16.15	1.93	31.4
America	8.67	2.01	23.1
East Mediterranean	0.65	0.36	56.2
Europe	2.18	2.67	21.9
SEA	2.20	1.52	69.0
WPR	6.23	1.63	26.2
World	6.13	1.76	28.7

Source: WHO (2004:5)

1.2.2 Alcohol consumption patterns

Adult per capita consumption is an important measure of how much alcohol is taken. However, it is critical to go beyond the amount consumed to also state how often alcohol is used. Patterns of drinking give an indication of how alcohol is used and can be used to gauge the contribution of alcohol use to disease burden. The WHO (2011:17:16) has identified three patterns of drinking: abstention, pattern of drinking scores and heavy episodic drinking. Abstention can either be lifetime, past year or former drinking patterns. Lifetime abstainers are those people 15 years and above who have never consumed alcohol. Former and past year abstainers display intermittent pattern of drinking. Patterns of drinking scores (PDS) reflect how people drink. PDS is a strong predictor of disease burden because it encompasses an array of drinking attributes including**;**>:the amount of alcohol consumed, festive drinking, proportion of drinking events when drinkers get drunk and proportion of drinkers who drink daily. Heavy episodic drinking is defined as drinking at least 60 grams or more of pure alcohol on at least one session in past seven days (WHO 2004:17).The global prevalence of heavy episodic drinking (HED) is estimated at 11.5% (WHO 2011:17). There exist intercountrydifferences with respect to HED. HED is high in countries with middle to high APC such as South Africa and Brazil. Similarly, there are regional variations in HED. Table 1.2 shows that Africa and East Mediterranean regions have high levels of HED. It is observed that countries with low APC including; Malawi, Pakistan and Zambia

do have a high proportion of individuals drinking heavily in a single session (Clausen *et al* 2013:53).

Table 1.2: Prevalence of heavy episodic drinking in the past 12 months by sex

Region	Women	Men	Total
Africa	16.2	30.5	25.1
Americas	4.5	17.5	12.0
E. Med	17.9	24.9	24.7
Europe	4.6	16.8	11.0
SEA	12.9	23.0	21.7
WPR	1.3	11.6	8.0
World	**4.2**	**16.1**	**11.6**

Source: WHO (2011:17)

1.2.3 Alcohol consumption among students

Harmful use of alcohol is on the rise among students. This increase could be associated with extensive advertisement of recorded alcohol. For example, the use of carbonated alcoholic drinks popularly known as alcohols is linked to the increase and rapid useof alcohol among this group (Kraus *et al* 2010:15-20). Table 1.3 shows regional data on alcohol consumption among students. There seem to be no significant gender differences in alcohol consumption among students except in Zambia where the proportion of female students who consume alcohol is quite high (45.1%) compared to their male counterparts (38.7%).This observation could be extraordinary, but has been replicated by other studies especially those on cigarette smoking.

Table 1.3: Percentage of students who drank alcohol in the past 30 days

Country	Men (%)	Women (%)
Benin	18.2	12.5
Botswana	22.8	18.7
Ghana	26.4	29.3

Kenya	16.8	12.3
Malawi	5.3	2.5
Mauritius	19.3	16.8
Namibia	35.0	30.9
Senegal	4.0	2.0
Seychelles	62.1	61.2
Swaziland	19.6	14.3
Uganda	14.1	11.6
Zambia	38.7	45.1

Source: WHO (2011:11)

1.2.4 Alcohol abuse and Public Health Issues

The major indications of alcohol abuse are poisoning and physical dependence. Critical signs of intoxication with alcohol consist of ataxia, nausea and vomiting. Consumption of alcohol to this extent causes serious health problems such respiratory conditions, depression, stupor, seizures, shock syndrome, coma and death. Chronic harmful use of alcohol could exacerbate conditions such as liver cirrhosis and cardiovascular diseases. Chronic alcohol brain syndrome is another condition that is common among people with habitual abuse of alcohol. Chronic alcohol brain syndrome is characterised by erratic behaviour, memory and recall problems (Tierney *et al* 2003:22). Alcoholism and withdrawal syndrome are major conditions emanating from chronic harmful use of alcohol. Alcoholism syndrome is the outcome of repetitive overuse of alcohol to alleviate anxiety and solve problems. Alcohol withdrawal syndrome is the condition occurring when alcohol is withdrawn after someone has been drinking for a longer period. This condition presents by tremor of hands, tongue, eyelids, nausea and vomiting, anxiety and depression (Tierney *et al* 2003: 22).

Worldwide, alcohol claims about 2.5 million deaths annually.Therefore, it accounts for 4% of all deaths. About 9% of deaths among young people between the age of 15 and 29 are causally linked to harmful use of alcohol (WHO 2011b:20). The extent of

mortality attributable to harmful use of alcohol far exceeds those linked to HIV/AIDS or Tuberculosis. It is a major cause of lack of adherence to anti-retroviral therapy (Super *et al* 2010:156). Further, harmful use of alcohol is the third highest risk factor for diseases and disability after child underweight and unsafe sex. Alcohol use is the leading risk factor in males aged 15 to 59 years. Alcohol is also linked to 60 major types of diseases and injuries. Twenty to fifty percent of cases of liver cirrhosis, epilepsy, poisoning, traffic accidents, violence and cancers are attributed to problem drinking. Available evidence suggests that alcohol is a necessary cause of most diseases as it appears in more than 30 International Classification of Diseases. Alcohol consumption has also been identified as one of the component causes of 200 International Classfication-10 disease code (WHO 2011:22).Intentional and unintentional injuries account for 42% are deaths which are attributed by alcohol. The overall burden of disease and injury attributable to alcohol using disability-adjusted years of life indicator is estimated at 4.5%; 7.4% for men and 1.4% for women. Disability-adjusted life years are years of life lost due to premature mortality combined with years of life lost due to time lived in less than full health to create a single indicator that assesses the overall burden of disease for a given population (WHO 2004:4).

1.2.5 Alcohol Abuse in Botswana

The World Health Organisation (2011:2) estimates that one fifth of Botswana's population consumes alcohol beverages. The average amount consumed daily per person is estimated at 4.2 litres with extremes of 9.3 litres. Within the category of those who are drinking about 54% are binge drinkers. Binge drinking is when a person consumes more than five drinks a day. It follows that the use of alcohol in Botswana begins in late adolescence (WHO 2011:2).The majority of people who are at late adolescence are enrolled in tertiary institutions with a handful of them in the employment sector. WHO (2011:9) states that 24.3% of secondary school students drink beer and, 74% of them starts before the age of 18 years. This finding is corroborated by the WHO (2004:14) which has revealed that 20% of the students 13 to 15 years were drinking beer. It is also observed that students start using alcohol before the age of 13 years (Republic of Botswana 2010:7).

1.2.6 Public Health Issues related to alcohol abuse in Botswana

Harmful use of alcohol is a major cause of public health and social problems in Botswana. Alcohol abuse accounts for the majority of road accidents resulting in fatalities. Table 1.4 shows the occurrence of road accidents and injuries in Botswana. Thenumber of accidents is increasing annually. Botswana Police (2012:1) observed that most of the accidents are caused by youth. Further, most of the road crashes occur in Gaborone. Unfortunately, the data on road accidents are not disaggregated on the basis of age and sex.

Table1.4: Number of accidents and injuries in Botswana 2007-2012.

Year	No, of road accidents	No, of injuries
2012	518	185
2011	429	201
2010	492	210
2009	422	280
2008	278	173
2007	293	216

Source: Botswana Police (2012:1)

Botswana Police compiles data on alcohol related road traffic offences. Table1.5 shows the number of alcohol related offences. It is clear from this table that incidences of high speed and drunken driving are increasing on yearly basis. Once more, the data on road traffic incidences was not captured to reflect the age distribution of traffic offenders. However, Botswana Police (2012:2) suggests that most of these traffic offenses are committed by youth in Gaborone.

Table 1.5: Numbers of alcohol related traffic offences in Botswana

Year	High speed	Careless Driving	Drunken Driving
2012	48, 751	9, 876	2, 741

2011	47, 735	10, 202	2, 740
2010	43, 901	10, 312	2, 464

Source: Botswana Police (2012)

Botswana Police conducts random testing for blood alcohol concentration among drivers who are suspected to be drunk. Figure 1.1 shows a fluctuating trend in the number of drivers with blood alcohol concentration above the limit. It is much likely that this trend is a gross underrepresentation of the true picture because most of the people in the process of heavy episodic drinking would leave the beer outlets driving. Furthermore, Botswana Police has limited capacity to conduct random checks. The drivers would sendsms to each other informing of where the police is mounting a road block. Thus, most drivers who are drunk would manage to avoid the police Botswana Police (2012:2).

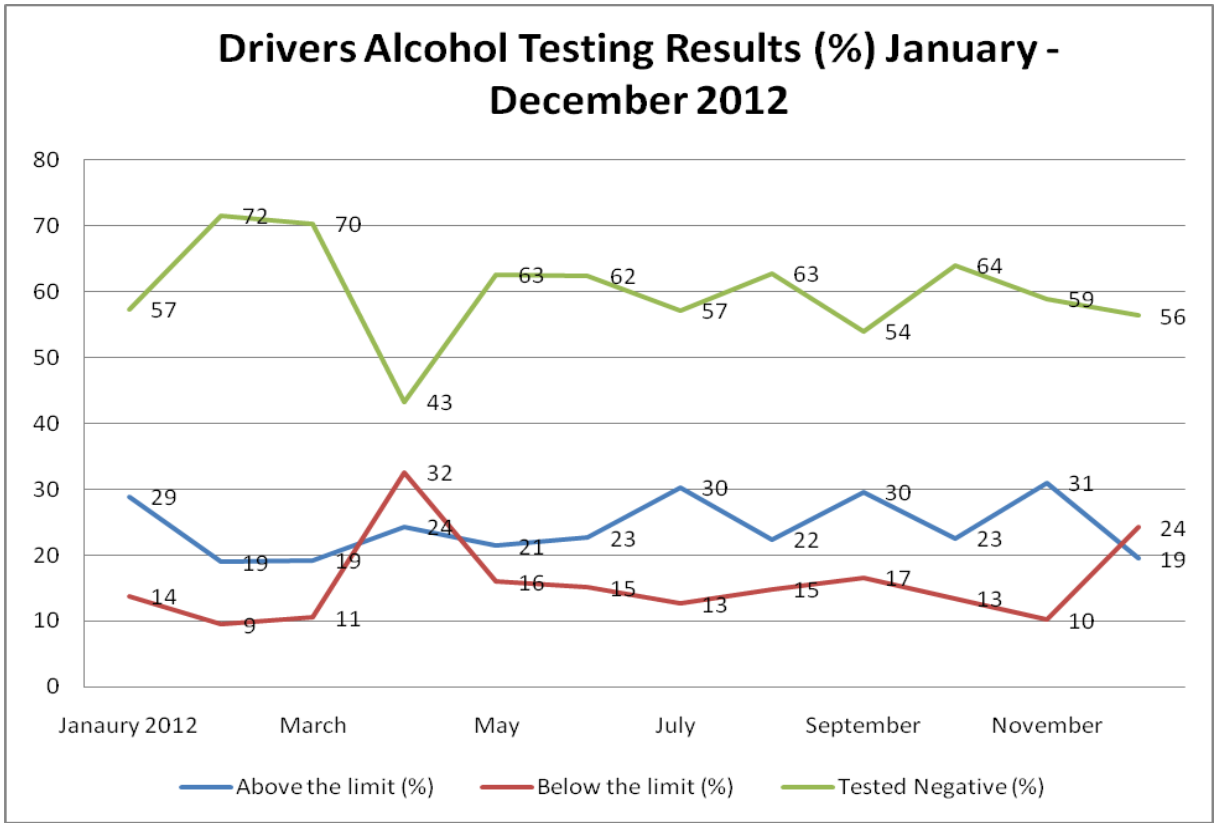

Figure 1.1 Alcohol testing results

Source: Botswana Police (2012:2)

Problem of drinking is a major cause of social evils such as rape and grievous bodily harm. Botswana Police (2012:2) states that incidents of rape and grievous injuries are common in the City of Gaborone especially at the end of the month. These types of crimes occur at beer selling points such as bars, night clubs and at ungazzeted beer outlets. Table 1.6 shows the number of cases of rape and grievous bodily harm in Botswana. Both cases of rape and grievously bodily harm are increasing.

Table 1.6: Number of rape and grievous harm cases in Botswana 2008-2012

Year	Rape cases	Grievous bodily harm
2012	2, 073	267
2011	1, 800	259
2010	1, 865	295
2009	1, 754	281
2008	1, 875	223

Botswana Police (2012:2)

The health facilities in Botswana also keep records on incidents of reported cases of assaults and injuries as a result of hazardous drinking. Figure1.2 shows that most cases are reported by people in the age bracket of 25 to 29 years followed by 20 to 24 and 30 to 34 years. The majority of these victims are in tertiary institutions and employment sector.

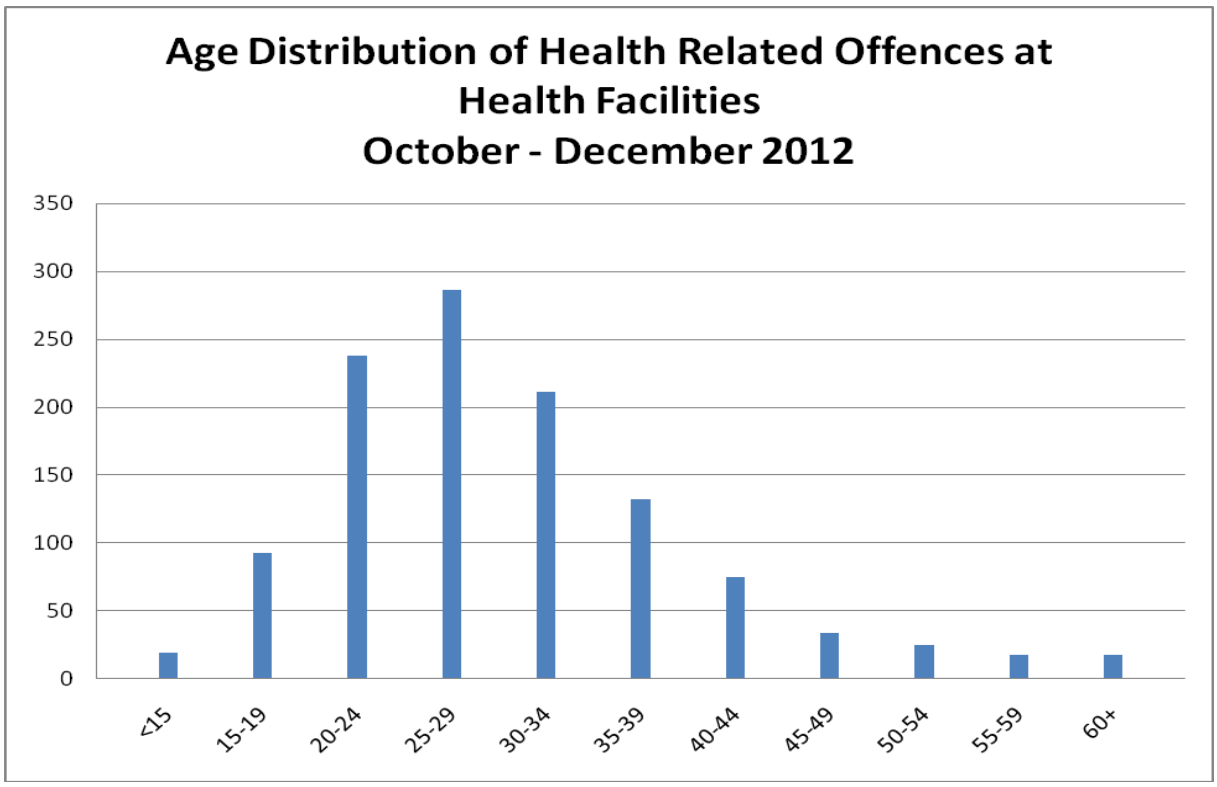

Figure 1.2 Health related offences at health facilities

Source: Republic of Botswana (2012:16)

The Ministry of Health also analyses data on the type of alcohol related incidents that are reported at health facilities. Figure1.3 shows that 80% of reported alcohol related incidents are cases of assaults.

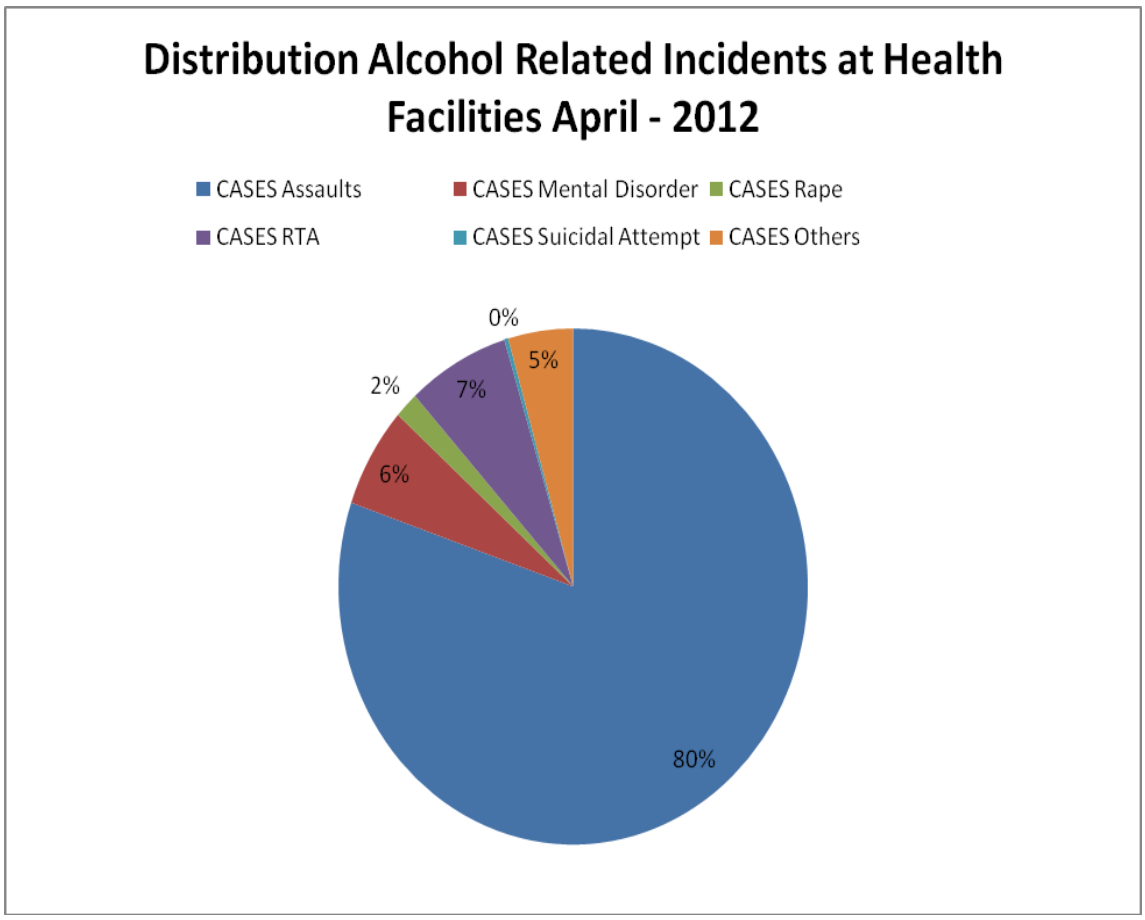

Figure 1.3 alcohol related incidences

Source: Republic of Botswana (2012:16)

There exists association between alcohol and the prevalence of HIV/AIDS in Botswana. The National AIDS Coordinating Agency (2005:889) states that people who are abusing alcohol are 6.8 times more likely to contract HIV.Thisrisk is even higher among the youth. Mmegi Daily Newspaper of 17th May 2013, reports that the risk of HIV/AIDS infection is high among tertiary students in Botswana. This Newspaper further states that 45% of the students interviewed in the study had engaged in unprotected sexual intercourse. Abuse is also associated with mental disorders including alcohol psychosis and dependence syndrome (Ministry of Health 2012:21). Alcohol was reported as the most common substance of abuse amongst TB patients (World Health Organisation 2004:889). The Ministry of Health (2012:21) observes an association between alcohol and marital status. Divorcee status tends to exacerbate abuse of alcohol. For example it is stated that that 57% and 40% of males and females respondents respectively who

were either divorced or separated abused alcohol in Botswana. Lastly, the World Health Organisation (2004:889) report that 20.5% of income for the urban population in Botswana is spent on beer.

1.2.7 Lifestyles of tertiary students in Gaborone

Gaborone is the largest city in Botswana with a population of 233,135 (Central Statistics 2011:12). It is a fast growing city with the annual population growth rate of 2.03 % compared to the national rate of 1.9% (Republic of Botswana 2011:12). Being the capital city, Gaborone is also home to 12% of Botswana's national population. The city has a youthful population with 71% of the population in the age bracket of 15 to 45 years (Republic of Botswana 2011:12). The high population of youth in the city could partly be attributed to the large number of learning institutions. Nine (9) out of twenty registered public tertiary institutions are located in Gaborone. Additionally, the city has campuses for all 13 registered private tertiary institutions (Tertiary Education Council 2010:9). Most of the tertiary institutions with lodging facilities are found in Gaborone. Therefore, this city harbours the majority of students who are not staying with their parents.Students who are staying off campus are given a living allowance of BWP 1,420. These students stay in large groups in one residence to cut down expenditures on rent and food thus saving substantial amount for entertainment including beer. Further, students who are not staying with their parents have the tendency to engage in relationships with elderly people who would date them for alcoholic drinks.

Tertiary institutions with beer outlets are mostly found in Gaborone. For example, the University of Botswana and College of Agriculture have beer outlets. Worth noting is that drinking is not prohibited in tertiary institutions without beer outlets. For the tertiary institutions with beer outlets alcohol is sold indiscriminately to all students and they are allowed to drink it anywhere in the campus including their rooms. The beginning and end of each semester is always marked by binge drinking which results in various atrocities being committed in the campuses. Issues of alcohol abuse have led to the closure of the bar at University of Botswana in 2012. The closure of the bar has become a stormy issue between the Students Representative Association and the university

authorities. The students felt that the closure of the bar was a gross violation of their human rights to socialise(Tertiary Education Council 2010:9).

1.2.8 Interventions for Alcohol Abuse in Botswana

Botswana is experiencing high-level political commitment in the control of alcohol use. The President is at the forefront for most interventions. His office is monitoring the implementation and impact of these interventions through quarterly reports from different sectors. The national interventions on alcohol abuse consist of educational and legislative components.

1.2.8.1 Legislative interventions

The legislative interventions are guided by two statutroy instruments namely; the Trade Act and Liquor Act of 2008. The Alcohol levy on beer was introduced in 2008 with a 30% tax on alcohol bevearges. The levy is reviewed and increased annually. The alcohol levy of this extent sparked a heated debate between the government and alcoholindustry. The Alcohol Fund Order was constituted to provide guidance on utilisation of funds from alcohol levy. The bulk of the fund (60%) is allocated to the Ministry of Youth Sports and Culture (The Government of Botswana 2012:11). The operating time for beer outltes has been reduced to limit access to beer. Penalties for traffic offences related to alcohol consumption have been hiked to stiffer levels.

1.2.8.2 Educational interventions

The National Alcohol Policy was formulated in 2010 with the goal of reducing morbidity, mortality and negative socio-ecomic consequences associated with alcohol (The Government of Botswana 2010:4). The Division of Alcohol and Substance Abuse was formed in the Ministry of Health in 2009. This division is to initiate and coordinate the implementation of educational campaings on alcohol use. The division has engaged community volunters to educate the public about alcohol. The Ministry of Health is also implementing a special campaign on alcohol secondary schools. The campaign is using

educatainment approach. There are no interventions that are targeted at students in tertiary institutions. However, all tertiary instutions in Gaborone occassionally conduct awareness sessions on the consequences of harmful use of alcohol. The Tertiary Education Council, now the Human Resources Development Council, has a fully fledged programme of HIV and AIDs which, to some extent, could address alcohol abuse as an underlying cause of high HIV incidence. It is surprising that this Council has not designed interventions to address abuse among students. The Council should initiate such a program because alcohol use could be causally linked to health and social problems encountered by students in tertiary institutions (Tertiary Education Council 2010:9).

1.3 STATEMENT OF THE PROBLEM

The extent of alcohol abuse in tertiary institutions in Botswana is alarming. This issue is common in Gaborone because this city houses the majority of tertiaryinstitutions. Authorities in all registered tertiary institutions in Gaborone are disturbed by the drinking problem among students. The University of Botswana has closed the residential bar as a result of appalling issues associated with alcohol abuse. Available data show that alcohol use is intiated before students enroll in tertiary institutions. National studies reveal that more than 74% of the students start using alcohol at secondary schools before the age of 18 years. Mmegi Newspaper (2013:4). Alcohol is the underlying cause of public health and social issues among tertiary students. The data dispalyed in previous sections indicate that road accidents, rapes and injuries attributed to alcohol abuse are common among the youth. Other studies link high HIV incidence among students in tertiary instituions to harmful use of alcohol (Mmegi News Paper 2013:4). Abuse among tertiary students could be a function a complex interplay of behavioural, social, cultural and environmental factors.

1.4 RATIONALE FOR THE STUDY

The facts stated above suggest that harmful use of alcohol by students in tertiary institutions in Botswana is almost reaching crisis levels. Therefore, there is a need for a speedy intervention to avert disastrous consequences caused by this public health

issue. Previous national studies on this subject matter were confined to determining its magnitude. Conversely, solutions to abuse could be attained through evidence based approaches of why this issue persists and determining effective interventions. Presently, there are institution specific interventions and programmes on alcohol that are informed by research. This study was conducted to identify the factors that are consistent with alcohol abuse in tertiary institutions. The findings of this study will be used to improve the design anmd implementationof specific interventionsat tertiary institutions.

1.5 PURPOSE OF THE STUDY

The purpose of the study is to identify factors that are associated with alcohol abuse among students in tertiary institutions in Gaborone.

1.6 RESEARCH OBJECTIVES

The objectives of the study, *inter alia*, are to:

- Assess the students' perceived causes of alcohol abuse in tertiary institutions.
- Determine the drinking patterns of students in tertiary in institutions.
- Evaluate the knowledge of students on consequesnces of alcohol abuse.
- Make recommendations for the implementation of evidence based interventions for alcohol use at tertiary institutions.

1.7 RESEARCH SETTING

The study will be conducted in a sample of tertairy educational institutions in Gaborone. The data will be collected from the students.

1.8 SIGNIFICANCE OF THE STUDY

This study is typically applied research. Applied research focuses on finding a solution to the existing problems (Polit & Beck, 2008:19). Previous studies in Botswana were aimed at determining the extent of alcohol use among youth. These studies have not helped much in addressing the use of alcohl among students. The current study is likely

to make headway because it will identify the correlates of this public health issue. This will enhance evidence based practice because the programing of interventions for alcohol abuse would consider these associated factors. Moreover, the researcher will have developed confidence to conduct other studies. The researcher is also likely to inspire work colleagues to do research. Tertiary institutions in Gaborone might use the findings to design and implement institution specific strategies and interventions on alcohol. Similarly, the Division of Alcohol and Substance Abuse in the MInistry of Health could use these findings to improve national alcohol prevention packages for schools and tertiary institutions.

1.9 DEFINITION OF TERMS

Definition of terms in the study relates to the definition of conceptual and operational terms. Conceptual definition is about clarifying abstract or theoretical meaning of the concepts commonly used about the phenomenon that is being investigated. On the one hand, operational definition specifies the operations that the researcher must perform to collect and measure the required information (Polit & Beck 2008:59). Operational definition also provides a clear understanding of the variables to be measured by the researcher in terms dependent and independent factors.

1.9.1 Conceptual definitions

Alcohol

Alcohol is a colourless, volatile and flammable liquid that is that contains ethanol. It is produced through fermentation or distillation of carbohydrates by yeast (mainly beers). It is used medicinally as an antisptic or estringent. When taken internally in small quantities alcohol acts as the nervours system and cardiac stimulant (Freshwater &Maslim-Prothero 2005:22).

Unrecorded Alcohol: Unrecorded alcohol refers to alcohol that is not taxed and is outside the usual government control because it is produced, distributed and sold using other channels (WHO 2011:5).

Adult per capita consumption of alcohol: Alcohol consumption is measured using adult per capita alcohol consumption in litres of pure alcohol. It is the amount of pure alcohol consumed in litres by adults in a given population (Tierney *et al* 2003:1052).

Patterns of drinking scores: Patterns of drinking scores (PDS) reflect how people drink. PDS is a strong predictor of disease burden because it encompasses an array of drinking attributes including: the amount of alcohol consumed, festive drinking, proportion of drinking events when drinkers get drunk and proportion of drinkers who drink daily. Patterns of drinking give an indication of how alcohol is used and can be used to gauge the contribution of alcohol use todisease burden. WHO (2004:17:16) has identified three patterns of drinking; absentension, pattern of drinking scores and heavy episodic drinking.

Abstension: Abstension can either be lifetime, past year or former drinking patterns. Lifetime abstainers are those people 15 years and above who have never consumed alcohol. Former and past year abstainers display intermittant pattern of drinking.

Heavy episodic drinking: Heavy episodic drinking is defined as drinking at least 60 grams or more of pure alcohol on at least one session in the past seven days (WHO 2004:17).

Harmful use of alcohol: A pattern of psychoactive substance use that is causing damage to health physically and mentally (Ministry of Trade and Industry 2010:23).

Hazardous drinking: The level of consumption or pattern of drinking that is likely to result in harm should the present drinking habits persist (Ministry of Trade and Industry 2010: 23).

Alcohol abuse: Abuse can also be defined relative to the blood aocohol concentration. It is stated that the blood alcohol concentration of less than 50 mg/dl would rarely cause any significant harm to the body (Tierney *et al*. 2003:1052).

Alcoholism: Alcoholism is a chronic disaese characterised by the tendency to drink more than was intended, unsuccessful attempts to stop drinking, and continued drink despite adverse social and occupational consequences (Tierney *et al*. 2003:1052).

Alcohol withdrawal sydrome: The condition that occurs when an alcoholic person stops drinking suddenly. It is characterised byby tremors, sweating, weakness and nausea (Tierney *et al* 2003:1058).

Delirium tremens: A condition resulting from untreated alcohol withdrawal syndrome characterised by confusion, sleeplessness, excessive sweating, nightmares and deep depression (Tierney *et al*. 2003:1056).

1.9.2 Operational definitions

Dependent variable: Dependent variable is also known as outcome variable and it is usually in the form of behaviours and characteristics that are being studied (Polit & Beck 2008:77). Evidence of alcohol use constituted the dependent variable in this study. The consumption of alcohol was measured using the number of bottled beer, wines and spirists, and number of glasses of whisky. The frequency of alcohol consumption was categorised into daily, weekly and monthly evidence. The other component of the dependent variables was related to students' perceptions about alcohol use. The students' perceptions were measured using the ranked scale of agree to disagree on the Likert Scale.

Independent varables: Independent variables are factors that are considered as presumed causes of, antecedents to or influence on the dependent variable (Polit & Beck 2008:77). They are usually in the form of demographic, personal and context factors. Therefore, alcohol use and perceptions were assesed in relation to these factors. The ages of respondents were captured in years while gender was dichotomised to male and female. Education status was determined using year level of study. The monthly income of the respondents was presented in local currency (Pula). The use of alcohol was also related to the ethnicity and religion of participants.

1.10 RESEARCH DESIGN AND METHODOLOGY

The methodology describes the overall approachused in a study. It provides the theoretical and philosophical underpinnings of the study. Depending on the research question the methodology could embody different number of study designs (Sim& Wright 2000:8). The theoretical foundations for the current study were based on the

positivist research perspective. The research design and methodology for this study will be discussed in greater depth in Chapter 3.

1.10.1 Reserach design

Joubert andEnrlich (2007:77) define the study design as the structured approach followed by the researchers to provide answers to a particular research question. It is a framework into which specific methods are fitted.The study will use epidemiological designs. Epidemiological designs are categorised into observational and experimental exponents. The observationaldesign was used in the current study to assess the issues of alcohol abuse in tertiary intitutions.

1.10.2 Methods

Methods are specific techniques employed in the execution of a piece of research (Sim& Wright 2000:8). It focuses on the processes, tools and procedures to be used in a study in order answer a research question (Babbie& Mouton 2009:75). This study followed the quantitative approach.

1.11 SCOPE OF THE STUDY

This study was of limited scope because it was confined to one geographical area. The limitations to the study relate mainly to the methods. Firstly, the study was designed at a lower level of evidence (single correlational/observational study). Therefore, it was not rigorous enough to identify the causes of alcohol abuse among students in tertiary institutions. Secondly, although the selection of instutions was done using the probability procedures, the results cannot be generalised to tetiary institutions outside Gaborone. As the capital city, the institutions in Gaborione are unique from those in other towns and villages. Lastly, the reliability and validity of the data colection tool is questionable despite it having been pilot-tested. Validity is the degree to which an instrument measures what is supposed to measure. Reliability is consistency with which the tool measures the target attribute (Polit & Beck 2008:452-457).

1.12 ETHICAL CONSIDERATIONS

Ethical consideration is concerned with the ethics and legal implications of certain biological and medical procedures, study methodologies, technologies and treatments. It encompasses implications and impact of health research on human or animal health or environment (Joubert & Ehrlich 2007:31). The current study was not experimental research that would involve administration of treatment to participants. Thererfore, ethical considerations were confined to the principles of autonomy, justice, benovelence and non-malficence.Autonomy is the respect and protection of subjects. The justice principle requires that research participants be treated alike or equally. Benovelence and non-malficence is a research practice that maximises benefits and minimises harm (Babbie& Mouton 2009:522).

1.13 STRUCTURE OF THE DISSERTATION

This document follows the conventionallodgical flow of a dissertation as ascribed by the UNISA (2014:82-87). Chapter 1 entails backgroud to the study focusing on the global and regional issues of alcohol. The statement of the problem, objectives, scope and significance of study also form part of Chapter 1. Chapter 2 covers the literature review. The review was largely aligned to the purpose of the study to indentify factors that are associated with alcohol abuse among students. Chapter 3 covers the resaerch methods and design. The study used the positivist paradigm. Chapter 4 covers the presentation of the results. Chapter 5 covers the discussion and recommendations of the study.

1.14 CONCLUSION

Alcohol abuse is a major public health issue world wide. It is the underlying cause of epidemics of communicable and non-communicable diseases. Abuse is increasing among adolescents and young adults. Botswana is one of the countries that is experiencing abuse of alcohol among students in tertiary institutions. Incidents of alcohol abuse among students are mainly reported by tertiary institutions in Gaborone. The majority of tertiary institutions in Botswana is located in Gaborone. Harmful use of

alcohol among tertiary institutionsis a worrisome factor because it is contributing to the disease burden of the country. Students and other categories of youth groups are involved in car crashes, rape incidents, intentional and unintentional injuries.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Joubert& Ehrlich (2007:66) define literature review as the process of taking stock of the existing knowledge in order to make informed choice about policy, practice, research direction and resource allocation. The literature review has evolved from the traditional and subjective approach to a more elaborate and empirical process of systematic review. The researcher has used the systematic review in this study. The importance of a well-structured systematic review cannot be overemphasized. A thorough review helps the researcher to justify the need for research. This is essential to avoid duplication and spur the limited resources for priority research areas. Furthermore, UNISA (2014:53) states that in-depth review enables the researcher to develop and refine a research problem related to the topic, identify the theoretical framework, research design and methods. This critical appraisal of previous studiesis usefulin identifying suitable designs and methods for the planned study.Since this study was typically, applied research the literature search focused on the problem of alcohol use in tertiary institutions. Accordingly, Polit & Beck (2008:14) state that applied research focuses on finding solutions to existing problem. Therefore the review was structured to reflect issues of abuse, factors attributable to use and abuse of alcohol in tertiary institutions and effective interventions. The review of related literature for this study covered global and regional studies conducted amongst tertiary students in relation to harmful use of alcohol. Textbooks and peer-reviewed journals were main sources of the review.

2.2 ISSUES ASSOCIATED WITH ABUSE OF ALCOHOL

As noted in the previous section,alcohol abuse among students results in serious public health and social issues. Hingson*et et al.* (2005:3) collated data on issues that were related to harmful use of alcohol among college students 18 to 24 years in Boston University School of Public Health. It was found out that alcohol related unintentional injuries increased significantly by 6% from 1600 in 1998 to 1700 in 2001. More than 600, 000 students were assualted by other drinking students. This finding corroborates

that of Perkins (2002:91-100a). In addition, Perkins (2002:91-100a) observed that drinking by male students compared to their female counterprts increased the consequences for self-harm and others. The proportion of students 18 to 24 years who drove under the influence of alcohol increased from 26.5% to 31.4% during the reporting period (Hingson*et al* 2005:6). Nick *et al.* (2011:277) has shown high prevalnce of hazardous drinking among students in English universities. Sixty-one percent of the students had a high score for alcohol use disorders test (8+). The proportions of students who reported hazardous and harmful drinking were 40% and 11% respectively. Ten percent of the students developed alcohol dependence. Abuse makes a significant contribution to morbidity patterns of students. Heath *et al.* (2011:277) reports that alcohol was associated with 66.4% of conditions presented by students with the mean age of 17 years.

Psychological distress was reported by students who drink heavily. The study that was conducted in Australian Metropolitan Universities has shown that the prevalence of heavy drinking amongst students was more than that of the staff (Reavley*et al* 2011: 54). The status of being a student at a tertiary institution was explored for possible causal link with hazardous drinking. Kypri *et al.* (2005:713) compared the prevalence of hazrdousadrinking and alcohol use disorders among university students in New Zealand. The prevalence of hazardous drinking was 65% among students compared to 35% in non-student peers. Similarly, the scores for alcohol use disorders were high among students (15). These scores were identied in 33% of the students' compared to 9% among non-students. Further, this study has shown that heavy drinking was common among young people 18 to 29 years than in the general population of the United States of America. It is reported that abuse declines followingg the completion of the studies.This finding is consistent with previous studies that peer presureanmong students is a powerful predictor of initiation and abuse of alchol among students.

2.3 FACTORS ASSOCIATED WITH INITIATION OF ALCOHOL

The initiation of drinking in tertiary students is linked to personal and contexual factors. In a study that examined the relationship between social norms and alcohol use in

college students it was found that parental norms had very little impact when the students enter the college. Similarly, for students who stay on campus, the social norms of the Residential Advisors had little impact. Conversely, the students peer norms had the strongest influence on students' personal drinking behaviour (Perkins 2002:164-172b).However, Wood *et al.* (2004:19-30) asserts that parent exert ifluencial role in late adolescent drinking behaviour.

This study showed that parental norms moderated between peer influence and adolescent drinking. Other studies associate alcohol use among college students with easy access and low prices. Further, the place where drinking takes place is a strong correlate of binge drinking among students. Students drink heavily when they are at private residence (Weitzman & Chen 2005:369).In a study that investigated the drinking motives, behaviour and problems among first year university students in South Africa it was discovered that social and enhancement drinking were predictors of alcohol use and heavy drinking among students. About 34% of the students spent too much money on alcohol and at least 20% of them engaged in unplanned and unprotected sex (Peltzer 2003:1-10). The study had strong methodology of random selection of participants and rigorous analysis (regression analysis).

The relationship between smoking and drinking was assessed among college students in the United States of America. Smoking and drinking are powerfully interrelated. Ninety-eight percent (98%) of the students who smoked used alcohol. Similarly, 44.5% of students using alcohol were smoking (Weitzman & Chen 2005:377).The quality of love relationship among students was also assessed in relation to hazardous drinking. Alcohol use was integral to love interactions among students. The peer disapproval would prevent the initiation of alcohol use among student love partners (Bosari & Carey 2006:361). This finding is not surprising because even peer pressure from ordinary friends can affect the behaviour of students.

The quality of love can be a powerful predictor of the students' drinking status because of emotional basis of intimacy.The limitation of this study was reliance on self-reports

from homogeneous populations. Sociodemographic factors such as gender, religion, income status and parental drinking are strong correlates of hazardous drinking among universitystudents. Adewuya *et al.* (2007:180) assessed the strength of this relationship among students in Nigerian Universities. The relationship was significant for all factors using odds ratios; parental drinking (12.00), gender (5.40), income (2.57) and religion (9.5).These results corroborrate previous findings where several indicators of socioeconomic status including**:** attainment, occupational activity and income were strong correlates of hazardous drinking among university students. The frequency of drinking was influenced by income with people of high income drinking more often. The amount of alcohol consumed was strongly related to educational attainment. Less educated respondents reported high consupmtion levels (Casswell *et al.* 2003:601-610). The use of licit and illicit drugs among post secondary students has been associated witth religious background.

The study which was conducted among university students at Queensland has shown high levels of alcohol intake (14 drinks per week) among students who were not religious. However, there were significant differences acroos denominations. It follows that a high percent of Roman Catholics consumed alcohol beverages compared to Protestants who consumed large amounts of tobacco (Bosari& Carey 2006:361). This finding suggests that a segmentation of religious groups should be considered when using the church as a setting for campaign on substance abuse. The year level of study has been identified as the correlate of abuse among university students. A longitudinal study that was conducted in the United Kingdom has shown that students report higher alcohol consumption in year one than in years two and three. Students who reported high consumption of alcohol during first year also reported its negative impact on their, studies, finance and physical health (Bewick*et al* 2008: 164). A national study on alcohol and high-risk sexual behaviours has shown a dose-response relationship between alcohol use and risky sexual behaviours among youth. Heavy drinking was associated with higher odds of all risky sex outcomes including unprotected sex, multipple partners and buying of sex (Weiser *et al.* 2006:1940-1948).

2.4 INTERVENTIONS FOR ABUSE OF ALCOHOL IN TERTIARY INSTITUTIONS

An array of interventions has been tested to prevent or reduce harnful use of alcohol among tertiary institutions. Michael &Sherilyn (2010:16) state that media campaigns designed to change students' perceptions of binge drinking reduced the proportion of students who believed that binge drinking was a norm and consequentiallyreduced the number of students who binge drink. Michael &Sherilyn (2010:27) obtain that laws on regulation of prices and access to alcohol could reduce significantly the behavioural problems associated with the use of alcohol among college students.

It is stated that interventions for hazardous drinking among students should identify the most preferred communication channels. There is evidence that students prefer internet based interventions to face-to-face interactions. In a study that was conducted among university students, 82% of hazardous drinkers preferred web-based screening interventions (Kypri*et al* 2005:626). Web interventions are feasibnle because of the explosive use of social media. In fact, internet is afforadable in developing countries.The effectiveness of interactive and non-interactive interventions were tested for the prevention and reduction of alcohol use among college students. Non-interactive interventions such as lectures with emphasis on knowlegde have small effects. Conversely, interactive interventions that stress the development of interpersonal skills have significant effects in the prevention and control of alcooholuse among students (Nancy *et al* 2000:275-336). This is a rigorous finding that is derived from meta-analyisis of 206 prevetion programs. In a related study the effects of motivational interventions in reducing alcohol use among college students were tested. Borsari and Carey (2006:728-733) state that brief motivational intervention reduces the amount and frequency of alcohol consumption among college students. Motivational brief consist of giving feedback to students on personal consumption, perveived norms and problems of heaving drinking. John *et al.* (2001:1310-1316) corroborate this finding. The results of the study falsified the hypotheis. Friday lessons would slightly reduce heaving drinking on Thursdays but will have no effect on overakll levels of alcohol and heavy drinking among college students (Paschall*et al*.2006:764).

2.5 THEORETICAL FRAMEWORK

The Health Belief Model (HBM) is a theorical model that is designed to explain health behaviours by better understanding beliefs about health (Nutbeam&Harries, 2004:39). Importantly, the model is used to predict behaviour change on the premise that behaviour depends on the value placed by an individual on a particular outcome. The initial application of the model was focused on explaining why clients failed to partake in prevention programmes. Its application was extended to explain human behaviour with respect to response to disease sysmptoms and adherence to treatment (Nutbeam& Harries 2004:39). The HBMl is based on the value-expectancy concept. The value aspect of this concept is related to the deisre of an individual to avoid illness. The expectancy is about the individual's belief that the recommended health behaviour will prevent illness (Nutbeam& Harries 2004:39).

The HBM is conceptualised on the basis of six components regarding the individual's perceptions about the health outcomes or recommended health behaviours; susceptibility and severity, benefits, barriers, cues to action, modifying factors and self-efficacy. These components constitute explanatory factors in the research context. Therefore, alcohol use among tertiary students was assessed in relation to this set of variables. Joubert andEnrlich (2007:79) have explicated the HBM by defining its components as illustrated in figure 2.1. Firstly, Perceived susceptibility to the health outcome is the individual's subjective assessment of the risk of contracting a condtion. Lately, perceived susceptibility and severity components have been merged to form perceived threats (Joubert andEnrlich, 2007:66). Perceived benefits represent a person's feelings that a course of action will reduce susceptibility to diseases or minimisation of the severity of the condition. On the contrary, perceived barriers is the individual's feeling that the recommended course of action to prevent the threat of the problem cannot be attained relative to cost, time and physical effects (Joubert andEnrlich 2007:85). Self-efficacy is the conviction that one can successfully execute the behaviour that is required to produce health benefits by overcomming difficulties and barriers. It is stated that this component was lately incorporated in the HBM in order to improve its predictive power. Michael & Sherilyn (2010:38). Cues to action consist of internal and external factors that have the potential to trigger action. Internal factors

relate to the state of the body while external factors constitute personal interaction and mass communication (Nutbeam& Harris 2004:121). Cues to action are related to the last component of the model; modifying factors. Modifying factors encompass personal charecteristics and contexual factors. Demographic factors are central to this component (Nutbeam& Harries 2004:39).

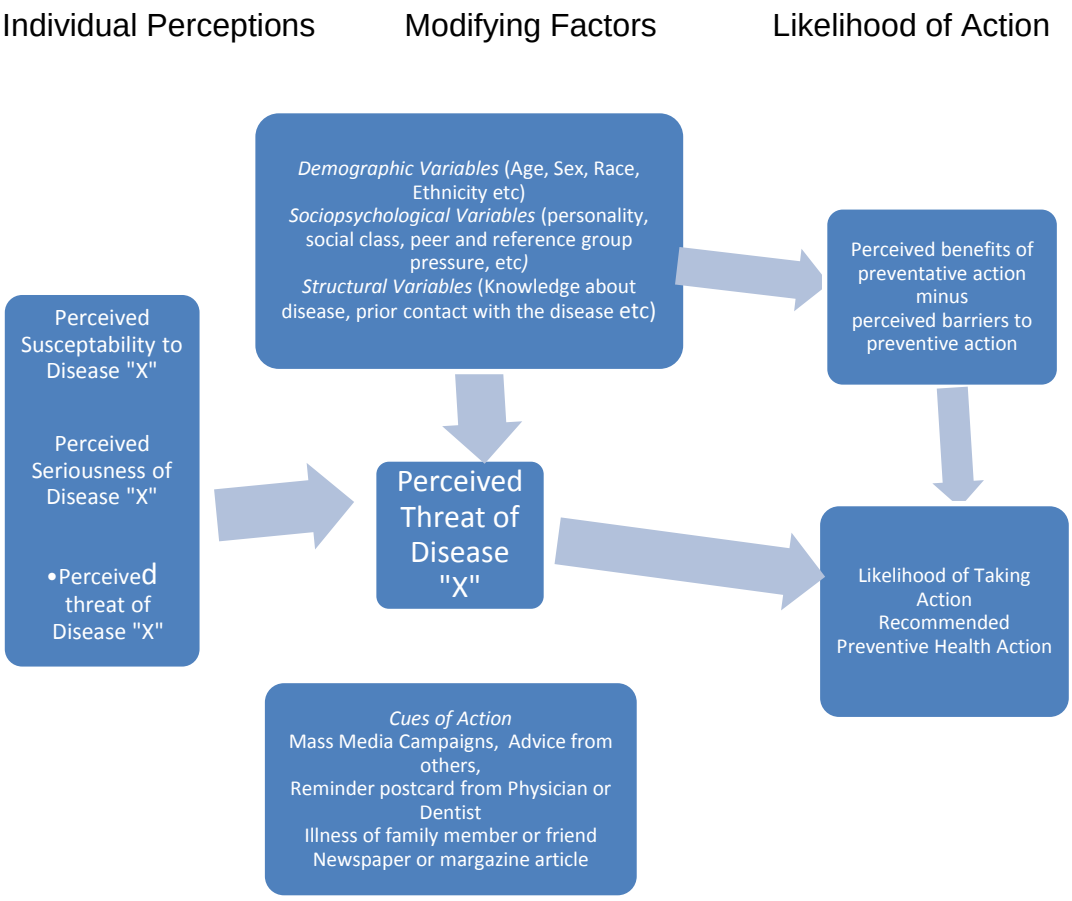

Figure 2.1Health Belief Model

Nutbeam&Harries 2004:39

2.6 Conclusion

The review indicates that harmful use of alcohol is rife among students in tertiary institutions. Abuse is evident from an array of aftermaths and attrocities experienced by students following excessive drinking. The issues of abuse consist of road accidents, intentional and unitentional injuries. Students also present with medical conditions that are associated with hazardous drinking. The causes of abuse are multifactorial and

complex. The studies that used rigorous methods predficted abuse on the basis of personal attributes. Similarly, obervational studies have shown a strong correlation between students' behaviour and alcohol abuse. The Health Belief Model is widely used in studies that focus on behaviour issues. To this end, the current study used this model to explore alcohol abuse among students in tertiary institutions.

CHAPTER 3

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

This chapter provides the details of procedures and specific methods used in this study including; the phylosophical and theortical perspective of the study, followed by designs and appropriate methods. The methods relate to aspects of sampling, data collection and analysis.

3.2 THEORETICAL FOUNDATION FOR THE STUDY

A research paradigm provides the philosophical grounding and logical reasoning for the study. Paradigms provide explanation on the nature of the phenomenon under investigation, how evidence is obtained as well as the relationship between the researchers and subjects (Polit & Beck 2008:14). Research paradigms are broadly dichotomised into positivist and constructivist or interpretivist inquiries.The positivist paradigm also referred to as logical positivism, was used in this study to explore alcohol abuse in tertiary students. The proponents of this tradition believe in empirical evidence about the existence of a phenomenon.

The researchers using this paradigm insist on the assumption of determinism. Determinism is the belief that the phenomenon that is being studied exists because it has anttecendent causes. Hence the positivists insist on measurement, objectivity and verification of the existence of the phenomenon (Polit & Beck 2008:14). Accordingly, the phenomen investigated in this study was alcohol abuse. This study aimed at identifying factors that contribute to abuse among tertiary students. The contributions of factors that are anecdotally linked to alcohol use were measured using predetermined tool. The latter apsect illustrates the principle of determism in the positivist paradigm.

Lastly, the reseachers using positivist approach rely heavily on deductive reasoning to move from generalisations to specific and empirical understanding of the phenomena (Bosari & Carey 2006:361).

3.3 APPROACH

The quantitative approach was used in this study to identify the factors that are consistent with harmful use of alcohol among students in tertiary institutions.Thisapproach was applicable because it emphasises the role of variables in describing and analysing human behaviour (Babbie& Mouton 2009:49). This pardigm is also good at quantifying the problem or phenomena in a study group (Bosari & Carey 2006:361). Building on the stength of the quantitattive paradigm of deductive reasoning the relationship between alcohol use and student factors was measured and generalised to the entire population of the teratiary institutions in Gaborone.

3.4 RESEARCH DESIGN

Welman and Mitchell (2007:52) define a research design as the plan according to which we obtain participants and collect information from them. This was a quantitative study therefore the investigator has used epidemiological design. Epidemiological designs conist of experimental and non-experimental designs (Joubert& Ehrlich 2007:77).The study followed the non-experimental designto assess harmful use of alcohol among tertiary students. The investigator was detached from the subjects. Similarly, there was no intervention that was administered among subjects. This study was a descriptive cross-sectional survey.

3.4.1 Descriptive research

Descriptive research can be defined from epidemiological and general research perspectives. In case of epidemiology descriptive study usually takes the form of a survey or a summary of routine data to quantify the extent of health problem or the burden of a disease in a population (Joubert& Ehrlich 2007:78). In a general research context descriptive research is used to portray the characteristics of persons, situations, or groups, and/or the frequency with which ceratin phenomena occur (Polit & Beck 2008:752). The investigator has applied both contexts of descriptive research to determine the extent of harmful drinking and identified associated factors.

3.4.2 Cross-sectional study

According to Reddy (2011:92), a cross-sectional study records data from a sample of subjects at a given point in time. The goal of the cross-sectional survey is to examine the relationship between the outcome and explanatory variables (De Vos 2011: 83). Accordingly, alcohol use was an outcome variable that was linked to associated factors of students in tertiary institutions. Alcohol use was also related to the fixed characteristics of students and contexual factors (Joubert & Ehrlich 2007:87). This design was chosen because of the less costs assocaited with its application. Furthermore, the cross-sectional study is less time consuming. The findings of the cross-sectional study will be used to inform the planning and implementation of interventions on alcohol abuse.

3.5 RESEARCH SETTING

Polit & Beck (2008:57) define research setting as the specific place where information is gathered. Researchers make a distinction between naturalistic and laboratory research settings. The natualistic setting was used in this study. Researchers using this setting collect information at covenient places of participants like work environment and homes. Accordingly, in the current study the investigator has used tertiary institutions as the study setting. This was a convenient place for students to share information.

3.6 RESEARCH METHOD

Research method encompasses the the techniques used to structure a study and to gather and analyse information in a specific fashion (Polit & Beck 2008:765). The investigator has employed methods for the quantitative approach.

3.6.1 Population

The population is a group of potential participants to whom the researcher wants to generalise the results of the study. The research population consists of individuals, groups, organisations, human products and events (Welman & Mitchell 2007:52). In the

current study the population was students in tertiary institutions. The researcher derives the target population from this universe population. According to Polit & Beck (2008:767) the target population is the entire population in which the researcher is interested and to which he or she would like to generalise the the study results. The target population for this study was students in tertiary institutions within Gaborone.

3.6.2 Eligibility criterion

The target population is derived from the universe population using a specific criterion. An eligibility criterion is used to designate the specific attributes of the target population, by which people are selected for inclusion in the study (Polit & Beck 2008:752). The eligibility criterion for this study was a student in tertiary instution in Gaborone within the age bracket of 21 to 29 years.

3.6.3 Sample

A sample is a subset of a population selected to participate in a study. The sample must be representative of the population from which it is drawn. A representative sample should have the exact properties in the exact same proportions as the population from which it is obtained. Indeed, a representative sample is a miniature image or likeness of the population (Polit & Beck 2008:765; Welman & Mitchell 2007:55).

3.6.4 Sampling frame

The sampling frame corresponds to the target population. It is a list or quasi-list comprising a population from which a sample is selected (Babbie & Mouton 2009:647). A list of tertiary institutions in Gaborone obtained from the Tertiary Education Council constitued the sampling frame for this study (Table 3.1). A sample of four tertiary institutions was selected from the list of tertiary institutions in Gaborone. The four institutions were selected on their high enrolment of students than others as that could give the researcher adequate sample to work on.

Table 3.1**:** Enrollment for Tertiary institutions in Gaborone 2013/14

PUBLIC/GOVERNMENT		**PRIVATE**	
Tertiary institution	**Enrolment**	**Tertiary institution**	**Enrolment**
University of Botswana	17701	Botho University	5219
Botswana College of Agriculture	1324	Linkokwing University	6838
Institute of Health Sciences	432	Baisago	1315
Roads Training School	542	Gaborone Universal College of Law	2336
Gaborone Technical College	542	ABM University	2780
Botswana Accountancy College	2911	Gaborone College of Professional Studies (GPS)	
Botswana College of Engineering and Technology	717	BOCODOL	5130
Tlokweng College of Education	332	Gaborone Institute of Professional Studies	2462
Botswana Wild Life Training Institution	119	New Era College of Arts Science and Creative Technology	1414
		Assembly Bible College	32
		Kgolagano College of Theological Education	
		Boitekanelo Training College	1676
		Damelin	271
Totals	**24501**		**29473**

Tertiary Education Council (2013)

3.6.5 Sampling and sampling procedures

Sampling is the process of selecting a portion of the population to represent the entire population (Polit & Beck 2008:765). Four tertiary institutions in Gaborone were selected from institutions listred inTable 3.1 for their students to represent teratiary institutions in Gaborone. The investigator has used the proportional stratified random sampling to select the institutions from which to obtain students who paticipated in the study.

3.6.5.1 Random Sampling

Random sampling is a type of probability sampling. Probability sampling is a procedure that allows each individual in the study population to have a probability or known chance of being included in the sample. It is a specific selectiontechnique which can ensurethat the sample is representative of the population (Joubert & Ehrlich 2007:95). To this extent, probability sampling allows for findings from a sample to be generalised to the universe population (Joubert& Ehrlich 2007:105). Four tertiary institutions were selected using probability sampling to represent the population of students in tertiary institutions in Gaborone.

3.6.5.1.1 Proportional stratified random sampling

This is a sampling technique used to subdivide the population into homogenous subsets from which an appropriate number of elements are selected (Polit & Beck 2008:346). Stratified random sampling is the type of random sampling. Stratified random sampling is the selection of study participants from two or more strata of the population independently. Strata are subdivisions of the population according some charcteristics (Polit & Beck 2008:767). When applying these techniques the population should be divided into strata that are mutually exlusive so that no individual fits into more than one stratum Individuals to be included in the sample are selected from each stratum proportional to the size of the stratum in the population (Joubert & Ehrlich 2007:95). In the current study the investigatorused ownership of tertiary institutions as a stratifying variable. Therefore, tertiary institutions were stratified into public and private strata (Table 3.1).

3.6.5.3 Sampling procedure

The reseacher sought the list of institutions and enrollments (Table 3.1) from the Teratiary Education Council, now known as Human Resource Development Council. As stated above, the tertiary institutions were divided into strata of those owned by goverment and private ones. The following institutions were selected from table 3.1 using simple random sample: Tlokweng College of Education, Botho and ABM Universities. The University of Botswana was purposively included in the sample because it is the only largest tertiary institute in the country. Owing to limited resources and the limited scope of the project the investigator decided on an affordable sample size 500 students from the above institutions. The inclusion criterion was a student 21 to 29 years who was currently doing studies in tertiary institution in Gaborone. The sample of 500 students was distributed proportionately to the four institutions as indicated on Table 3.2. The computation of the number of particpants for each institution was based on on the following factors: total number of students in each institution, sample size of 500 and the sum of students in the selected institutions. For example, for the number of participants for the University of Botswana was obtained thus 17701 x 500/26062 = 340.

Table 3.2: Tertiary institutions selected for the study

Tertiary institute	**Ownership**	**Enrollment**	**Sample**
University of Botswana	Public	17701	340
Tlokweng College of Education	Public	332	7
Botho University	Private	5219	100
ABM University	Private	2780	53
Sample total	**26062**		**500**

Participants were recruited conveniently from selected tertiary instituitions until the required number for each instution was obtained.

3.7 DATA COLLECTION

Data collection constitutes a critical component of the research method. It forms the initial stage for measuring the phenomenon under investigation. Indeed, Joubert and

Ehrlich (2007:106) assert that collection of information for a study is measurement, and further defines data collection as a process by which values are obtained for the characteristics of individuals being studied. The purpose of this study was to determine the drinking patterns of students and related factors. Polit &Beck (2008:367-368) indicate that researchers usually have the options of using the existing data or collecting new data. The investigator for the current study opted for primary collection of data. The data collection process for this study is described in the next sections.

3.7.1 Data collection process

The following administrative fulfilments were performed to facilitate data collection. Firstly, the letter was written to the Teratiary Education Council seeking permission to the carry out the study in the selected institutions (Annexure C). The Tertiary Education ceeded to the request but, advised the investigator to seek permission from the concerned institutions. A generic letter was written to the intitutions for such permission(Annexure D)**.** Two institutions (University of Botswana and Botho College) requested the investigator to submit the proposal for academic review.The review was extensive on the data collection tool. Ethical clearance for the study and a letter from the supervisor of the investigator were sought by all institutions.The documents were submitted promptly. All institutions granted the researcher the permission with a special request to receive the results of the study. The written permit was obtained only from the University of Botswana (Annexure E).

A Research Assistant (RA) was recruited and trained for data collection and entry. The RA was a graduate of Population Studies and Economics from the University of Botswana. The carriculum vitae for the RA show that she has participated in national studies that were commissined by the ACHAP and iTalk Africa**.** The investigator felt that an interface between the young graduate and students would result in high response rate. The RA was trained on the contents of data collection tool. This aspect was crucial for her to be confident in making clarifications to the participants during data collection. The RA visited all the four institutions and identified places within the institutions where students relaxed and used them as distribution points. The participants were given the

questionnaire with the information sheet attached to it for consent purpose. The RA waited for the students to complete the questionanires and collected them immediately. Students at Botho University who requested for the questionnaire were not ready to complete it immediately because of scheduled lessons. The RA had come for these questionnires the following day. The data collection at the University of Botswana took a week because it coincided with scheduled tests for some of the respondents. The RA was advised to give them time to go through the questionnaire at their convenient time.

3.7.1.1 Data collection approach

A data collection approach is a structured plan that indicates what information is gathered and how to gather it (Polit & Beck 2008:371). This study was quantitative research. Therefore, the investigator used asructured approach for data collection. The structured approach in data collection for a quantitative study consists of predetermined data collection instruments where respondents are constrained to answer the same questions in the same order.This limits the participants to qualify or explain the meaning of their responses. This approach enhances objectivity and reduces biases (Polit & Beck 2008:414-415).

The questionnaire was used within the confines of structured data collection approach. Joubert & Ehrlich (2007:107) defines a questionnaire as a list of questions which are answered by the respondents, and which give indirect measures of the variables under investigation. It follows that questionnaires can either be used by self-administration mode or interviewing the respondent. The self-administered questionnaire (SAQ) was used in this study (Annexure F). SAQ allows the respondents to read and write responses to the questions individually. It is stated that SAQ should be used when the study population is adequately literate (Babbie & Mouton 2009:258). Accordingly, the literacy level of the participants for this study was very strong. The SAQ was preferred for this study because it is economical with respect to time and other resources (Polit & Beck 2008:324).

3.7.1.2 Development of the data collection tool.

The data collection tool is conceptually derived from the objectives of the study. The initial step in the development of the questionaire is to list the variables to be measured (Joubert & Ehrlich 2007:107). In the current study, the variables were listed according to the categories of dependent and independent variables. The demographic characteristics of respondents constituted the main independent variables of the study. Other explanatory variables consisted of year level of study, residence and income of the respondents. On the one hand, the students' drinking patterns, knowledge and perceptionsabout the use of alcohol were considered as dependent variables.The section of the questionnaire on students' perceptions about the use of alcohol was developed using the components of the Health Beief Model as discussed above. This section used closed-ended questions with response options ranked from strongly agree to strongly disagree. Data collection on drinking patterns was confined to the amount and frequency of alcohol consumption.

The following important facts were considered in designing the data collection tool. Firstly, the questionnaire was designed using the contingency format. This question format is used when the researcher wants to ask a series of questions about a topic where the subsequest questions are answered contigent on responses to the first questions (Babbie & Mouton 2009:240). For example, the response to the question: How often do you drink alcohol? is contigent to the response to the question. Do you drink alcohol'? Secondly, the researcher has used the following types of close-ended questions because of the quantitative nature of this research. Dichotomous open-ended questions were used on the section of whether the respondent drinks alcohol. Cafeteria open-ended questions were used in the section on perceptions about alcohol. Cafeteria questions are a special type of multiple choice questions that ask the respondents to select a response that most closely corresponds to their views (Polit & Beck 2008:417). Rating questions were also used in the section on perceptions. Rating questions are used to ask the respondents to evaluate something along an ordered dimension (Polit & Beck 2008:417). The researcher has applied rating questions using the "agree to disagree"LikertScale.

Thespace for participants to indicate their responses was considered for quality purposes. Generally, boxes and circles were provided for the research participants to indicate their responses. Small boxes were used in the current study. It is furher stated that boxes that are spaced apart are preferred to circles (Babbie & Mouton 2009:240). The respondents were given instructions to check the boxes that best represent their responses. The general layout of the questionnaire was also considered. The questionnaire for the research was spread out and not cluttered. Each row in a table contained only one question. It is advised that cluttering questions in few pages may frustrate the respondent after faking long to finish one page (Babbie & Mouton 2009:239). Lastly, the questionnaire was ordered into sections mentioned above. Importantly, the researcher introduced each section to the research participants.

3.8 DATA MANAGEMENT AND ANALYSIS

The Statistical Package for Social Sciences (SPSS) version 19 was used for data management and analysis. SPSS allows for data management and analyis using descriptive and inferrential statistics (Coakes & Stteds 2003:36).SPSS is user-friendly because it translates statistics into a langauge that can be more easily understood and digested. The SPSS Survival Manual is a tool that provides step-by-step of what the reseracher should do to prepare and analyse data (Pallant 2005: xiii).

3.8.1 Data management

Data management involves data entry and cleaning to ensure accuracy in data prior to analysis. The investigator has used SPSS to create a template for entering data. The researcher used the questionnaire to creation of the template or data file started by developing the code book. A code book is the summary of instructions to be used to convert information obatined from subjects into a format SPSS could understandPallant 2005: xiii). Polit and Beck (2008:749) define coding as the process of transforming raw data into standardized form for data processing and analysing. In quantitative research, it is the process of attaching numbers to categories. According to Pallant (2005:xiii) coding involves defining and labelling variables as well as assigning numbers to all possible responses. Coding for data entry was a simple task because the questionnaire

was already coded. For some variables like sex the task was just to assign numbers to male and female. All codes began with a letter and punctuations were not included.

The data template was designed using the Editor Window of SPSS.The design of the data filestarted with the definition of variables with respect to full name, conversions to SPSS and codes (Pallant 2005:19). However, the full names and SPSS conversions were the same for variables like sex and age. For the variable like year level of study the two were different with full name as 'level of education' and SPSS conversion as just 'year'.The investigator was cautions in naming the variables so that each variable was unique. The default value for width was set at 8 as a norm for most variables. Decimals for all values were set at zero because all numerical data were collected as absolute numbers. The missing values were not defined because SPSS recognises empty spaces as missing values (Pallant 2005:271).

Questionnaires were checked for completeness prior to data entry. The variables were categorised according to the level of measurement. All variables for this study were within the categorical, ordinal and ration or interval. Demographic variables such sex were defined as categorical. Variables pertaining to age, amount of alcohol were characterised as ration or interval measurements. The variables on the section for perceptions about alcohol use constituted the ordinal scale level of measurement. Completed questionnaires were numbered for identity. The data wereto be entered by one person (Research Assistant). Once the data entry was complete, data cleaning was executed to identify errors. The data cleaning included exploratory analysis using basic statistics to run frequencies for most variables. Errors were corrected by picking the appropriate questionnaire using the identification numbers.

3.8.2 Data analysis

Polit and Beck (2008:751) define data analysis as the systematic organisation and synthesis of research data and, in the quantitative studies the testing of hypothesis using those data. The investigator sought the assistance from a colleague who is doing

PHD studies in demography at the University of Botswana. Data analysis was peformed at univariate and bivariate levels. Researchers are advised to conduct analysis logically begining with univariate analysis. Univariate analysis is used to examine one variable separately. It is quite helpful in cleaning and quality of data (Polit & Beck 2008:763). Univariate analysis also allows the data analysist in case the analysist is not the principal investigator, to be familiar with the data and gain insight into range of vallues, possible miscoded or missing data and normality patterns of variables (Peat 2002:183).

The univariate statistics were used to analyse data on the demographic variables. The demographic variables such as the age of respondents were analysed using measures of center and dispersion. The measures of centre usedfor demographic variables included mode, median and mean. The standard deviation was used as a measure of spread. Frequency tables bar chats and frequency polygons were used to display data on gender and ethnicity of respondents. Besides demographic variables, these statistics were used to present numbers and proportions of respondents who used alcohol. The bivariate descriptive statistics were used to measure the strength of the relationship between alcohol use and explanatory variables including demographic characteristics of respondents and contextual factors. Lastly, the logistic regression was performed to predict the determinants of drinking on the basis of the demographic, psychological and environmental factors of the respondents.

3.9 VALIDITY AND RELIABILITY

Validity and reliability are used to evaluate the quality of the study relative to methodology. According to Babbie & Mouton (2009:122) the term validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under investigation.On the one hand, these authors define reliability as the quality of measurement method that suggests that the same data would have been collected each time in repeated observations of the same phenomenon.

3.9.1 Validity of the data collection instrument

The validity of the data collection tool was tested through a pilot study. According to Peat (2002:57), a pilot study that, is sometimes called feasibility study, is necessary to ensure that high quality data are collected. The pilot study consisted of pre-testing the data collection tool. Pre-testing is the trial administration of a newly developed data collection instrument to identify flaws or assess the time requirement (Polit & Beck 2008:763). It is recommended that the new instrument for the study should be administered among a small number of subjects that are similar to those intended for the main study but in an area outside the sample (Polit & Beck 2008:763). Similarly, the pre-testing of instrument for the current study was conducted at the Roads Engineering College, which is one of the tertiary institutions in Gaborone. Nine students completed the instrument. A social scientist was invited to review the results of the pre-test. Some improvements were made to the tool following the outcome of the pre-test. The participants slightly differed in the way they responded to questions. Therefore, the investigator was advised to state the instructions of how to respond to each question. The age bracket, which was part of the eligibility criterion, was printed in bold on the first page of the questionnaire. The lecturer at Roads College who distributed the questionnaire informed that it took the students between 15 to 25 minutes to complete the tool. This time was within the expected time of 20 minutes. Overall, the participants comprehended the contents of the questionnaire.

3.9.1.1 Internal validity

The current study used a less rigorous design. Therefore, the internal validity of cause and effect has not been considered. Rather, the researcher used the concept of internal validity that relates to the accuracy of measurements and methods. Based on this concept, the study is considered to have internal validity if its measurements and methods are accurate and repeatable, that is if the measurements are a good estimate of what they are expected to measure (Peat 2002:106). The researcher has used this type of internal validity because the data collection tool was not previously validated. The issue of accuracy of measurement was fulfilled through pilot testing of the instrument. This aspect of internal validity is called face validity, which is the extent to which the instrument measures what it is intended to measure (Peat 2002:106). Internal

validity was also enhanced by relating the questionnaire to the objectives of the study to ensure coverage of all important aspects of the phenomenon under investigation. This is called content validity (Peat 2002:106). An attempt was made to relate the instrument to some gold standard by using the Health Belief Model in the section of perceptions. The data obtained from this study were self-reported responses from participants. Therefore, the researcher ensured that all respondents completed the questionnaires alone at their convenient environments.The subjectivity in the way participants responded was reduced through the use of close-ended questions and predetermined responses. The measurement bias was also reduced by avoiding long statements. The tool was just a table where participants checked the responses that represented their knowledge and feelings.

3.9.1.2 External validity

External validity is defined as the extent to which inferences about observed relationships will hold over variations in person, setting, time or measures of outcomes. It concerns generalisebility of causal inferences (Polit & Beck 2008:287). In the current study the investigator did not addressexternal validity of inference about causal relationships because this was not a rigorous study. The entire results obtained from the sample were considered for generalisebility to the population. Therefore, the results of the drinking patterns and perceptions from the study sample will be generalised to the tertiary institutions in Gaborone. It is feasible to generalise the results because of the probability procedures that were used to select tertiary institutions.

3.9.2 Reliability

Babbie & Mouton (2008:119) define reliability as a matter of whether a particular technique, applied repeatedly to the same object, would yield the same results each time. Although the instrument was not previously validated it should reproduce the same results repeatedly because of the extensive literature review on aspects of alcohol that were previously investigated among tertiary students. Similarly, the demographic section of the tool does not change much between studies. The issues of amount and frequency of alcohol consumption were based on the format of questions used in

previous studies. Lastly, the Health Belief Model was used as a guide for questions on perceptions. This could reduce subjectivity and information bias when the tool is used repeatedly.

3.10 Ethical considerations

Observing ethical considerations is imperative in any research that involves human beings or animals. The word 'ethics' is defined from the general perspective of conformance to the standards of conduct to more specific applications. In the context of research, ethics is defined as a system of moral values that are concerned with the degree to which research procedures adhere to professional, legal and social obligations to the study participants (Polit & Beck 2008:753). Ethical considerations are necessary in order to uphold the rights of research subjects against harmful practices. Similarly, observance of ethical considerations is meant to avoid exploitation and deceit of research subjects. Besides subjects, ethics in research is aimed at protecting the right of the institution where the research was taking place. Lastly, the research integrity is central to ethical considerations. These aspects of ethical considerations are discussed below with respect to how there were applied in the current study.

3.10.1 Protecting the rights of the respondents

Ethical consideartions pertaining to the respondents were applied with respect to the principles of; beneficence, respect or autonomy, confidentiality and justice.

3.10.1.1 Beneficence for research participants

This is a fundamental principle of research that imposes a duty on researchers to minimise harm and maximise benefits. Accordingly, the research subjects should have the right to be free from harm associated with research procedures. Secondly, respondents should not be exploited through the use of monetary incentives. Exploitation of participants comes through deceitful practices where the researcher witholds the details about the reaserach procedures or just provides false information

(Polit & Beck 2008:170-171). The study was less invasive because there were no procedures that involved contact with body parts of the participants. The participants just completed the questionnaire at their convenient time. However, participants could withdraw from the study in case they experienced distress while completing the questionnaire.This requirement is important because harm and discomfort can take many forms including; physical, emotional and loss of social support (Polit & Beck 2008: 170). There were fewer chances of psychic discomfort during the data collection because the researcher was detached from the participants. Participants were informed in the information sheet to call the researcher in case they experienced discomfort when completing questionnaire. Such cases would be referred for counseling services.

3.10.1.2 Respect or autonomy of research participants

The autonomy or respect for the research participants entails two aspects of rights to self-determination and full disclosure. Self-determination provides provides for voluntary participation in the study. It follows that research subjects should not be persuaded or coerced to participate. Furthermore, the resaerch subjects should not be provided with monetory incentives as inducements to participate. Full disclosure aspect requires the researcher to provide the full details about the research procedures including how the subjects are going to participate (Polit & Beck 2008:171-172). The investigator fulfilled the requirements of this principle through participants' informed consent. Each participant received the information sheet to read about the purpose of the study and how they were going to participate (Annexure F). It was clearly stated on the information sheet that participation in this study was entirely voluntary. The Research Assistant was cautioned not to persuade or coerce the participants to complete the questionnaire. For example,11 participants who declined to complete the questionnaire at the University of Botswana were not subjected to persuation. The participants were not given any form of incentives as inducement for participation.

3.10.1.3 Anonymity and confidentiality

Both principles are meant protect the identity of the participants who participate in the research. Babbie & Mouton (2009:523) state that a respondent may be considered

anonymous when a researcher cannot identify a given response with a given respondent. The researcher assured the participants that anonimity will be maintained during data collection. It was stated in the information sheet attached to the questionnaire that participants should not write their names. Indeed, no names were inscribed on all the questionnaires completed. Further more, participants were notlinked to their responses to the questionnaire. This was possible because the particiapnts were detached from the RA during completion of the questionnaire. Completed questionnaires were kept in a locked steel cabinet at the office of the investigator. The RA did data entry at the same place where questionnaires were kept. The data from the questionnaire were entered in a password protected computer.

3.10.1.4 Justice

The principle of justice requires that all patients or research should be treated alike or equally with respect to the distribution of benefits or burdens associated with the study (Joubert & Ehrlich 2007:33). Lastly, no participant was purposively selected to participate in the study. The participation was open to all students to ensure equitable distribution of the benefits and burdens of the research (Polit & Beck 2008:173).

3.10.2 Institutions

Permission to carry out the study was sought from the four institutions that were included in the study. The authorities in the selected tertiary institutions were informed that the data and information about alcohol issues collected from the students would be kept confidential. Data were collected in a manner that did not disrupt the learning programmes for the students. It was done quietly by RA who approached the students individually. The issues of where to meet the students were discussed with the administration prior to the data collection. The administration was quiet comfortable with self-administration questionnaire as a data collection tool because it gave each student the chance to exercise responsibility. Lastly, the authorities at tertiary institutions were convinced that the data collected from the students would be kept confidential. They believed that the results of the study would benefit the institutions in combating alcohol issues among students.

3.10.3 Scientific integrity of research

The study has the approval from the University of South Africa. The researcher also compiled and submitted ethics application to the Research and Ethics Committee of the the Ministry of Health. Permission was granted by all tertiary institutions that were selected for the study. The researcher has conformed to methodological requirements of a quantitative study. All data and information collected from the participants and authorities of tertiary institutions was capured and stored in a password protected computer to ensure confidentiality. Data collection and entry was done by the Resaerch Assistant. This arrangement would minimise issues of bias and manipulation of data by the investigator.

3.11 CONCLUSION

The chapter discussed the philosophical foundations and methodology of the study based on the quantitative paradigm. The study was a non-experimental descriptive cross-sectional research.

CHAPTER 4

PRESENTATION OF RESULTS

4.1 INTRODUCTION

This chapter focuses on presentation of the results of the study. The study was exploring abuse of alcohol among students in tertiary institutions in Gaborone. This was a non-experimental descriptive cross-sectional study that wasaimed at identifying factors that are associated with alcohol abuse among students in tertiary institutions. To recapitulate, the objectives of the study were:

- To assess the students' perceived causes of alcohol abuse in tertiary institutions.
- To determine the alcohol drinking patterns of students in tertiary in institutions.
- To evaluate the knowledge of students on consequences of alcohol abuse.
- To make recommendations for the implementation of evidence based interventions to avert alcohol abuse at tertiary institutions.

4.2 DATA ANALYSIS

The data analysis was performed using rigorous methods and techniques because of the quantitative nature of the study. The Statistical Package for Social Sciences (SPSS) version 19.0 was used for data analysis. The univaritate and bivariate statistics were used for exploringdata at different sections of the study. Descriptive and inferrentail statistics were applied in the analysis as explicated the chapter 3. Tables and graphs were used to present the resuls of the study. The results of the study are presented in three sections. Section 1 relates to demographic profile of the respondents. Section 2 is depictsthe respondents' perception about the use of alcohol. Section 3 shows the drinking patterns of the respondents.

SECTION 1:

4.3 PROFILE OF RESPONDENTS

The demogrphicprofile of the respondents included: age, sex, level of education, ethnicity and residence. These variables are summarised inTable 4.1

4.3.1 Response Rate

The target for the study was 500 respondents. A total of 450 students completed and returned the questionnaire. This represented a response rate of 90%. This response rate was enough for the study to have a high statistical power.

4.3.2 Age

The respondents were asked to state their age in years. A total of 422 participants responded to the question.The majority (58.5%, n=247) of the respondents were in the age group of 20-24 years, followed by those in age groups of 15-19 and 25-29 years.

4.3.3 Sex

A total of 447 respondents stated their sex. Female participants were more than their male counter parts. The proportions of female and male students were 55.3% (n=200) and 44.7% (n=247) respectively.

4.3.4 Year level of study

The participants were almost evenly distributed across year levels of study. The majority (35.6%, n=160) of the respondents were on year one followed by those on year two (24.1%, n=108).

4.3.5 Residence

Most of the respondents resided off-campus. The proportions of respondents staying on and off campus were 32.2% (n=142) and 67.8% (n=299) and respectively.

4.3.6 Religion

A high proportion (94.0%, n=405) of the respondents has stated Christianity as their religion. Very few participants identied themselves with Muslim (3.0%, n=13) and Hindu (3.0%, n=13) religions.

Table 4.1: Demographic characteristics of the sample

Variables	Frequency	Percentage
Sex		
Male	200	44.7
Female	247	55.3
Age:		
20-24	373	82.9
25-29	38	9.0
30-34	6	1.4
35-39	4	0.9
40-44	1	0.2
Year of study:		
Year 1	160	35.6
Year 2	108	24.1
Year 3	89	19.8
Year 4	82	18.3
Post graduate	10	2.2
Residence:		
On campus	142	32.2
Off campus	299	67.8
Religion		25.7
Christianity	405	94.0
Muslim	13	3.0
Hindu	13	3.0
Other		

4.3.7 Income of respondents

The participants were asked to state their monthly income in local currency, which is the Pula. Figure 4.1 show that 94.47% of the respondents were earning monthly income above P1000-00. Nearly 5% of the respondents had income levels of less than P500-00. Just above 1% of the participants reported monthly income of P500-00 to P1000-00

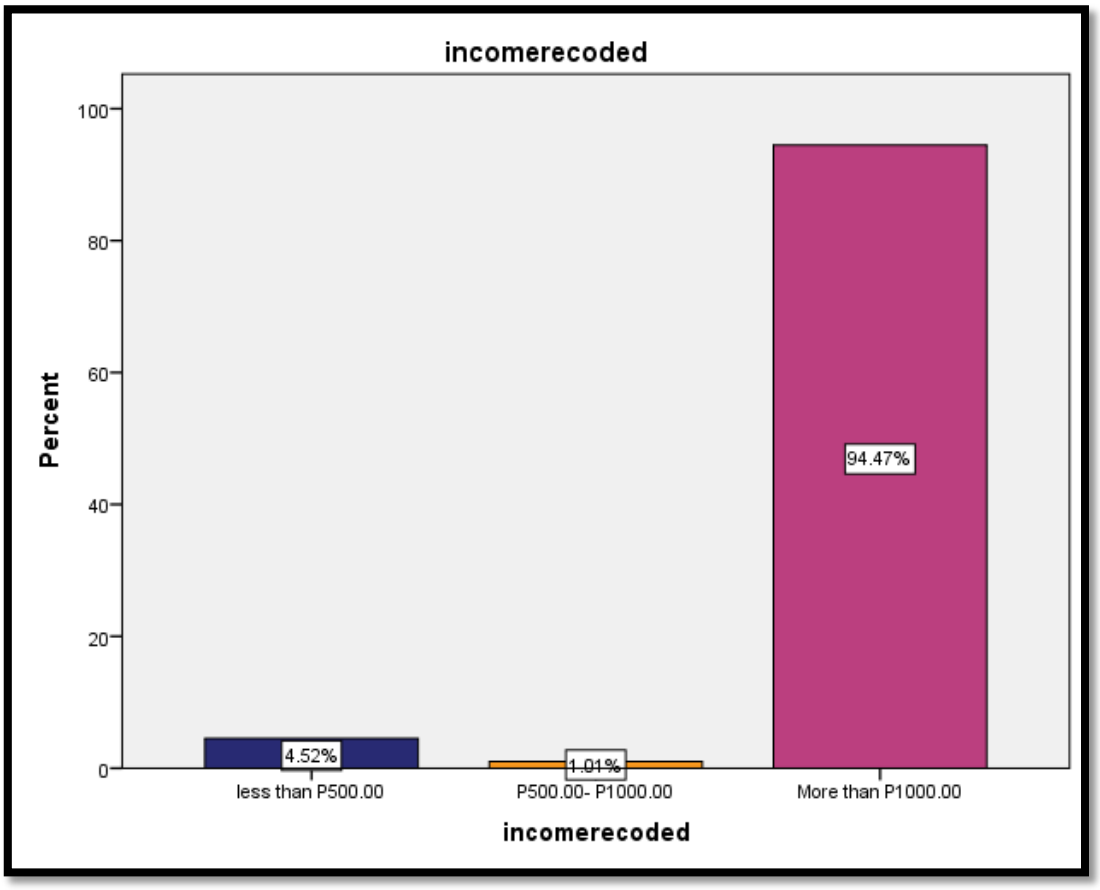

Figure 4.1 Monthly income of respondents

SECTION 2:

4.4 PERCEPTIONS ABOUT THE USE OF ALCOHOL

For this section, participants were asked to indicate their perceptions about the use of alcohol using the agree to disagree scale where; ‘1’denoted strongly agree, ‘2’ agree, ‘3’ not sure’, ‘4’ disagree and ‘5’ strongly disagree. The results for this section are presented based on the six components of the health belief model; perceived susceptibility and severity to the outcomes of alcohol abuse; perceived benefits; cues to initiation of alcohol; perceived barriers to prevent or stop drinking and perceive self-efficacy.

4.4.1 Perceived susceptibility and Severity to outcome of alcohol abuse

Partcipants were asked to indicate the extent to which they agreed or disagreed with statements about the susceptibility of students to the outcome ofalcohol abuse. It is clear from Table 4.2 that the respondents agreed with all the statements about susceptibility and severity of the outcomes of abuse. Additionally, the mean scores indicate that the respondents strongly agreed that students who abuse alcohol are susceptble to road accidents (1.9108), promiscuity (1.9314), being a rape victim (1.9661), and unplanned pregancies (1.8477)

Table 4.2: Perceived susceptibility and Severity to outcome of alcohol abuse

	N	Minimum	Maximum	Mean
developing chronic conditions such as heart diseases and liver Cirrhosis	441	1.00	5.00	2.0952
Poor academic performance	441	1.00	5.00	2.2358
Infectious disease including HIV/AIDS	440	1.00	5.00	2.1136
Disability from injury	438	1.00	5.00	2.4087
psychological disorders	438	1.00	5.00	2.4406
Malnutrition	439	1.00	5.00	2.7654
Death from road accidents	437	1.00	55.00	1.9108
Expulsion from institution of learning due to misconduct or poor academic performance	436	1.00	5.00	2.0390
Promiscuity(multiple and concurrent sex partners)	437	1.00	5.00	1.9314
Be a victim of rape when drunk	442	1.00	5.00	1.9661

Raping other students under the influence of alcohol	439	1.00	6.00	2.3462
Causing malicious damage to school property	441	1.00	5.00	2.3968
Unplanned pregnancies	440	1.00	5.00	1.8477
Lowered immunity against infectious diseases	429	1.00	5.00	2.2960
Valid N (listwise)	401			

4.4.2 Peceived cues to initiation of alcohol

Respondents were to indicate the extent to whcih they agreed or disagreed with the list of statements about what triggers the students to start taking alcohol. Table 4.3 depicts the responses from the participants. In general, the research participants agreed with the statements. However, the mean scores indicate that the respondents did not agree on whether monthly stipend (2.9683), limited recreational facilities (2.6293), wider availability of alcohol beverages and alcohol as an intertainment (2.6210)constitute triggers for initiation of alcohol use.

Table 4.3: Perceived Cues to drinking

Descriptive Statistics				
Triggers to alcohol use and abuse among students:	N	Minimum	Maximum	Mean
Students no longer staying with their parents	445	1.00	5.00	2.0652
Off campus students have more contact with the wider community	445	1.00	5.00	2.4292
Students earning monthly stipend	442	1.00	24.00	2.9683
Limited recreational facilities in tertiary institutions	437	1.00	5.00	2.6293

Alcohol is widely available and can be used in any part of the tertiary institution including lodging places(hostels/room)	443	1.00	5.00	2.7065
Alcohol is always part of entertainment in tertiary institutions	438	1.00	5.00	2.6210
Peer pressure from other students	442	1.00	5.00	2.2579
Frustrations from academics	443	1.00	5.00	2.4221
Students dated by elderly people	443	1.00	5.00	2.2686
Alcohol abuse is rife in the city of Gaborone	440	1.00	5.00	2.1727
Increasing number of social events of binge drinking like bridal and baby showers	436	1.00	5.00	2.4817
Valid N (listwise)	414			

4.4.3 Perceived benefits of alcohol use

Participants were to state their extent of agreement or disagreement about what could be the benefits of consuming alcohol. Table 4.4 shows that participants did not agree with statements listed about the benefits of alcohol use. However, the mean scores indicate that the respondents were not sure about whether some alcoholic drink like red wine bear health benefits (2.5669).

Table 4.4: Perceived benefits of alcohol use

Descriptive Statistics				
	N	Minimum	Maximum	Mean
Relaxation to absorb pressure from academic demands	441	1.00	5.00	3.1270
Enhanced social skills through networking with other students	438	1.00	5.00	2.9795

Improved emotional health through chatting and laughing	439	1.00	5.00	3.1936
Some alcoholic drink like red wine bear health benefits	441	1.00	5.00	2.5669
Increased chances of job opportunities by interacting with outside community through	433	1.00	51.00	3.3557
Valid N (listwise)	428			

4.4.4 Perceived barriers to abstinence and safe drinking

Participants were to select the statements that best represented their feelings about what constitutes the barriers to abstince or safe drinklng. The mean scores on table 4.5 indicate that the respondents did not agree with all the statements about what constitutes barriers to abstinence and healthy use of alcohol.

Table 4.5: Perceived barriers to safe drinking and abstinence

Descriptive Statistics				
Perceived barriers:	N	Minimum	Maximum	Mean
Inadequate knowledge on health consequences on alcohol abuse	436	1.00	5.00	2.8853
Lack of knowledge on safe levels of drinking	436	1.00	5.00	2.9656
It is not practical to avoid excessive drinking	433	1.00	5.00	3.4342

Students have enough money to drink alcohol in excess	433	1.00	44.00	3.3672
Low retail prices for alcoholic beverages	421	1.00	5.00	3.4086
Valid N (listwise)	415			

4.4.5 Perceived self-efficacy

Research participants were to indicate how confident students are to abstain from alcohol use or maintain safe drinking levels in specially challenging situations. The mean scores on Table 4.6shows thatrespondents were not sure whether they could be confident in situations of renting a house nearer a beer selling point (2.5893), being offered 100% date (2.6573) and extensive advertising of alcohol beverages (2.5855). However, participants believed that students could resist peer pressure from a close friend (2.3163).

Table 4.6: Perceived self-efficacy

Descriptive Statistics				
	N	Minimum	Maximum	Mean
Peer pressure from a close friend who drinks	430	1.00	5.00	2.3163
Renting a house which is near a beer selling point	431	1.00	4.00	2.5893
Offered a 100% date to drink as much as he/she wants	426	1.00	44.00	2.6573
Happy hour session “buy one get two"	428	1.00	5.00	2.5140

Extensive advertising of sweetened alcohol beverages	427	1.00	24.00	2.5855
Valid N (listwise)	424			

SECTION 3

4.5 DRINKING PATTERNS

Unlike in the previous section the questions were directed to the research participants to describe their drinking patterns. The drinking patterns encompassed the drinking status of the respondents including the amount and frequency of consumption. This section was also focused on reasons for initiation of alcohol beverages, intentions to quit and possible interventions for abuse of alcohol in tertiary institutions.

4.5.1 Drinking status of respondents

Research participants were to state whether they drink alcohol beverages. Figure 4.2 shows that just below 40% of the respondents reported drinking alcohol beverages. Slightly above 60% of the respondents indicated no use of alcohol.

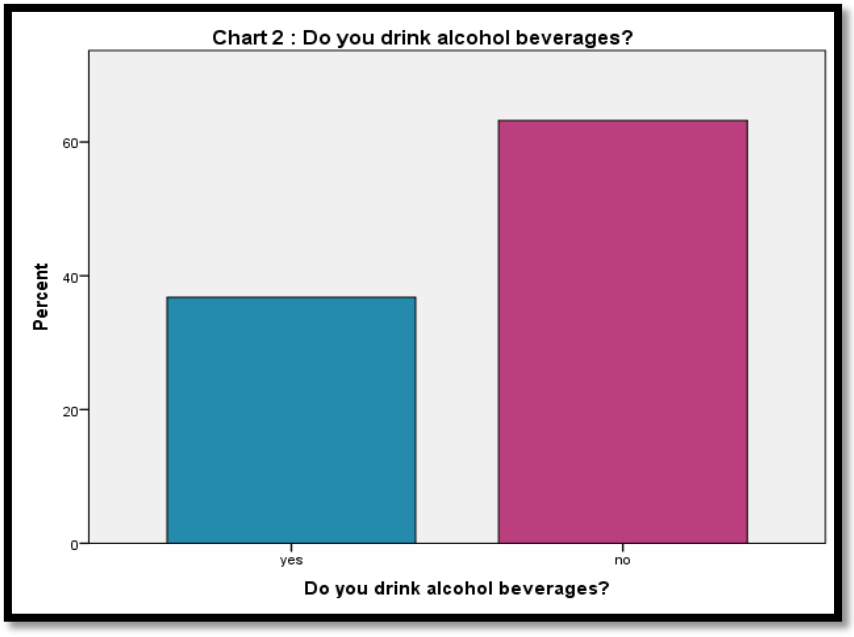

Figure 4.2 Proportions of students drinking alcohol beverages

4.5.1.1 Alcohol use by sex of respondents

Data on drinking status were examined in relation to the sex of the respondents. The data on table 4.7 reflect that whithin the category of sex, a high proportion of males (51.0%, n= 99) compared to their female counterparts (24.7%, n=59)) reported using alcohol. This difference was statistically significant (0.00).

Table 4.7: Alcohol use by Sex

			Do you drink alcohol beverages?		Total
			Yes	No	
Gender of the respondent	Male		99	95	194
			51.0%	49.0%	100.0%
	Female		59	180	239
			24.7%	75.3%	100.0%
Total			158	275	433
			36.5%	63.5%	100.0%

4.5.1.2 Alcohol use by year level of study

The use of alcohol among respondents was asssesed in relation to their year level of study. It is observed from Table 4.8 that the useof alcohol was almost evenly distributed across year levels of study. However, the highest and lowest proportions of respondents who used alcohol were among year 3 (42.9%, n=36) and year 1 (31.8%, n=50) groups.

Table 4.8: Alcohol use by level of study

			Do you drink alcohol beverages?		Total
			Yes	no	
year level of study	year 1		50	107	157
			31.8%	68.2%	100.0%
	year 2		42	64	106
			39.6%	60.4%	100.0%
	year 3		36	48	84
			42.9%	57.1%	100.0%
	year 4		28	50	78
			35.9%	64.1%	100.0%
	Post graduate		4	6	10
			40.0%	60.0%	100.0%
Total			160	275	435
			36.8%	63.2%	100.0%

4.5.1.3 Alcohol use by income

The use of alcohol was related to the income of the respondents. Table 4.9 depict that within each income group, a high proportion (75.0%, =3) of respondents with a monthly income between P500 and P1000 used alcohol beverages.followed by those earning more than P1000 (36.8%, =135).

Table 4.9 Alcohol use by income

			Do you drink alcohol beverages?		Total
			yes	no	
Income	less than P500.00		5	12	17
			29.4%	70.6%	100.0%
	P500.00-P1000.00		3	1	4
			75.0%	25.0%	100.0%
	More than P1000.00		135	232	367
			36.8%	63.2%	100.0%
Total			143	245	388
			36.9%	63.1%	100.0%

4.5.1.4 Alcohol use by religious affiliation

The use of alcohol was assessed in relation to the religious backgrounds of the respondents. Within the religious groups, data indicate that a high proportion (75.0%, n=9) of respondents with other religious backgrounds used alcohol. However, the Christian group had the highest absolute number (140) of students who reported using alcohol compared to other religious groups and Muslim. The Muslim group had the lowest number (4) and proportion (30.8%) of students who reported using alcohol.

Table 4.10: Alcohol use by religion

			Do you drink alcohol beverages?		Total
			Yes	no	
Religious affiliation of the respondent	Christianity		140	252	392
			35.7%	64.3%	100.0%
	Muslim		4	9	13
			30.8%	69.2%	100.0%
	Other		9	3	12
			75.0%	25.0%	100.0%
Total			153	264	417
			36.7%	63.3%	100.0%

4.5.1.5 Alcohol use by residence

Data on alcohol use were examined in relation to the residence of the respondents. Table 4.11 shows that a high proportion of students who stayed off-campus used alcohol compared to those residing oncampus.Within categoriesof the residence, the proportions of students who reported using alcohol was 40.1% and 31.4% respectively for on campus and off-campus residences.

Table 4.11: Alcohol use by residence

			Do you drink alcohol beverages?		Total
			yes	no	
Place of residence	Oncampus		44	96	140
			31.4%	68.6%	100.0%
	Off campus		115	172	287
			40.1%	59.9%	100.0%
Total			159	268	427
			37.2%	62.8%	100.0%

4.5.2 Reasons for intiation of drinking

The research participants who reported using alcohol were asked to indicate why they started drinking. Figure 4.3 shows that just above half of the respondents (53.57%) selected influence from a close friend as the main reason for initiating the use of alcohol. The attractiveness and good taste of alcohol beverages was identified by 19.84% of the participants followed by those who reported having observed other people drinking (15.9%).

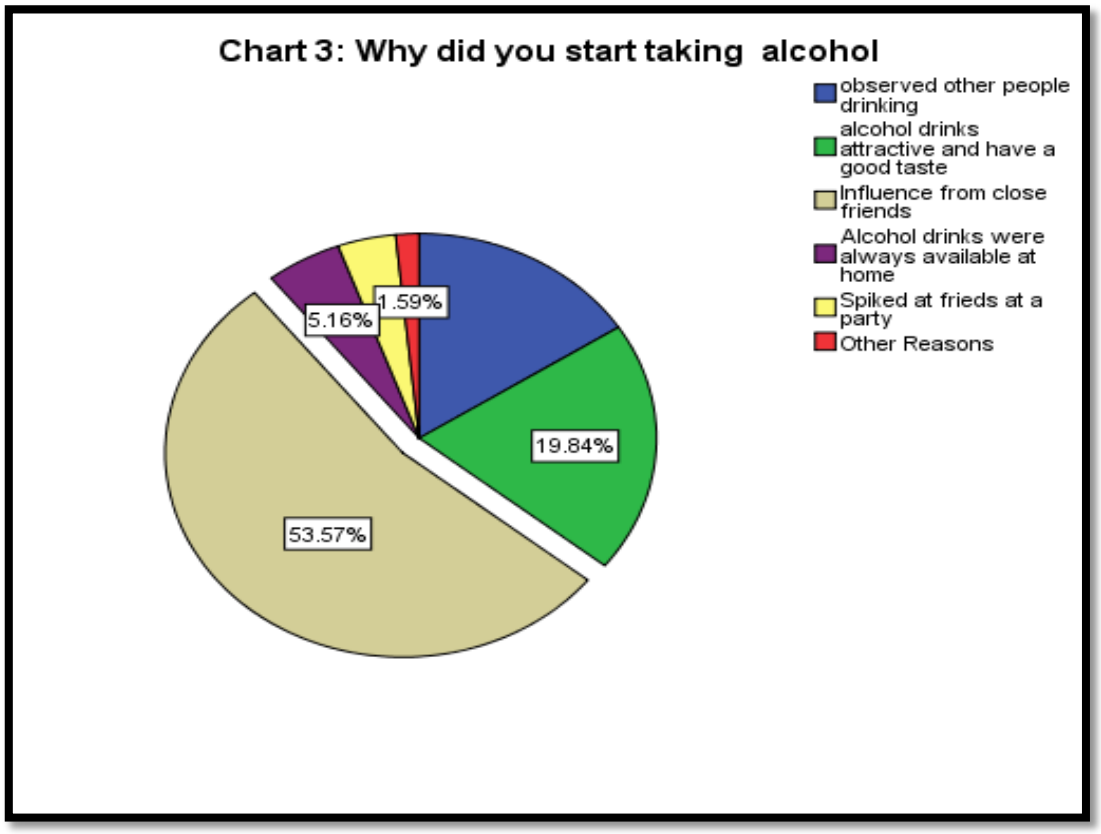

Figure 4.3 Reasons for intiation of drinking

4.5.2.1 Reasons for initiation of drinking by sex

The reasons for initiation of drinking alcohol beaverages were examined in relation to sex of the respondents.The data on table 4.12 reflect marked differences between males and females with respect to the following reasons for initiation of alcohol; observed other people drinking, availability of alcohol at home and being spiked by a friend. More males (62.2%, n=27) than females (30.8%, n=12) reported observing other people drinking as the reason for initiation. Similarly, a high proportion of males (70.0%, n=7) compared to females (30.0%, n-3) stated spiking by a friend as the reason for drinking. More females (69.2%, n=9) than males (30.8%, n=4) attributed drinking to availability of alcohol at home.

Table 4.12: Reasons for initiation of drinking by sex

Reasons		Gender of the respondent		Total
		male	female	
Why did you start taking alcohol	observed other people drinking	27	12	39
		69.2%	30.8%	100.0 %
	alcohol drinks attractive and have a good taste	28	22	50
		56.0%	44.0%	100.0 %
	Influence from close friends	60	75	135
		44.4%	55.6%	100.0 %
	Alcohol drinks were always available at home	4	9	13
		30.8%	69.2%	100.0 %
	Spiked by friends at a party	7	3	10
		70.0%	30.0%	100.0 %
	Other Reasons	0	4	4
		0.0%	100.0 %	100.0 %
Total		126	125	251
		50.2%	49.8%	100.0 %

4.5.2.2 Reasons for initiation by residence

The reasons for intiation of drinking were assessed in relation to residence of the respondents. Table 4.13 shows that the reasons for drinking differed based on residence of the respondents. Within the students who stayed off-campus, a high proportions of them selected the following resaons for intiating of alcohol use;alcohol drinks attractive and taste good (79.6%, n=39), alcohol drinks always available (76.9%, n=10)) and observing other people drinking (65.0%, n=26). On one hand, high proprtion (50.4%, n=60) of those living on-campus reported influence from a close friend as the main reason for intiating alcohol.

Table 4.13: Reasons for alcohol imitation by place of residence

Why did you start taking alcohol		Place of residence		Total
		on campus	Off-campus	
	observed other people drinking	14	26	40
		35.0%	65.0%	100.0%
	alcohol drinks attractive and have a good taste	10	39	49
		20.4%	79.6%	100.0%
	Influence from close friends	68	67	135
		50.4%	49.6%	100.0%
	Alcohol drinks were always available at home	3	10	13
		23.1%	76.9%	100.0%
	Spiked at friends at a party	3	7	10
		30.0%	70.0%	100.0%
	Other Reasons	1	3	4
		25.0%	75.0%	100.0%
Total		99	152	251
		39.4%	60.6%	100.0%

4.5.3 Amount of acohol per drinking session

Respondents were asked to sate the amount of alcohol used per session. Figure 4.4 shows that the majority of students took 2 to 3 beers per session for all beverages. This represents moderate drinking for males, but harmful levels for females. Once more safe drinking levels for men are two beers daily, and one for females. However, if men drink more than one occasion, they could reach hazardous levels.

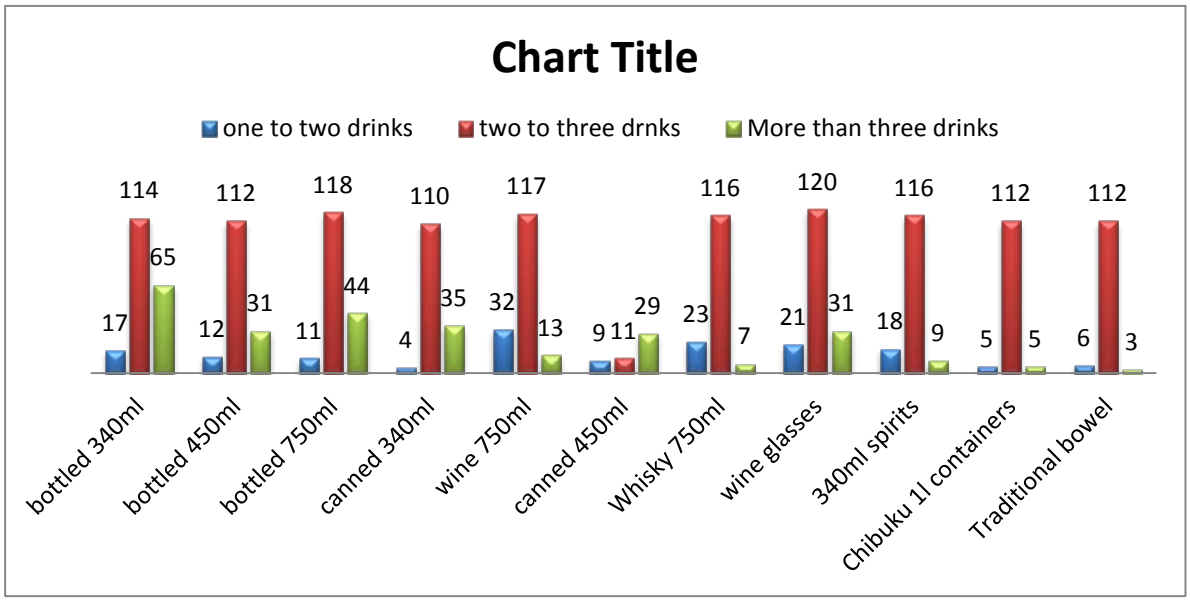

Figure 4.4 Amount of alcohol beverages per session

4.5.4 Frequency of drinking alcohol beverages

The frequency of drinking is depicted on figure 4.4. The majority of the respondents (46.77) took alcohol fortnightly followed by those who drink occasionally (20.91). Less than 10% of the respondents used alcohol daily, weekly and monthly.

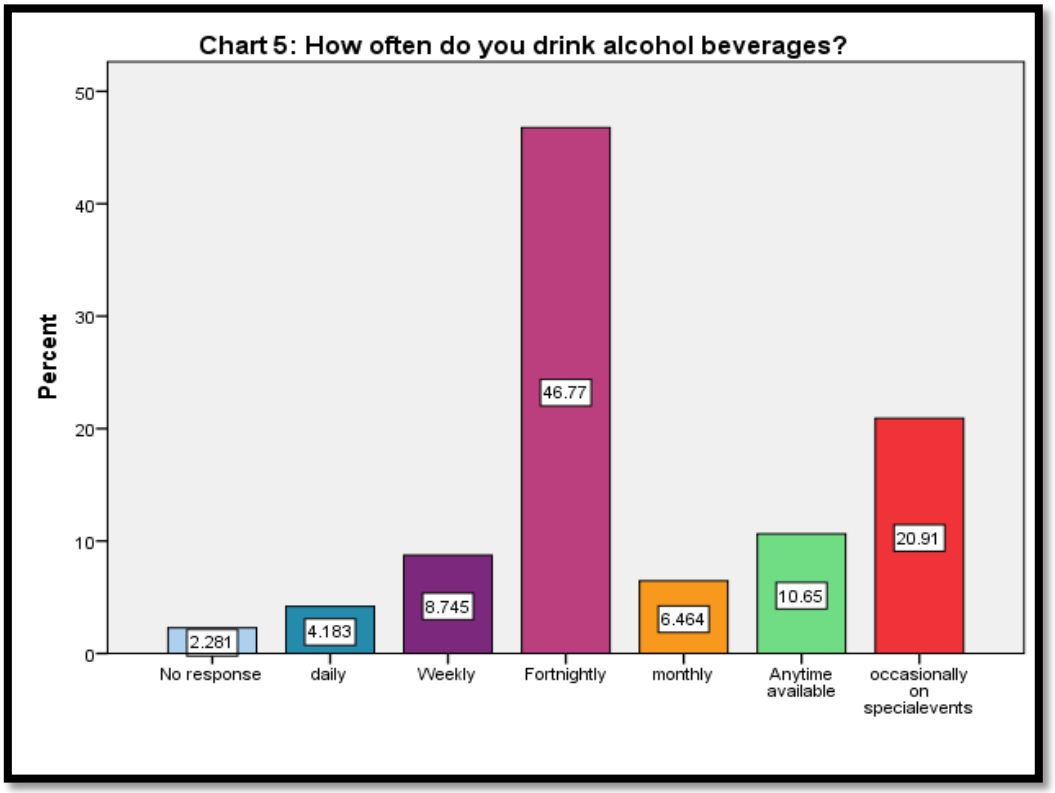

Figure 4.5 Frequency of drinking

4.5.5 Plans to quit alcohol beverages

Participants drinking alcohol bevearges were asked to indicate whether they had plans to quit. Figure 4.6 shows that about 30% of the responds planned to quit. About 70% of respondents had no plans to quit.

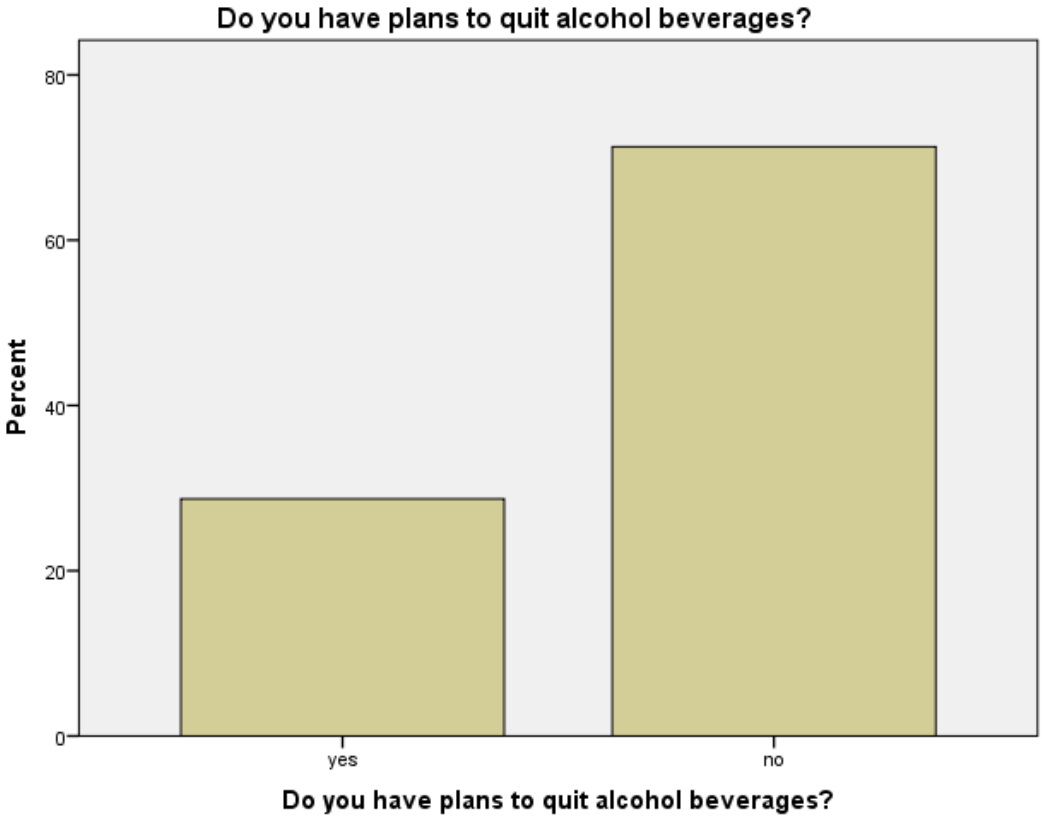

Figure 4.6 Plan to stop drinking

4.5.6 Plans to quit by year level of study

The plan for quiting or continuing to drink was examined in relation to respondents' year level of study. Figure 4.6 shows that the results differed across levels of study. For year 1 and postgraduates, the number of those who wanted to quit was almost the same to those without planning to quit. For year 2, 3 and 4 the number of those intending to quit was far less compared to those without plans to quit.

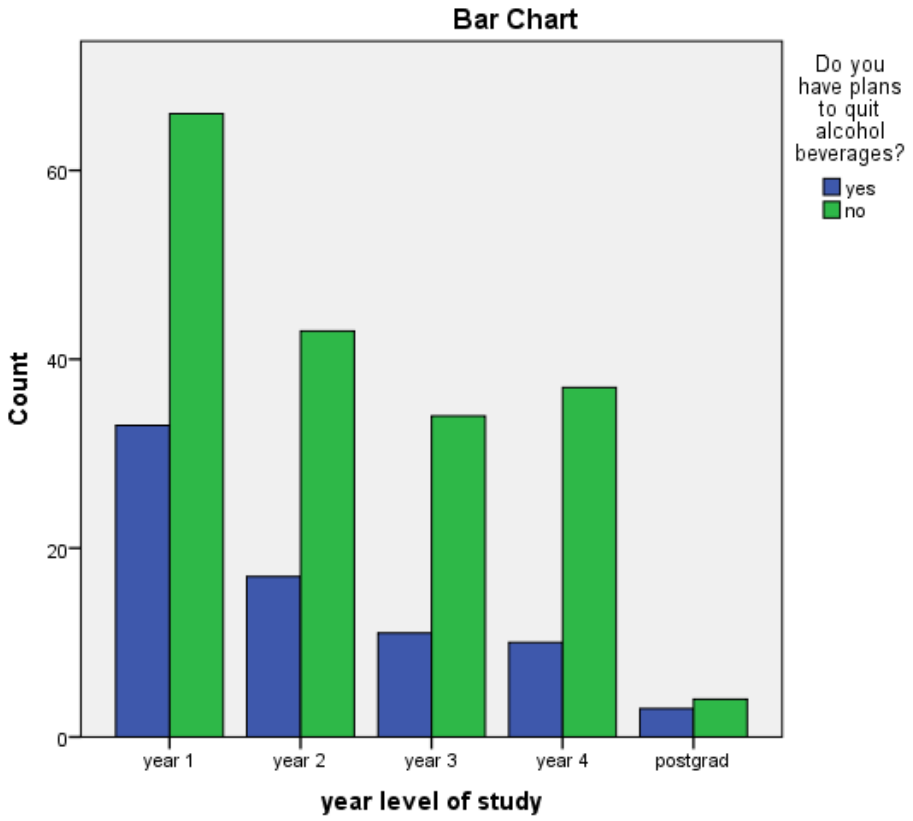

Figure 4.7 Plans to stop drinking by year level of study

4.5.7 Reasons for not quiting

Participants without plans to quit drinking were asked to indicate the reasons. It is observed from figure 4.7 that the majority of the respondents felt that it was not easy quit drinking.

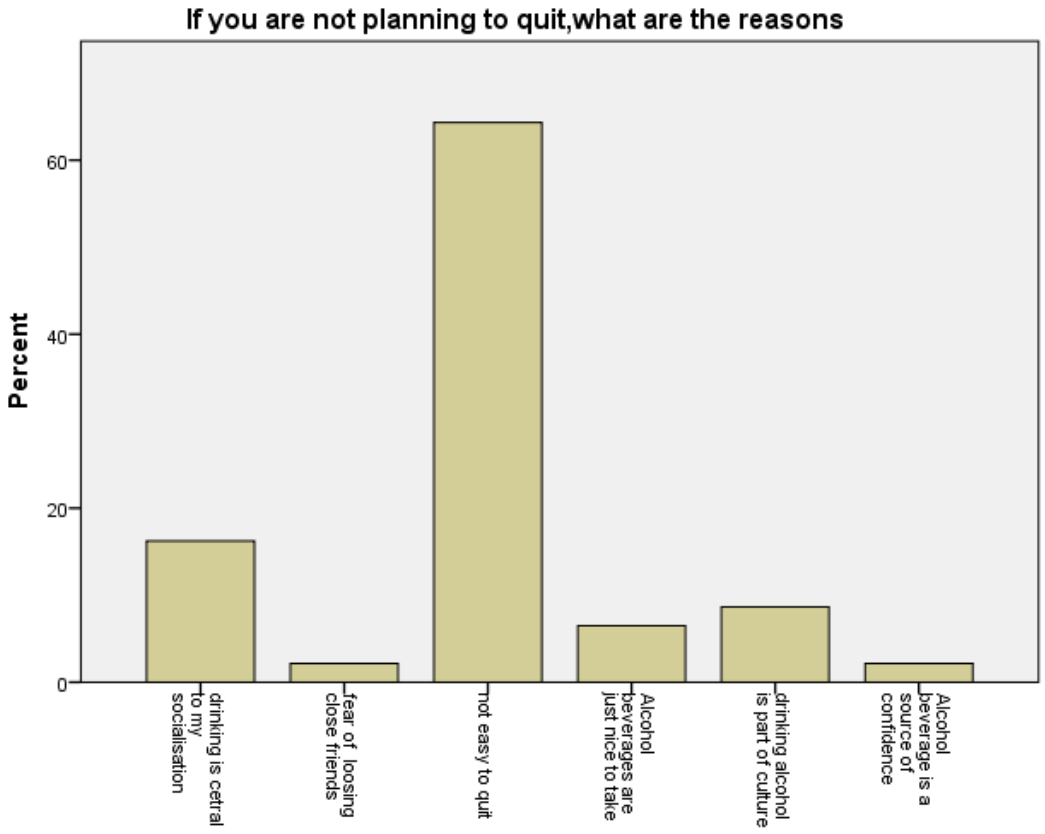

Figure 4.8 Reasons for not quiting

4.5.8 Determinants of alcohol use among students

Logistic regression was performed to identify the determinants of alcohol use among students. Table 4.14 shows determinants of alcohol use among university students. The results show that male respondents were more likely (3.565) to use alcohol compared to female respondents, and the relationship was statistically significant at 10%. With regard to religion, the results show that respondents who were Christian, Muslim, and Hindu were less likely (0.625, 0.309 & 0.645) to drink alcohol compared to those whose religions were classified as other.

The results also show that respondents who were residing on-campus were less likely to drink alcohol (0.645) compared to those who were residing off-campus. Respondents who were doing year 2 and 3 were more likely (2.875 & 2.267) to drink alcohol compared to those were doing postgraduate. The results also show that respondents who were doing year 1 and 4 were also more likely (1.170 & 1.178) to drink alcohol compared to those who were doing postgraduate. Respondents who started drinking alcohol because of drinks were always available at home and those who mentioned reason that alcohol drinks attractive and have a good taste were more likely (4.286 & 1.382) to drink alcohol compared to those who start drinking because of other reasons.

The results also show that respondents who reported that they were spiked by friends at a party and those who said alcohol drinks are attractive and have a good taste were more likely (1.749 & 1.382) to continue drinking alcohol. As for those who said they observed people drinking and those who have influence from close friends they were less likely to drink (0.752 &0.021). The relationship was statistically significant at 95% for those who said they had influence from close friends. With regard to income, respondents who have income range P500.00- P1000.00 were more likely (19.010) to drink alcohol compared to those who income more than P1000.00. The relationship was statistically significant at 95% for those whose income ranges between P500.00 and P1000.00. Respondents who have income less than P500.00 were less likely (0.199) to drink alcohol compared to those whose income was more than P1000.00.

Table 4.14: Determinatns alcohol use among students

Explanatory Variable	**Standard error**	**Odds Ratios**
Gender		
Male	0.487	3.565*
Female	_	1.000
Religion		
Christianity	1.772	0.625
Muslim	2.119	0.309
Hindu	0.487	0.645
Other		1.000
Residence		
On-campus	0,487	0.645
Off-campus	_	1.000
Year of study		1.151
Year 1	1.663	1.170
Year 2	1.673	2.875
Year 3	1.685	2.267
Year 4	1.678	1.178
Year 5	_	1.000
Reason start alcohol		
Observed other people drinking	-0.284	0.752
Alcohol drinks attractive and have a good taste	0.323	1.382

Influence from close friends	-.3871	0.021**
Alcohol drinks were always available at home	1.455	4.286
Spiked at friends at a party	18.950	1.749
Other Reasons	-	1.000
Income		
Less than P500.00	-1.614	0.199
P500.00- P1000.00	2.945	19.010**
More than P1000.00	-	1.000

4.5.9 Interventions for abuse of alcohol among students.

Respondents were asked to indicate interventions for abuse of alcohol among students. Figure 4.8 shows that the majority of respondents have settled for institution based campaigns on alcohol. A substantial segement of the respondents indicated that the use of alcohol in tertiary institutions should be banned. Very few respondents stated the reduction of retail prices for alcohol beverages.

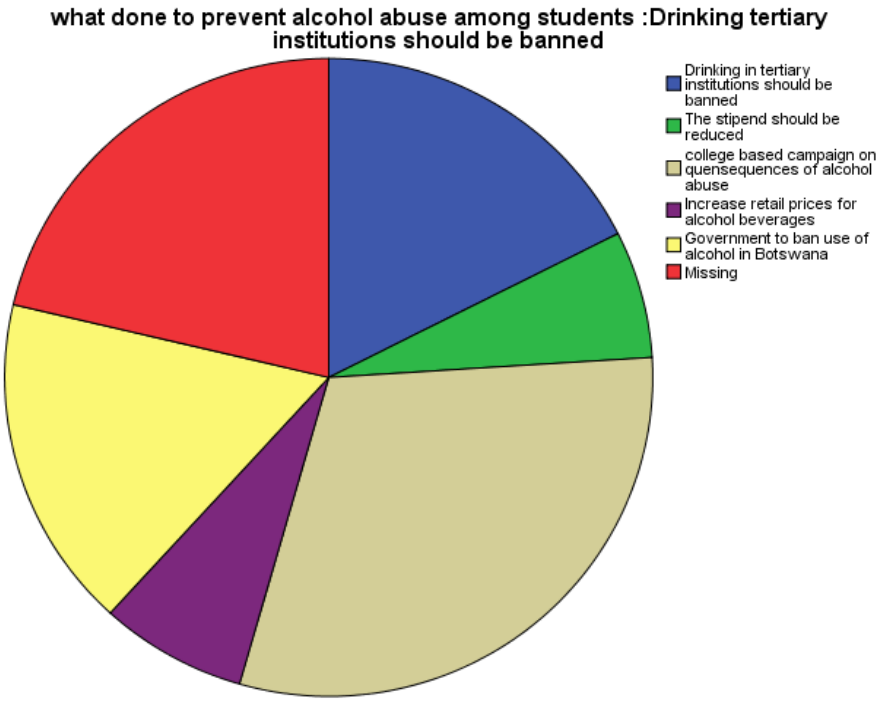

Figure 4.9 Interventions for prevention of alcohol use

4.6 CONCLUSION

The results of the study have depicted harmful drinking patterns among students. There was correlation between drinking and demographic of respondents such as income, sex and year level of study. Drinking was also explained by area of residence. Students staying off-campus were more likely to use alcohol compared to their counterparts staying on-campus.

CHAPTER 5

DISCUSSION, RECOMMENDATION AND CONCLUSION

5.1 INTRODUCTION

The purpose of this chapter is to discuss the results of the study presented above. The results will bediscussed in relation to the purpose and objectives of the study. The researcher maintained scientific integrity by confining the discussion to the data and result of the study. Conclusions and recommendations were presented based on critical findings. The critical findings were those that were directly related to the objectives of the study.

5.2 THE PURPOSE OF THE STUDY

The purpose of the study was identifying factors that are associated with alcohol abuse among students in tertiary institutions. To re-focus, the objectives of the study were to:

- Assess the students' percepived causes of alcohol abuse in tertiary institutions.
- Determine the alcohol drinking patterns of students in tertiary in institutions.
- Evaluate the knowledge of students on consequesnces of alcohol abuse.
- Make recommendations for the implementation of evidence based interventions to avert alcohol abuse at tertiary institutions

5.3 DISCUSSION OF RESULTS

The discussion of the results will be confined to the sections of the perceptions about alcohol use and drinking patterns. As a norm, the discussion of the results will take into consideration the existing knowledge about the phenomenon under investigation as well as findings from previous studies.

5.3.1 Perceptions about alcohol use

The perceptions or feelings of the research participants about alcohol were assessed using the six components of the Health Belief Model using agred or disagrelikert scale.

5.3.1.1 Susceptibility to, and Severity of outcome of alcohol abuse

The respondents have agreed with all the statements about susceptibility and severity of the outcomes of abuse. Additionally, the mean scores indicate that the respondents strongly believe that students who abuse alcohol are susceptble to road accidents (1.9108), promiscuity (1.9314), being rape victims (1.9661), and susceptibility to unplanned pregancies (1.8477). This finding suggests that students in tertiary institutions have a good knowledge about the problems that are associated with abuse. This high level of knowledge could be attributed to public educational activities through diverse communication channels. Importantly, a national campaign on alcohol using road shows has been running since 2008. The campaign used drama and edutainment to transmit information on the consequences of abuse. The evaluation of the campaign shows that it was effective and useful in sensitizing the youth about the consequences of alcohol (Ministry of Health 2012:6). It is worth noting that the results are not only positive at the level of knowledge. Importantly, the results are mainly about the beliefs or perceptions of risk (susceptibility) and severity of health outcomes of drinking. It is stated that acceptance of one's susceptibility to, and severity of a given health proble provides impetus to action because threat perceptions are critical components of motivation (Polit & Beck 2008:763). According to Norman *et al.* (2000:74), perceived severity of the problem constitutes awareness and therefore influences behaviour to a certain fresh fold. Perceived susceptibility has more impact because it is an estimation of the magnitude of the risk to one-self. Overall, the findings imply that ensuring that students are aware of the risk of hazardous drinking and persuading them that they are susceptible is a pre-requisite to health promotion interventions for alcohol abuse.

5.3.1.2 Perceived cues to initiation of alcohol

In general, the research participants agreed with most of the statements about what triggers the use of alcohol among the students. Participants strongly believed that the initiation into alcohol use can be attributed to students staying alone (2.0652) as well as abuse by the wider community of the City of Gaborone (2.1727). These factors that are identified as triggers for initiation of alcohol use among students are a reality. Firstly, the majority of students in tertiary instutions are staying off-campus. Of those staying off-campus there could be a significant number of them who are staying without parents. This group is generally at risk of drinking alcohol beaverages because of environments

where abuse is rife. On the other hand, participants did not agree that abuse could be attributed to the monthly stipend (2.9683), limited recreational facilities (2.6293), and wider availability of alcohol beverages (2.6210) as cues to initiation of alcohol use among students.

The disagreement on stipend could be a tricky finding because it might stem from the current disgruntlement regarding its reduction from P1900 to P1400. However, the general observation is that the receipt of monthly stipend is marked by binge drinking among students. Indeed, previous studies have shown thatthe stipend can trigger initiation and abuse among students. About 34% of students in South Africa spent too much money of alcohol (Peltzer 2003:1-10). The disagreement on wider availability of alcohol as a trigger to drinking could be a contentious response. A high number of participants from the University of Botswana could have contributed to this finding because of the controversial closure of the institutional bar in 2012. This bar was closed to control the availability of alcohol beverages on campus. Available evidence indicates that the place where drinking takes place is a strong correlate of binge drinkingamong the students (Peltzer 2003:1-15). The researcher did not have adequate information on the availability of recreational facilities at the selected institutions except the University of Botswana where such facilities are widely available. Sporting facilities were seen at a glance in other institutions. Arguably, students who are staying off-campus could be having limited access to facilities in the institution because of time. In coclusion, the design of health interventions on alcohol abuse among students should take into consideration personal attributes and environmental factors that are likely to trigger the initiation into drinking.

5.3.1.3 Perceived benefits of alcohol use

Participants were generally unsure of the benefits associated with alcohol. However, the mean scores indicate that respondents disagreed with the statement that; alcohol enhances social skills (2.9795). This finding could mean that the students are well informed about harmful effcets of alcohol. Furthermore, there seem to be sparcity of literature on the benefits of alcohol. The information on the benefits of alcohol comes

through advertising and marketing. Marketing of alcohol benefits does not always come with factual details.

5.3.1.4 Barriers and Perceived self-efficacy (confidence) to abstinence and safe drinking

The respondents disagreed that lack of knowlege on health consequenses (2.8853) and safe drinking levels (2.9656) are barriers to abstinence and healthy use of alcohol.The research participants were not sure whether students could be confident of avoiding initiation into alcohol use in specially challenging situations; renting a house nearer to a beer selling point (2.5893), being offered 100% date (2.6573) and extensive advertising of alcohol beverages (2.5855). This finding reflects a gap in students' perceived barriers and self-efficacy. As stated in Chapter 2 perceived barriers is the individual's feeling that the recommended course of action to prevent the threat of the problem cannot be attained relative to cost, time and physical effects. Self-efficacy is the conviction that one can successfully execute the behaviour that is required to produce health benefits by overcomming difficulties and barriers. The perceived barriers were incorporated into the self-efficacy component of the HBM in order to improve its predictive power of health behaviours (Nancy *et al.* 2000:275-340). Therefore, there is a need to train students on interpersonal and leadership skills in addition knowledge on harmful effects of alcohol. The students who possess leadership skills are much likely to identify and analyse barriers to safe drinking and abstinence. Importantly, leadership skills could strengthen the students believe (confidence) that they can avoid use of alcohol.Nancy *et al.* (2000:275-336) observed that interactive interventions that stress the development of interpersonal skills had significant effects in the prevention and control of tobacco use among students.

5.4 Drinking patterns

The section on drinking patterns consisted of the amount of alcohol consumed and frequency of consumption.

5.4.1 Alcohol use among students

Just below 40% of the respondents reported using alcohol. This is a disturbingly high proportion for students in tertiary institutions relative to their age and academic engagements. However, the respondents reported drinking less frequently. A high proportion of those drinking (46.77%) used beverages fortnightly followed by those who drink occassionally (20.91). All respondents who indicated using alcohol have reported hazardous consumption levels. The mean amount for a single drinking session was above daily limits for safe drinking. These results corroborate previous findings. Nickel *et al.* (2011:280) found out that 74% of students in Botswana started using alcohol before the age of 18 years.

Recently, the use of alcohol was reported among students between 10 to 19 years in upper primary and secondary schools in Botswana (Ministry of Education, Skills and Development 2010:28). Similarly, the use of alcohol among students is rife in other parts of the world. Hazardous drinking was established among 40% of the students in English Universities (Heather *et al.* 2011:277). In New Zealand the the prevalence of heavy drinking among students was 65% compared to 35% of those who were not students. This finding points to the need for robust alcohol prevention interventions at all levels of instutions of learning starting with primary schools in Botswana. Secondly the findingas reveal a knowledge gap of safe drinking levels. Therefore, there is a need to develop information package on what constitutes safe drinking across all categories of alcohol in Botswana. The measurement of amount to be consumed should be tailored to arithmetical awareness level of the average Motswana by using simple notations for each beverage instead of alcohol per quantity of container or grams per decilitre.

5.4.2 Plans to stop drinking

Only 30% of the respondents who used alcohol were intending to quit.The plan or intention is a huge step towards the adoption of health behaviours. Therefore, this finding suggests that it will be quite diffcult for those drinking to quit. Hence, the drinking pattern for most respondents is much likely to progress to chronic harmful drinking. Chronic hamrful drinking would result in alcoholism over time. According to the Theory

of Reasoned Action, intentions are proximal determinants of individual's behaviour. Bewick *et al.* 2008:164) state that intentions have a powerful predictive power of individual behaviour because they interpose attitudes and behaviour. Similarly, Godin & Kok (1996:87-89) reported intention-behaviour correlations of 0.52 across eight applications to exercise behaviour among students in tertiary institutions

The low levels of intention to stop drinking could reflect a gap in health interventions for promotion of abstinence or cessation of drinking. Current interventions insist on imparting knowledge about health issues related to abuse. It is necessry for health promotion practitioners to engage students who are drinking on a one-on-one basis to formulate a plan to stop drinking. Lastly, health promotion practictioners should use theprochaska segmentation model to determine relevant methods and media vehicles for delivering health messages on alcohol. WHO (2011:25) state that individual who modify addictive behaviours move through the stages of: pre-contemplation, contemplation, preparation, action and maintenance.

5.4.3 Determinatns of drinking among students

The majority (53.57%) of the respondents who used alcohol indicated influence from a close friend as the reason for initiation. Previous studies have shown that students' peer norms had the strongest influence on students' personal drinking behaviour (Perkins 2002:164-172b). Therefore, tertiary institutuions should employ peer approach to prevention and control of drinking among students. Students who are not drinking can be used to mount agressive peer pressure on those who are drinking.

Drinking was predicted on demographic variables of respondent including sex, religion, residence, year level of study and income.There was a significant difference between male and female respondents. Male respondents were more likely (3.565) to drink compared to female counterparts. This difference was observed in previous studies. According to WHO (2011:11), 22.8% of male students reported using alcohol compared to 18.7% for female.This finding is debatable considering the opportunities available for

both male and female to use alcohol. On one hand, the argument could be that as part of Batswana culture more men than women are expected use alcohol. On the other hand, it could be argued that female students are more likely to drink because they have the opportunity of being dated out by elderly men who are financially stable. In fact, a high proportion of female respondents compared to their male counterparts used alcohol in Ghana and Zambia (WHO 2011:11).

With regard to religion, respondents with a religious background, compared to those who may not be aligned to any religion such asChristianity, Muslim and Hindu were less likely to use alcohol. Thefore, a church could be used as a health promotion setting for the prevention of drinking among students. Students residing on-campus were less likely to drink compared to those staying off-campus. The result could be controversial depending on whether students' off-campus stays with parents or not. In fact, some parents do not allow students to stay on-campus decrying peer influence for ill-behaviours from other students. They prefer to stay with them for continued moral guidance. On the one hand, students staying off-campus without parents are generally at risk of being affected by the environment to start drinking.

It is stated that students drink heavily in private residence (WHO 2011:19). Most of the students staying off-campus are likely to be on their own. This is afact because most of the tertiary institutions are cluttered in Gaborone, thus attracting many students from different parts of the country, as well as from other countries, to part with thier parents. It is generally suspected that female students cohabit with elderly men in quest for money to be able to live comfortably off-campus. The solution to this issue could be attained through intersectoral collaboration. The relationship of drinking and income of respondents was satistically significant. Students with a monthly income between P500 and P1000 were more likely to drink compared to those with monthly income below P500 and above P1000. This result is not consistent with findings from previous studies. Casswell*et al* (2003:601-610) has found out that people with high income drink more often. However, the relationship between income and alcohol intake is inverse for unrecorded alcohol because people with low income consume more quantities of this category of alcohol (WHO 2005:5).

Lastly, drinking was predicted on year level of study for respondents. Respondents on year 2 and 3 were more likely to drink compared to those doing postgraduate.The results corroborrate findings from previous studies.Bewick*et al* (2008:164) have established high consumption of alcohol among first year students compared to those at year two and three. This high level consumption at year one could stem from excitement of transit from a lower to a higer institution of learning. Similarly, this is typically adolescent group where behaviour of trial and error is common. Therefore, peer approach to interventions at this stage is critical.

5.4.4 Interventions for abuse of alcohol among students

Respondents have identified educational and statutory interventions as being of some help in combatting abuse of alcohol. The majority of respondents selected institution based educational campaigns as the main intervention for abuse. The banning of alcohol in tertiary institutions and increase in retail prices for alcohol beverages constituted statutoryintervetions identified by students. These results areconistent with evidence from previous studies. It is stated that campaigns that are designed to change students' perceptions of binge drinking reduced the number of students who drink. Similarly, motivational briefs consisting of giving feedback to students on personal consumption, perceived norms and problems for drinking reduced the amount and frequency of alcohol consumption among college students (Michael &Sheriln 2010:16). It is also established that students prefer internet based interactions about isses of alcohol Kypri *et al.* (2003:626). The approach is feasible because uinternet resource is widely available.Presently, there are no institution based campaigns on alcohol in Botswana. The eduactional activities on alcohol are quite sporadic in tertiary institutions. However, there exit opportunities for such campaigns in institutions with health facilities like the University of Botswana.

The legislative measures have been proven to reduce alcohol consumption among the general population. Kypri *et al.* (2003:626) assert that laws on regulation of prices and access to alcohol could reduce significantly the use of alcohol among college students. The alcohol levy that was introduced in 2008 in Botswana has slightly reduced the

consumption of alcohol. The levy started in 2008 with a 30% increase in retail prices for alcohol beverages. The banning of alcohol in tertuiary institutions could be explored because it can reduce students' access to alcohol. TheUniveristy of Botswana has closed its bar as an effort to regulate the use of alcohol in campus.

5.5. LIMITATIONS OF THE STUDY

The researcher used the data collection tool that was not previously validated. Therefore, the tool could have low scores of validity and relaibility despite its pilot testing. Secondly, the study relied on self-reported data on such a highly sensitive matterof alcohol use. Possibly, some of the respondents have concealed their drinking status.Further, the sampling procedure was not rigorous. Probability procedures were only applied in the selection of institutions to be included in the study. The participants were not randomly selected; the participation was open to all students within the age group 21 to 29 years. Therefore, the generalisability of the results could be questionable. However, the results could still be generalised within the student population in Gaborone tertiary institutions because of the high statistical power (high response rate)of the study.

5.6 RECOMMENDATIONS

Recommendations are presented below in relation to issues discussed above. The recommendations are tailored to discussions about the determinants of abuse among students and possible interventions.

5.6.1 Educational interventions on alcohol abuse

There is a need for institution based eduactioanl campaigns on alcohol.Educational campaigns should be focused on safe drinking levels. The daily amounts for safe drinking should be illustrated for better comprehension. Educational interventions should have a component of building leadership skills of students. Students with leadership skills are more likely to resist cues to intiation into drinking. Lastly, tertiary

institutions should use religious groups within campus to promote abstinence from alcohol among the student community.

5.6.2 Counseling services

The Guidance and Counseling units in tertiary isntitutions should offer counseling services for students with chronic hazardous drinking patterns. Students should be guided individually to develop the plan for quiting.

5.6.3 Use of social media

The issues of alcohol abuse should be communicated to students using diverse communication channels. Interaction through social media vehicles such as facebook, twiter and others is highly preferred by youth.

5.6.4 Banning the use of alcohol in tertiary institutions

The use of alcohol in tertiary institutions should be prohibited by statute.Such a statutory intervention would limit access to alcohol by students staying on-campus thereby reducing issues of abuse.

5.6.5 Recommendations for future research

There is a need for both quantitative qualitativeresearchto explorealcohol abuse on a broader scale, possibly with more participants drawn from intitutions in other countries.

5.7 CONCLUSION

This research explored the abuse of alcohol among students in tertiary institutions. The study has revealed hazardous drinking patterns among students. The use of alcohol was predicted on the basis of demographic, psychological and environmental factors of the respondents. Drinking among students was largely traggered by influence from a

close friend. Students who used alcohol differed on the basis of sex, religion and yearly level of study. Area of residence contributed to the use of alcohol with students staying off-campus more likely to drink. Institution based educational and statutaroy interventions could reduce abuse among students.

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ANNEXURES

Annexture A: Ethical Clerance from the University of South Africa

UNISA university of south africa

UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE

HSHDC/284/2013

Date: 10 December 2013 Student No: 4858-167-4

Project Title: Alcohol abuse amongst tertiary students in University of Botswana.

Researcher: Moitshepi Galeemelwe

Degree: Masters in Public Health Code: DLMPH95

Supervisor: Mr T Makua
Qualification: M Tech
Joint Supervisor: -

DECISION OF COMMITTEE

Approved [√] **Conditionally Approved** [ ]

Prof L Roets
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE

Prof MM Moleki
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

UNIVERSITEIT VAN SUID-AFRIKA
PRETORIA
UNIVERSITY OF SOUTH AFRICA

Open Rubric

Annexture B: Ethical clearance from Ministry of Health

TELEPHONE: 363 2766
FAX: 391 0647
TELEGRAMS: RABONGAKA
TELEX: 2818 CARE BD

Republic of Botswana

MINISTRY OF HEALTH
PRIVATE BAG 0038
GABORONE

REF NO: PPME-13/18/1 Vol VIII (458) 7 May 2014

Health Research and Development Division

Notification of IRB Review: New application

Moitshepi Galeemelwe
Private Bag 0038
Gaborone

Protocol Title: **ALCOHOL ABUSE AMONGST TERTIARY STUDENTS IN GABORONE**

Approval Date: 6 May 2014
Expiration Date: 6 May 2015
HRDC Review Type: HRU
Risk Determination: Minimal risk

Dear Sir/Madam

Thank you for submitting a new application for the above referenced study. The study was reviewed and approved for a period of 1 year effective from the approval date.

This permit does not however give you authority to collect data from the selected sites without prior approval from the management. Consent from the identified individuals should be obtained at all times.

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal must be submitted to the Health Research and Development Division in the Ministry of Health for consideration and approval.

Furthermore, you are requested to submit at least one hardcopy and an electronic copy of the report to the Health Research, Ministry of Health within 3 months of completion of the study. Copies should also be submitted to all other relevant authorities.

Continuing Review
In order to continue work on this study (including data analysis) beyond the expiry date, submit a Continuing Review Form for Approval at least three (3) months prior to the protocol's expiration date. The Continuing Review Form can be obtained from the Health Research Division Office (HRDD), Office No. 9A 10 or Ministry of Health website: www.moh.gov.bw or can be requested via e-mail from Mr. Kgomotso Motlhanka, e-mail address: kgmmotlhanka@gov.bw As a

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courtesy, the HRDD will send you a reminder email about eight (8) weeks before the lapse date, but failure to receive it does not affect your responsibility to submit a timely Continuing Report form.

Amendments
During the approval period, if you propose any change to the protocol such as its funding source, recruiting materials, or consent documents, you must seek HRDC approval before implementing it. Please summarize the proposed change and the rationale for it in the amendment form available from the Health Research Division Office (HRDD), Office No. 7A 7 or Ministry of Health website: www.moh.gov.bw or can be requested via e- mail from Mr. Kgomotso Motlhanka, e-mail address: kgmmotlhanka@gov.bw . In addition submit three copies of an updated version of your original protocol application showing all proposed changes in bold or "track changes".

Reporting
Other events which must be reported promptly in writing to the HRDC include:
- Suspension or termination of the protocol by you or the grantor
- Unexpected problems involving risk to subjects or others
- Adverse events, including unanticipated or anticipated but severe physical harm to subjects.

If you have any questions please do not hesitate to contact Mr. P. Khulumani at pkhulumani@gov.bw, Tel +267-3914467 or Lemphi Moremi at lamoremi@gov.bw or Tel: +267-3632754

Thank you for your cooperation and your commitment to the protection of human subjects in research.

Yours faithfully

P. Khulumani
For Permanent Secretary

MINISTRY OF HEALTH
RESEARCH DIVISION
2014 -05- 07
PRIVATE BAG 0038
GABORONE
REPUBLIC OF BOTSWANA

Annexture C: Letter to Tertiary Education Council

TELEPHONE: 363 2500

FAX: 391 0647

TELEGRAMS: RABONGAKA

TELEX: 2818 CARE BD

MINISTRY OF HEALTH

PRIVATE BAG 0038

GABORONE

Executive Secretary

Tertiary Education Council

Private bag BR 108

Gaborone

Study on Alcohol Abuse Amongst Tertiary In stitutions in Gaborone

Dear Sir/Madam,

I am an employee of the Ministry of Health and currently studying Master of Public Health in the University of South Africa. I am requesting for permission to conduct the above study in selected tertiary institutions in Gaborone. This study stems from the concern about harmful use of alcohol in tertiary institutions. The following institutions were selected using the probability procedures; The University of Botswana, Tlokweng College of Education, Botho and ABM Universities. A sample of 1000 students aged 21 to 29 years will be recruited to participate in the study. The sample size is distributed proportionately to the slectedintstutions relative to their enrollments:

Tertiary institute	**Ownership**	**Enrollment**	**Sample**
University of Botswana	Public	17701	340
Tlokweng College of Education	Public	332	7
Botho University	Private	5219	100
ABM University	Private	2780	53
Sample total	**26062**		**500**

The purpose of the study is to identify factors that are associated with alcohol abuse among students in tertiary institutions in Gaborone. Specific objectives are stated below:

- To assess the students' percepived causes of alcohol abuse in tertiary institutions.
- To determine the alcohol drinking patterns of students in tertiary in institutions.
- To evaluate the knowledge of students on consequesnces of alcohol abuse.
- To make recommendations for the implementation of evidence based interventions to avert alcohol abuse at tertiary institutions.

The data collection is planned for May and June 2014. I strongly believe that the findings of this study could be useful for designing and implementing effective interventions on alcohol in tertiary institutions. The following documents are attached:

- Ethical clearance from the University of South Africa.
- Data collection tool

The ethical clerance from the Ministry of Health is expected soon because i have received feedback with a few recommendations (to produce Setswana version of the attched questionnaire).

Thank you.

Yours faithfully,

_____

Moitshepi Galeemelwe.

Phone: 3632565

Mobile: 716346187

Annexture D: Generic letter to tertiary institutions

TELEPHONE: 363 2500

FAX: 391 0647

TELEGRAMS: RABONGAKA

TELEX: 2818 CARE BD

MINISTRY OF HEALTH

PRIVATE BAG 0038

GABORONE

28th April 2014

The Director

ABM University College

Private Bag 00331

Gaborone

Study on Alcohol Abuse Amongst Tertiary In stitutions in Gaborone (May to June 2014)

Dear Sir/Madam,

I am an employee of the Ministry of Health and currently studying Master of Public Health in the University of South Africa. I am requesting for permission to conduct the above study amongst students in ABM University College. The study will also be carried out in other tertaiary institutions in Gaborone (University of Botswana, BothoUniversity College and Tlokweng College of Education). These institutions were selected using the probability procedures. This study stems from the concern about harmful use of alcohol in tertiary institutions. A sample of 1000 students aged 21 to 29 years will be recruited to participate in the study using self-administered tool. The sample size is distributed proportionately to the slectedintstutions relative to their enrollments:

Tertiary institute	**Ownership**	**Enrollment**	**Sample target**
University of Botswana	Public	17701	340
Tlokweng College of Education	Public	332	7
Botho University	Private	5219	100
ABM University	Private	2780	53
Totals			**500**

The purpose of the study is to identify factors that are associated with alcohol abuse among students in tertiary institutions in Gaborone. Specific objectives are stated below:

- To assess the students' percepived causes of alcohol abuse in tertiary institutions.
- To determine the alcohol drinking patterns of students in tertiary in institutions.
- To evaluate the knowledge of students on consequesnces of alcohol abuse.
- To make recommendations for the implementation of evidence based interventions to avert alcohol abuse at tertiary institutions.

The data collection is planned for May and June 2014. I strongly believe that the findings of this study could be useful for designing and implementing effective interventions on alcohol in tertiary institutions.

The ethical clerance from the Ministry of Health is expected soon because I have received feedback with a few recommendations mainly to produce Setswana version of the attched questionnaire.

Thank you.

Yours faithfully,

_____

Moitshepi Galeemelwe.

Phone: 3632565

Mobile: 716346187

Annexture E: Permit from the University of Botswana

UNIVERSITY of BOTSWANA

Office of the Deputy Vice Chancellor (Academic Affairs)

Office of Research and Development

Corner of Notwane and Mobuto Road, Gaborone, Botswana
Pvt Bag 00708 Gaborone Botswana
Tel: [267] 355 2900
Fax: [267] 395 7573
E-mail: research@mopipi.ub.bw

Ref: UBR/IRB/ 131
X-REF: UB/RES/ETHI/07

2nd September 2014

Mr Moitshephi Galeemelwe
Department Of Health Studies
University Of South Africa

RE: **PERMISSION TO CONDUCT RESEARCH WITHIN UB**

Project Title : "Alcohol Abuse Amongst Tertiary Students In Gaborone"

Researcher(s) : Mr Moitshephi Galeemelwe

I am glad to advise that approval has been granted for the above study to be conducted at the University of Botswana. Since the study is to be conducted within the confines of UB, the study has accordingly been exempted from Government Research Permit requirements. In reaching the above decisions, it was noted that the above study involves minimal risk. Before proceeding with the study, the researcher is required to ensure the following:

- The study will only be conducted within the confines of UB following the approved proposal version.
- No interviews will be conducted with any official or individual outside UB as part of the study.
- Permission will be sought from UB authorities as necessary.
- APPROVAL DATE : 2nd September 2014
- EXPIRATION DATE : This approval expires on 1st September 2015

- After this date, this project may only continue upon renewal. For purposes of renewal, a progress report should be submitted to ORD one month before the expiration date.
- REPORTING OF SERIOUS PROBLEMS: All serious problems impacting on study quality and progress (whether expected or unexpected) must be reported to ORD within 10 days.
- MODIFICATIONS: Prior approval is required before implementing any significant changes to the protocol.
- TERMINATION OF STUDY: On termination of this study, a report has to be submitted to ORD.
- QUESTIONS: Please contact Office of Research and Development Ext 2911 or 2900
- Other:

The researcher may accordingly proceed with the above study after fulfilling the above requirements.

Kind regards.

2014 -09- 02

Dr M. B. M. Sekhwela
Acting Director, Office of Research and Development

www.ub.bw

AnnextureF: Information sheet for participants

TELEPHONE: 363 2500

FAX: 391 0647

TELEGRAMS: RABONGAKA

TELEX: 2818 CARE BD

MINISTRY OF HEALTH

PRIVATE BAG 0038

GABORONE

8th September 2014

Republic of Botswana

Information sheet for participants

Dear participant,

I am a student of the University of South Africa. Currently, I am doing a research project for Master of Public Health. I sincerely welcome you to participate in this study by completing the attached questionnaire.The response to the questionnaire is largely by placing a tick against the appropriate response options. Therefore, you should be able to complete the questionnaire within 20 minutes.This study is necessary to design and implement effective interventions on alcohol abuse in tertiary institutions.

The data and information obained from you will be confidential. Therefore, you are not required to write your name on the questionnaire. Furthermore, you will never be associated with your responses to the questionnaire. Access to the information collected from you will be highly regulated to maximise confidentiality.

This study has the approval of the authorities of this institution. Above all, the proposal to carry out the study was approved by the Research and Ethics Committee in the Ministry of Health. Participation in this study is entirely voluntary.

Your participation in this study will be highly appreciated.

Thank you.

_____

Moitshepi Galeemelwe.

Phone: 3632565

Mobile: 71634618

Annexture G: Data collection tool

Data collection tool: Study on alcohol use in tertiary institutions within Gaborone 2014

TELEPHONE: 363 2500

FAX: 391 0647

TELEGRAMS: RABONGAKA

TELEX: 2818 CARE BD

MINISTRY OF HEALTH

PRIVATE BAG 0038

GABORONE

Republic of Botswana

Note:This questionnaire should be completed by students within age bracket of 21 to 29 years

Section A: DEMOGRAPHICS

Please tick (√) or write on the appropriate box for each of the statements below

Gender ☐ Male

☐ Female

Age in years ☐☐

Nationality ☐ Motswana

☐ Other national

Tribe (For Batswana only) ☐

Religion

☐ Christianity

☐ Muslim

☐ Hindu

☐ Other /Specify ☐

Name of institution

Residence

- Within campus
- Off campus

Course

Year level of study

- Year 1
- Year 2
- Year 3
- Year 4
- Postgraduate

Recreational activities

- Sports
- Exercising
- Meeting friends
- Shopping
- Church
- Travelling
- Window shopping
- Bars
- Night clubs

Monthly income in Pula

. Main sources of income

☐
☐
☐
☐
☐
☐ Student Stipend
☐ Full time job

Part time job

Business

Sports

Parents

Others

SECTION B: PERCEPTIONS ABOUT STUDENTS' USE OF ALCOHOL

1. **Susceptibility and severity of outcomes of alcohol abuse:**

How susceptible are students abusing to the following? **(*Respond to all statements using the ordinal scale below):***

1= strongly agree **2**= Agree **3**= Not sure **4**= Disagree **5**= strongly disagree

Susceptibity or vulnerability to:	**1**	**2**	**3**	**4**	**5**
Developing chronic conditions such heart diseases Liver Cirrhosis					
Poor academic performance					
Infectious diseasess including HIV/AIDs					
Disability from injury					
Psychological disorders					
Malnutrition					
Death from road accidents					

Expuslion from institution of learning due to misconduct or poor academic performance					
Promiscuity (multipple and concurrent sex partners)					
Be a victim of rape when drunk					
Raping other students under the influene of alcohol					
Causing malacious damage to school property					
Unplanned pregnancies					
Lowered immunity against infectious dideases					
You may use the space below to add to the above list:					

2. Perceived cues to intiation of alcohol use and abuse:

Respond to the following staements about what could trigger students in tertiary institutions to start using alcohol **(*Respond to all statements using the ordinal scale below):***

1= strongly agree **2**= Agree **3**= Not sure **4**= Disagree **5**= strongly disagree

Triggers to alcohol use and abuse among students:	**1**	**2**	**3**	**4**	**5**
Students no longer staying with their parents					
Off-campus students have more conatct with the wider drinking community					
Students earning monthly stipend					
Limited recreational facilities in tertiary institutions					
Alcohol is widely available and can be used in any part of the Tertiary institutions including lodging places (hostels/rooms)					
Alcohol is always part of intertainment in tertiary institutions					

Peer pressure from other students					
Frustration from academics					
Students dated by elderly people					
Alcohol abuse is rife in the city of Gaborone					
Increasing number of social events of binge drinking like Bradel and Baby Showers					
You may use the space below to add to the above:					

3. Perceived benefits of alcohol use:

Respond to the following statements about what could students benefit from alcohol use **(*Respond to all statements using the ordinal scale below):***

1= strongly agree **2**= Agree **3**= Not sure **4**= Disagree **5**= strongly disagree

Perceived benefits:	**1**	**2**	**3**	**4**	**5**
Relaxation to absorb pressure from academic demands					
Enhanced social skills through networking with other students					
Improved emotional health through chating and laughing					
Some alcoholic drinks like Red Wine bear health benefits					
Increased chances of job opportunities by interacting with outside community through drinking sessions					
You mayuse the space below add to the above list:					

4. Perceived barriers to safe drinking or abstinence from alcohol

Respond to the following statements about why students fail to abstain from alcohol or safe drinking levels **(*Respond to all statements using the ordinal scale below):***

1= strongly agree **2**= Agree **3**= Not sure **4**= Disagree **5**= strongly disagree

Perceived barriers:	**1**	**2**	**3**	**4**	**5**
Inadequate knowledge on health consequesnces of alcohol abuse					
Lack of knowledge on safe levels of drinking					
It is not practical to avoid excessive drinking					
Students have enough money to drink alcohol in excess					
Low retail prices for alcoholic bevatrages					
You may use the space below to add to the above list:					

5. Perceived self efficacy

How confident are students to abstain from alcohol use or maintain safe levels drinking in the following circumstances **(*Respond to all statements using the ordinal scale below):***

1= Highly confient**2**= confident **3**= somewhat confident **4=** Not confident

Perceived self-efficacy:	1	2	3	4
Peer pressure from a close friend who drinks				
Renting a house which is nearer to a beer selling point				
Offered a 100% date to drink as much as he/she wants				
Happy hour session like “buy one get two”				
Extensive advertising of sweetened alcohol beverages				

SECTION C: DRINKING PATTERNS

1. Do you drink alcohol beverages Yes ☐
   No ☐

If yes, which of the following beverages do you drink ((***Select and tick your preferred response/s)***

Type of alcohol beverage	**Tick (√)**
Bottled beer	
Canned beer	
Spirits	
Wine	
Cider	
Whisky	
Chibuku	
Traditional beer	

2. How much of any of the following beraverges do you usually drink in one session?
(*Select and tick your preferred response/s)*

Type of alcohol beverage	**Amount**
Bottled beer 340 mls (Write number of bottles)	
Bottled beer 450 mls(Write number of bottles)	
Bottled beer 750 mls (Write number of bottles)	
Canned beers 340 mls (Write number of cans)	
Canned beer 450 mls (Write number of cans)	
Wine 750 mls (Write number of bottles)	

Wine (Write number of glasses)	
Bottled spirits (Number of 340 ml bottles)	
Whisky (Number of glasses)	
Whisky (Number of 750 bottles)	
Chibuku (Number of One litre containers)	
Traditional beer (Number of bowels)	

3. How often do you drink alcohol beverages? **(*Select and tick your preferred response/s)***

Frequency	**Tick (√)**
Daily	
Weekly on week ends	
Fortnightly	
Monthly	
Any time when alcohol is available	
Occassionally on special events	

4. When was the last time you drank an alcohol beverage? **(*Select and tick your preferred response/s)***

Last time alcohol was consumed	**Tick (√)**
A fwe hours ago	
Yesterday	
A few days ago but within this week	
Some weeks back	
Last month	
A few months back within this year	
Last year	

Some years back	

5. Why did you start taking alcohol **(*Select and tick your preferred response/s)***

Reasons for initiation of alcohol use	**Tick (√)**
Oserved other people drinking and enjoying	
Alcohol drinks were just attractive and have a good taste	
Influence from close friends	
Alcohol drinks were always available at home	
Spiked by friends while partying	
You may use the space below to add to the above list:	

6. Do you have plans to quit taking alcohol beverages? Yes ☐ No ☐

If yes, when are you planning to quit? **(*Select and tick your preferred response/s)***

Intended time for quiting alcohol beverages	**Tick (√)**
Any time from now	
In some months within this year	
Next year	
In some few years to come	
Other	

7. If you are not planning to quit, what are the reasons? **(*Select and tick your preferred response/s)***

Reasons for not quiting	**Tick (√)**
Drinking is central to my socialisation	

Fear of losing close friends	
It is not easy to quit	
Alcohol beverages are just nice to take	
Drinking alcohol beverages is part of culture	
Alcohol beverages is a source of confidence	
You may use the space below to add to the above list:	

8. What do you think should be done to prevent alcohol abuse amonng students in tertiary insttutions? **(*Respond to all statements using the ordinal scale below).***

1= strongly agree **2**= Agree **3**= Not sure **4**= Disagree **5**= strongly disagree

Interventions for alcohol abuse	**1**	**2**	**3**	**4**	**5**
Drinking tertiary institutions should banned					
The stipend for students should be reduced					
College based campaigns on consequences of alcohol abuse					
Increase retail prices for alcohol beverages					
Government to ban the use of alcohol in Botswana					
You may use the space below to add to the above list:					